

*In the Matter of*  
**Certain Sucralose, Sweeteners Containing  
Sucralose, and Related Intermediate  
Compounds Thereof**

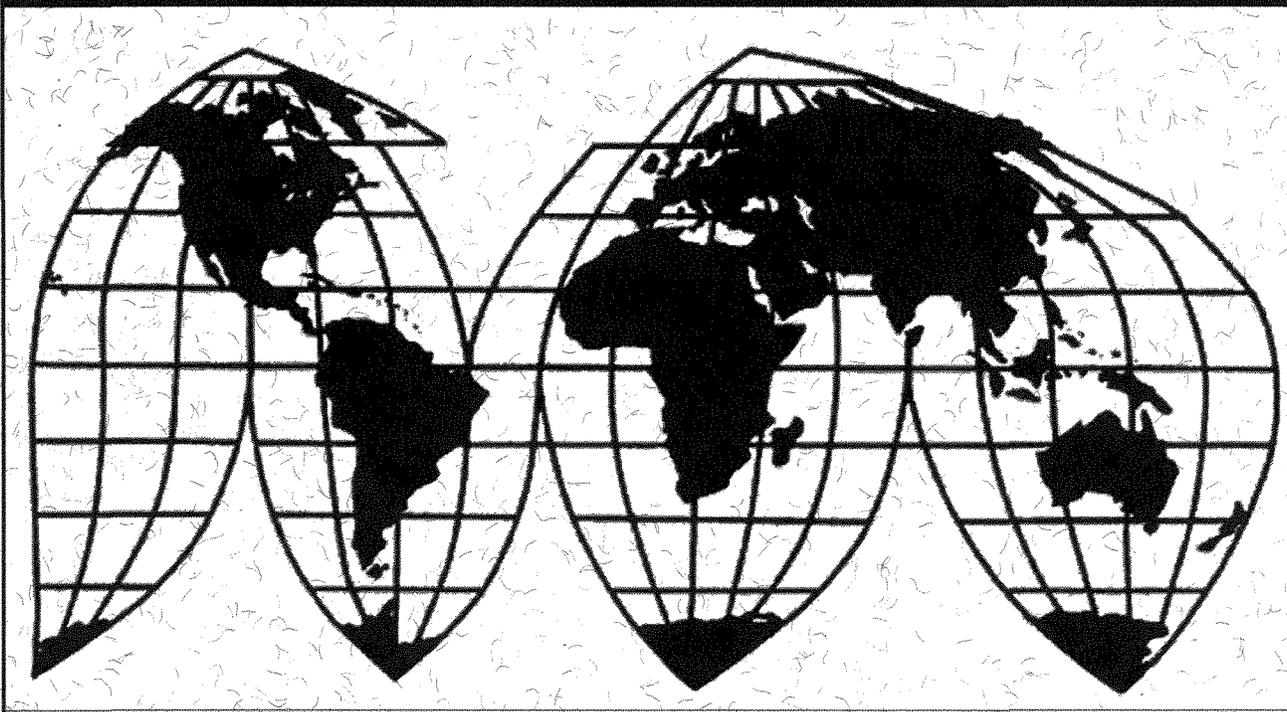
Investigation No. 337-TA-604

Volume 2 of 2

**Publication 4139**

**April 2010**

**U.S. International Trade Commission**



Washington, DC 20436

# **U.S. International Trade Commission**

## **COMMISSIONERS**

**Shara L. Aranoff, Chairman**  
**Daniel R. Pearson, Vice Chairman**  
**Deanna Tanner Okun**  
**Charlotte R. Lane**  
**Irving A. Williamson**  
**Dean A. Pinkert**

**Address all communications to  
Secretary to the Commission  
United States International Trade Commission  
Washington, DC 20436**

# **U.S. International Trade Commission**

Washington, DC 20436  
[www.usitc.gov](http://www.usitc.gov)

*In the Matter of*

**Certain Sucralose, Sweeteners Containing  
Sucralose, and Related Intermediate  
Compounds Thereof**

Investigation No. 337-TA-604

Volume 2 of 2



PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

CERTAIN SUCRALOSE, SWEETENERS,  
CONTAINING SUCRALOSE, AND RELATED  
INTERMEDIATE COMPOUNDS THEREOF

Inv. No. 337-TA-604

INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND  
RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Charles E. Bullock

(September 22, 2008)

**Appearances:**

For the Complainants Tate & Lyle:

Thomas L. Jarvis, Esq.; Eric J. Fues, Esq.; Paul C. Goulet, Esq.; James R. Barney, Esq.; Jennifer H. Roscetti, Esq.; Michael Kudravetz, Esq.; and Jeffrey Totten, Esq. of Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P. of Washington, D.C.

David Foster, Esq. and David Nickel, Esq. of Miller & Chevalier of Washington, D.C.

For the Respondents Hebei Sukerui Science and Technology Co., Ltd., Beijing Forbest Chemical Co., Ltd., Beijing Forbest Trade Co., Ltd., and Forbest International USA, LLC:

Marcia H. Sundeen, Esq. and Michael M. Shen, Esq. of Kenyon & Kenyon LLP of Washington, D.C.

Jiabin Wang, Esq. and Richard Liu, Esq. of Lifang & Partners of Beijing, People's Republic of China

For the Respondent JK Sucralose, Inc.:

Jeffrey R. Whieldon, Esq. of Fish & Richardson, P.C. of Washington, D.C.

Craig S. Smith, Esq.; Maria Hamilton, Esq.; and Thomas Brown, Esq. of Fish & Richardson, P.C. of Boston, Massachusetts

For the Respondents Changzhou Niutang Chemical Plant Co., Ltd.; Guangdong Food Industry Institute; Garuda International Co., Ltd.; L&P Food Ingredient Co., Ltd.; and U.S. Niutang Chemical, Inc.:

Gary M. Hnath, Esq. and Goutam Patriak, Esq. of Bingham McCutchen LLP of Washington, D.C.

For the Respondents MTC Industries, Inc. and Nantong Molecular Technology Co., Ltd.:

Kevin Tung, Esq. and Kun Zhao, Esq. of Kevin Kerveng Tung, P.C. of Flushing, New York

For the Respondents Heartland Packaging Corporation and Heartland Sweeteners LLC:

William L. O'Connor, Esq. of Dann, Pecar, Newman & Kleiman, P.C. of Indianapolis, Indiana

For the Commission Investigative Staff:

Lynn I. Levine, Esq., Director; Anne Goalwin, Esq., Supervising Attorney; Christopher G. Paulraj, Esq., Investigative Attorney; of the Office of Unfair Import Investigations, U.S. International Trade Commission, of Washington, D.C.

## TABLE OF CONTENTS

LIST OF ABBREVIATIONS .....	x
DISCUSSION .....	3
I. Introduction .....	3
A. Procedural History .....	3
B. The Parties .....	11
1. Complainant .....	11
2. Respondents .....	12
a. Manufacturing Respondents .....	12
(1) Changzhou Niutang Chemical Plant Co. ....	12
(2) Guangdong Food Industry Institute and L&P Food Ingredient Co., Ltd. ....	12
(3) Hebei Sukerui Science and Technology Co., Ltd. ....	12
(4) JK Sucralose, Inc. ....	12
b. Other Participating Respondents .....	13
(1) Beijing Forbest Chemical Co, Ltd. and Beijing Forbest Trade Co., Ltd. ....	13
(2) Forbest International USA, LLC .....	13
(3) U.S. Niutang Chemical, Inc. ....	13
(4) Garuda International, Inc. ....	13
(5) Heartland Packaging Corporation and Heartland Sweeteners, LLC .....	13
(6) MTC Industries, Inc. and Nantong Molecular Technology Co., Ltd. ....	14
c. Non-participating Respondents .....	14
(1) AIDP, Inc. ....	14
(2) CJ America, Inc. ....	14
(3) Fortune Bridge Co., Inc. ....	14
(4) Nu-Scaan Nutraceuticals, Ltd. ....	15
(5) ProFood International, Inc. ....	15
(6) Vivion, Inc. ....	15
d. Defaulted Respondents .....	15
(1) Gremount International Co., Ltd. ....	15
(2) Hebei Province Chemical Industry Academe and Hebei Research Institute of Chemical Industry ....	15
(3) Lianyungang Natiprol (Int'l) Co., Ltd. ....	16
(4) Ruland Chemistry Co., Ltd. ....	16
(5) Shanghai Aurisco International .....	16
(6) Zhongjin Pharmaceutical (Hong Kong) Co., Ltd. ....	16
C. Overview of the Technology .....	17
D. The Patents at Issue .....	19

1.	The '463 Patent	19
2.	The '969 Patent	20
3.	The '551 Patent	20
4.	The '709 Patent	21
5.	The '435 Patent	21
E.	The Products at Issue	21
II.	Jurisdiction and Importation	22
A.	Subject Matter Jurisdiction	22
1.	Introduction	22
2.	Background and Discussion	23
a.	Respondents' Motion	23
b.	Order No. 11	24
c.	Commission's September 24, 2007 Order	32
d.	The Parties' Positions	33
(1)	Complainants	33
(2)	Respondents	34
(3)	Staff	36
3.	Discussion and Conclusion	40
B.	Personal Jurisdiction	48
III.	Relevant Law	49
A.	Claim Construction	49
B.	Infringement	55
1.	Literal Infringement	55
2.	Indirect Infringement	55
3.	Infringement under the Doctrine of Equivalents	56
C.	Domestic Industry	56
D.	Validity	59
1.	Anticipation, 35 U.S.C. §§ 102 (a), (b) and (e)	60
2.	Obviousness, 35 U.S.C. § 103 (a)	61
3.	Written Description/Enablement, 35 U.S.C. § 112, ¶ 1	64
4.	Indefiniteness	66
IV.	The '463 Patent	67
A.	Claim Construction	67
1.	Asserted Claims	67
2.	Disputed Claim Terms - Claim 1	68
a.	Step (a)	68
(1)	"adding"	68
(2)	"at least seven molar equivalents"	70
(3)	"acid chloride"	71
(4)	"sucrose-6-ester"	73
(5)	"tertiary amide"	73

	(6)	“to form a chloroformiminium chloride salt in the presence of said sucrose-6-ester”	74
	(7)	“whereby the chloroformiminium salt forms an O-alkylformiminium chloride adduct with the hydroxyl groups of the sucrose-6-ester”	76
(2)	Step (b)		79
	(1)	“subjecting the reaction mixture product of step (a) to an elevated temperature not higher than about 85°C”	79
	(2)	“a mixture of chlorinated sucrose-6-ester products consisting essentially of monochloro- sucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester”	82
(3)	Step (c):	“subjecting the reaction mixture product of step (b) to an elevated temperature of at least about 100°C but not higher than about 130°C for a period of time sufficient to produce a chlorinated product comprising predominantly 1',4,6'-trichlorosucrose- 6-ester”	85
<b>B.</b>	<b>Infringement</b>		87
	1.	<b>GDFII</b>	87
	a.	<b>Claim 1</b>	89
		(1) Step (a)	89
		(2) Step (b)	93
		(3) Step (c)	97
		(4) Conclusion	98
	b.	Claims 2-3 and 16-18	101
	c.	Doctrine of Equivalents	101
	2.	<b>Changzhou Niutang</b>	103
	a.	<b>Claim 1</b>	104
		(1) Step (a)	104
		(2) Step (b)	105
		(3) Step (c)	106
		(4) Conclusion	107
	b.	Claims 2-3 and 16-18	107
	c.	Doctrine of Equivalents	108
	3.	<b>Hebei Sukerui</b>	108
	a.	<b>Claim 1</b>	111
		(1) Step (a)	111
		(2) Step (b)	113
		(3) Step (c)	114
		(4) Conclusion	115
	b.	Claims 2-3 and 16-18	115
	c.	Doctrine of Equivalents	116

4.	JK Sucralose .....	117
	a. Claim 1 .....	118
	(1) Step (a) .....	118
	(2) Step (b) .....	120
	(3) Step (c) .....	122
	(4) Conclusion .....	124
	b. Claims 2-3 and 16-18 .....	124
	c. Doctrine of Equivalents .....	125
5.	CJ America .....	125
6.	AIDP .....	126
7.	Hebei Research .....	126
8.	Non-manufacturing Participating Respondents .....	127
9.	Remaining Non-participating and Defaulting Respondents .....	128
C.	Domestic Industry - Technical Prong .....	129
	1. Claim 1 .....	129
	a. Step (a) .....	129
	b. Step (b) .....	130
	c. Step (c) .....	133
	2. Conclusion .....	134
D.	Validity .....	134
	1. Ordinary Skill in the Art .....	134
	2. Anticipation and/or Obviousness .....	135
	a. The Prior Art References .....	135
	(1) The Jenner '869 Patent .....	135
	(2) The Mufti '476 patent .....	136
	(3) The Rathbone '269 patent .....	137
	(4) The Ballard Reference .....	137
	b. The Mufti '476 patent in Combination with the Jenner '869 Patent, the Rathbone '269 patent, and/or the Ballard Reference .....	138
	(1) Claim 1 .....	139
	(2) Dependent Claims .....	143
	(3) Conclusion .....	143
	c. Secondary Considerations .....	144
	3. Section 112 .....	147
	a. Lack of Enablement .....	147
	b. Lack of Written Description .....	151
	c. Indefiniteness .....	154
V.	The Tin Patents - the '969 Patent and the '551 Patent .....	155
	A. Jurisdiction .....	155
	B. Claim Construction .....	155
	1. The '969 Patent .....	155
	a. Asserted Claims .....	155

b.	Disputed Claim Terms	156
(1)	“polar aprotic solvent”	156
(2)	“maintaining said second reaction mixture at a temperature and for period of time sufficient to produce a sucrose-6-ester”	156
2.	The ‘551 Patent	158
a.	Asserted Claims	158
b.	Disputed Claim Terms	160
(1)	“a small amount of water”	160
(2)	“polar aprotic solvent”	161
(3)	“organic solvent”	162
C.	Infringement of the ‘969 and ‘551 Patents	163
1.	Changzhou Niutang & GDFII	163
a.	In General	163
b.	Presumption	172
2.	AIDP	173
3.	CJ America	173
4.	Non-manufacturing Participating Respondents	174
5.	The Remaining Non-Participating and Defaulted Respondents	174
D.	Domestic Industry - Technical Prong	175
1.	The ‘969 Patent	175
a.	Claim 20	175
(1)	Step (1)	175
(2)	Step (2)	176
b.	Conclusion	176
2.	The ‘551 Patent	176
a.	Claim 1	177
(1)	Step (a)	177
(2)	Step (b)	177
(3)	Step (c)	177
b.	Conclusion	178
E.	Validity	178
1.	The ‘969 Patent	178
a.	Ordinary Skill in the Art	178
b.	Prior Art References	179
(1)	The Navia ‘746 Patent	179
(2)	The Otera Reference	180
(3)	The Wagner Reference	180
(4)	The David Reference	181
(5)	The ‘551 Patent	181
c.	Anticipation	182
d.	Obviousness: The Navia ‘746 Patent in Combination with the Otera Reference, the Wagner Reference, the David Reference, and/or the ‘551 Patent	182

2.	The '551 Patent	185
a.	Ordinary Skill in the Art	185
b.	The Prior Art References	186
	(1) The Navia '746 Patent	186
	(2) The Moore Reference	187
	(3) The Wagner Reference	187
c.	Anticipation - The Navia '746 Patent	188
d.	Obviousness - The Navia '746 Patent in Combination with the Moore Reference, and/or the Wagner Reference	190
VI.	The '709 Patent	192
A.	Claim Construction	192
	1. Asserted Claims	192
	2. Disputed Claim Terms	192
B.	Infringement	193
	1. AIDP	193
	2. CJ America	194
	3. Fortune Bridge	195
	4. Gremount	195
	5. Hebei Academe	196
	6. Hebei Research	196
	7. Lianyungang Natiprol	197
	8. Nu-Scaan	198
	9. Ruland	198
	10. Shanghai Aurisco	199
	11. Vivion	199
	12. Zhongjin	200
C.	Domestic Industry - Technical Prong	200
	1. Claim 1	202
	a. Step (i)	202
	b. Step (ii)	202
	c. Step (iii)	202
	2. Claim 8	202
	a. Step (i)	202
	b. Step (ii)	203
	c. Step (iii)	203
	3. Conclusion	203
D.	Validity	203
VII.	The '435 Patent	204
A.	Claim Construction	204
	1. Asserted Claim	204
	2. Disputed Claim Terms	204

B.	Infringement .....	204
1.	CJ America .....	204
2.	Fortune Bridge .....	205
3.	Gremount .....	205
4.	Hebei Academe .....	206
5.	Hebei Research .....	206
6.	Lianyungang Natiprol .....	207
7.	Ruland .....	208
8.	Vivion .....	208
C.	Domestic Industry - Technical Prong .....	209
1.	Claim 1 .....	209
	a. Step (a) .....	209
	b. Step (b) .....	210
	c. Step (c) .....	210
2.	Conclusion .....	211
D.	Validity .....	211
VIII.	Domestic Industry - Economic Prong .....	211
A.	Significant Investment in Plant and Equipment .....	213
B.	Significant Investment in the Employment of Labor and Capital .....	214
C.	Significant Investments in Research and Development .....	215
	CONCLUSIONS OF LAW .....	216
	INITIAL DETERMINATION .....	219
	RECOMMENDED DETERMINATION ON REMEDY AND BOND .....	221
IX.	Remedy and Bonding .....	221
A.	General Exclusion Order .....	221
	1. Circumvention of an Exclusion Order .....	222
	2. Widespread Pattern of Violation of Section 337 .....	223
B.	Cease and Desist Order .....	226
C.	Bond During Presidential Review Period .....	227
	APPENDIX OF EXHIBIT LISTS .....	A1

## LIST OF ABBREVIATIONS

<b>CDX</b>	Complainants' demonstrative exhibit
<b>CFF</b>	Complainants' proposed findings of fact
<b>CIB</b>	Complainants' initial post-hearing brief
<b>CORFF</b>	Complainants' objections to Respondents' proposed findings of fact
<b>COSFF</b>	Complainants' objections to Staff's proposed findings of fact
<b>CPX</b>	Complainants' physical exhibit
<b>CRB</b>	Complainants' reply post-hearing brief
<b>CX</b>	Complainants' exhibit
<b>Dep</b>	Deposition
<b>JX</b>	Joint Exhibit
<b>RDX</b>	Respondents' demonstrative exhibit
<b>RFF</b>	Respondents' proposed findings of fact
<b>RIB</b>	Respondents' initial post-hearing brief
<b>ROCFF</b>	Respondents' objections to Complainants' proposed findings of fact
<b>ROSFF</b>	Respondents' objections to Staff's proposed findings of fact
<b>RPX</b>	Respondents' physical exhibit
<b>RRB</b>	Respondents' reply post-hearing brief
<b>RRFF</b>	Respondents' rebuttal proposed findings of fact
<b>RX</b>	Respondents' exhibit
<b>SFF</b>	Staff's proposed findings of fact
<b>SIB</b>	Staff's initial post-hearing brief
<b>SOCFF</b>	Staff's objections to Complainants' proposed findings of fact
<b>SORFF</b>	Staff's objections to Respondents' proposed findings of fact
<b>SRB</b>	Staff's reply post-hearing brief
<b>Tr.</b>	Transcript

PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

**In the Matter of**

**CERTAIN SUCRALOSE, SWEETENERS  
CONTAINING SUCRALOSE, AND RELATED  
INTERMEDIATE COMPOUNDS THEREOF**

**Inv. No. 337-TA-604**

**INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND  
RECOMMENDED DETERMINATION ON REMEDY AND BOND**

Administrative Law Judge Charles E. Bullock

(September 22, 2008)

Pursuant to the Notice of Investigation<sup>1</sup> and Rule 210.42(a) of the Rules of Practice and Procedure of the United States International Trade Commission, this is the Administrative Law Judge's Initial Determination in the matter of certain sucralose, sweeteners containing sucralose, and related intermediate compounds thereof, Investigation No. 337-TA-604.

The Administrative Law Judge hereby determines that, with the exception of certain non-participating and defaulted Respondents, a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain sucralose, sweeteners containing sucralose, and related intermediate compounds thereof, in connection with claims 1-3 and 16-18 of U.S. Patent No. 4,980,463; claims 20-26, 28, and 29 of U.S. Patent No. 5,470,969; claims 8, 9, and

---

<sup>1</sup> 72 Fed. Reg. 26,645 (May 10, 2007).

13 of U.S. Patent No. 5,498,709; and claim 1 of U.S. Patent No. 7,049,435. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States exists that practices U.S. Patent Nos. 5,470,969; 5,498,709; and 7,049,435, and does not exist that practices U.S. Patent No. 4,980,463. The undersigned also makes a determination that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain sucralose, sweeteners containing sucralose, and related intermediate compounds thereof, in connection with claims 1-4 and 11-22 of U.S. Patent No. 5,034,551 because the Commission has no jurisdiction over the subject matter of this patent.

## DISCUSSION

### I. Introduction

#### A. Procedural History

On April 6, 2007, Complainants Tate & Lyle Technology Limited and Tate & Lyle Sucralose, Inc. (collectively "Complainants" or "Tate & Lyle") filed a complaint with the Commission pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337. The complaint was supplemented on April 13, 18, 23, and 25, 2007. The complaint, as supplemented, asserts unfair methods of competition and unfair acts in violation of Section 337 by Respondents AIDP, Inc.; Beijing Forbest Chemical Co, Ltd.; Beijing Forbest Trade Co., Ltd.; Forbest International USA, LLC; Changzhou Niutang Chemical Plant Co.; U.S. Niutang Chemical, Inc.; CJ America, Inc.; Fortune Bridge Co., Inc.; Garuda International, Inc.; Gremount International Co., Ltd.; Guangdong Food Industry Institute; Hebei Province Chemical Industry Academe; Hebei Research Institute of Chemical Industry; Hebei Sukerui Science and Technology Co., Ltd.; Heartland Packaging Corporation; L&P Food Ingredient Co., Ltd.; Lianyungang Natiprol (Int'l) Co., Ltd.; MTC Industries, Inc.; Nantong Molecular Technology Co., Ltd.; Nu-Scaan Nutraceuticals, Ltd.; ProFood International, Inc.; Ruland Chemistry Co., Ltd.; Shanghai Aurisco International; Vivion, Inc.; and Zhongjin Pharmaceutical (Hong Kong) Co., Ltd. in connection with the importation, sale for importation, and sale within the United States after importation of certain sucralose, sweeteners containing sucralose, and related intermediate compounds thereof.

The complaint accuses Respondents' products of infringing various claims of the following five U.S. Patents owned by Tate & Lyle: claims 1-3 and 16-18 of U.S. Patent No. 4,980,463 ("the '463 patent"); claims 20-26, 28, and 29 of U.S. Patent No. 5,470,969 ("the '969 patent"); claims 1-4

and 11-22 of U.S. Patent No. 5,034,551 (“the ‘551 patent”); claims 8, 9, and 13 of U.S. Patent No. 5,498,709 (“the ‘709 patent”); and claim 1 of U.S. Patent No. 7,049,435 (“the ‘435 patent”). The complaint further alleges that there exists a domestic industry with respect to the patents-at-issue. Tate & Lyle seeks, among other things, a general exclusion order of the infringing sucralose, sweeteners containing sucralose, and related intermediate compounds thereof. On May 7, 2007, the Commission issued a notice of investigation that was subsequently published in the Federal Register on May 10, 2007.<sup>2</sup> On May 11, 2007, the Commission issued a correction to the notice of institution.<sup>3</sup> On June 13, 2007, the undersigned set a fifteen-month target date for the investigation, or August 11, 2008.<sup>4</sup>

On July 6, 2007, Tate & Lyle filed a motion for order to show cause and default judgment against Respondents Gremount, Hebei Academe, Hebei Research, Natiprol, Ruland, Shanghai Aurisco, and Zhongjin. On July 19, 2007, the undersigned issued Order No. 6, granting the motion to order show cause. Subsequently, the undersigned issued Order No. 10, an initial determination finding these seven Respondents in default. On August 27, 2007, the Commission issued a notice not to review the initial determination.

On July 2, 2007, JK Sucralose filed a motion to intervene as a Respondent in this investigation. On July 25, 2007, the undersigned issued Order No. 7, an initial determination granting the motion to intervene. On August 15, 2007, the Commission issued a notice not to review the initial determination.

On June 12, 2007, certain Respondents filed a motion to terminate the investigation as to the

---

<sup>2</sup> See Notice of Investigation, 72 Fed. Reg. 26,645 (May 10, 2007).

<sup>3</sup> See Correction, 72 Fed. Reg. 27,848 (May 17, 2007).

<sup>4</sup> See Order No. 3 (June 13, 2007).

'463, '969, and '551 patents based on a lack of jurisdiction. In the Commission's Notice of Investigation, the Commission stated that

some of the patents at issue may cover processes that produce chemical precursors or intermediates of sucralose or that recover certain chemical catalysts from the synthesis. In instituting this investigation, the Commission has not made any determination as to the scope of 35 U.S.C. 1337(a)(1)(B)(ii) or whether 337(a)(1)(B)(ii) is sufficiently broad as to encompass such processes. Accordingly, the presiding administrative law judge may wish to consider these fundamental issues at an early date. Any such decision should be issued in the form of an initial determination (ID) under Rule 210.42(c), 19 CFR 210.42(c). The ID will become the Commission's final determination 45 days after the date of service of the ID unless the Commission determines to review the ID. Any such review will be conducted in accordance with Commission Rules 210.43, 210.44 and 210.45, 19 CFR 210.43, 210.44, and 210.45.<sup>5</sup>

On August 8, 2007, the undersigned issued Order No. 11, an initial determination denying the motion to terminate. On September 24, 2007, the Commission issued a notice to review and vacate the initial determination.<sup>6</sup> On October 1, 2007, the undersigned issued Order No. 22 directing the parties to respond to the issues raised in the Commission's Notice in the parties' pre-hearing and post-hearing briefs. These issues, which were raised by the Commission, will be addressed in further detail below.

On June 6, 2007, Respondent Profood filed a motion to terminate the investigation based on a consent order. On August 9, 2007, the undersigned issued Order No. 12, an initial determination granting the motion. On August 30, 2007, the Commission issued a notice not to review the initial determination.

On July 10, 2007, certain Respondents filed a motion for summary determination that there is no domestic industry as the '463 patent. On August 16, 2007, the undersigned issued Order No.

---

<sup>5</sup> See 72 Fed. Reg. 26,645.

<sup>6</sup> See Commission Notice at 2-3 (September 24, 2007).

15, denying the motion.

On August 17, 2007, Tate & Lyle filed a motion to amend the complaint and notice of investigation by adding an additional respondent, Heartland Sweeteners, LLC ("Heartland Sweeteners"). On September 7, 2007, the undersigned issued Order No. 17, an initial determination granting the motion. On October 3, 2007, the Commission issued a notice not to review the initial determination. On September 17, 2007, Heartland Sweeteners filed a request for clarification of Order No. 17. On October 1, 2007, the undersigned issued Order No. 21 regarding clarification of Order No. 17.

On September 25, 2007, Tate & Lyle filed a motion to extend the procedural schedule and target date by five months. On October 2, 2007, the undersigned issued Order No. 27, an initial determination, granting the motion in part, extending the target date by two months, setting the investigation at seventeen months, or October 10, 2008. On October 25, 2007, the Commission issued a notice not to review the initial determination.

On October 24, 2007, Tate & Lyle filed a second motion to amend the complaint and notice of investigation by adding claims 7-15 and 22-24 of the '463 patent to the list of claims that Tate & Lyle believe are infringed by Respondents Changzhou Niutang, GDFII, Hebei Sukerui and JK Sucralose. On November 7, 2007, the undersigned issued Order No. 32, denying the motion.

On December 4, 2007, Tate & Lyle filed a motion for partial termination of the investigation with respect to certain patents and certain respondents. Specifically, Complainants moved to withdraw all asserted claims of the '709 patent against Respondents Changzhou Niutang, GDFII, Hebei Sukerui, Heartland Packaging, Heartland Sweeteners, MTC, Garuda, Forbest Trade/Forbest

Chemical, and Forbest USA.<sup>7</sup> Complainants also moved to withdraw all asserted claims of the '435 patent with respect to Hebei Sukerui, Forbest Chemical/Forbest Trade, Forbest USA, Heartland Sweeteners, Heartland Packaging, and MTC.<sup>8</sup> Complainants also made clear that the issues of infringement as to the '969 patent and the '551 patent by JK Sucralose are now moot, but that Complainants continue to allege infringement of the '463 patent by JK Sucralose. On December 21, 2007, the undersigned issued Order No. 38, an initial determination granting the motion for partial termination. On January 22, 2008, the Commission issued a notice not to review the initial determination.

On December 28, 2007, Tate & Lyle filed a motion for summary determination that they satisfy the economic prong of the domestic industry requirement of Section 337. On February 8, 2008, the undersigned issued Order No. 54, denying the motion for summary determination.

On January 11, 2008, Tate & Lyle filed a motion for termination of the investigation with respect to Respondent U.S. Niutang with respect to the '709 patent, as U.S. Niutang was inadvertently not included in the previous motion to terminate. On January 14, 2008, the undersigned issued Order No. 40, an initial determination granting the motion for partial termination. On June 12, 2008, the Commission issued a notice not to review the initial determination.

On January 15, 2008, certain Respondents filed a motion for summary determination of non-infringement of the '969 patent and the '551 patent. On February 7, 2008, the undersigned issued Order No. 51, denying the motion for summary determination.

---

<sup>7</sup> Complainants made clear, however, that they continue to proceed with allegations of infringement of the '709 patent with respect to the defaulted and non-participating Respondents.

<sup>8</sup> Complainants made clear, however, that they continue to proceed with allegations of infringement of the '435 patent with respect to the defaulted and non-participating Respondents.

On January 15, 2008, Tate & Lyle filed a motion for summary determination of importation by Respondents. On February 8, 2008, the undersigned issued Order No. 55, denying the motion for summary determination.

On January 22, 2008, Tate & Lyle filed a motion for a presumption that the Niutang and GDFII Respondents infringe the '969 and '551 patents. On February 7, 2008, the undersigned issued Order No. 52, denying the motion for a presumption.

On January 25, 2008, certain Respondents filed a joint motion to preclude reliance on late produced documents by Tate & Lyle. On February 4, 2008, the undersigned issued Order No. 48, granting the motion and ruled that "Complainants may not rely on any test results that were produced after December 3, 2007 and also may not rely on any documents produced after December 17, 2007." On February 8, 2008, Tate & Lyle filed a motion for reconsideration of Orders 46-48 and a request for clarification of Orders 46-48. On February 11, 2008, the undersigned issued Order No. 56, denying the motion for reconsideration and clarifying Orders 46-48. In Order No. 56, the undersigned stated that

When referring to "any test results" the undersigned is not limiting that category to actual testing that was conducted after December 3, 2007 because of Complainants' own representation that they would produce "all test results considered or relied on by Tate & Lyle's testifying experts, whether they are positive to Complainants' contentions or not, and all iterations of these same tests performed on the same samples, in conjunction with the November 30, 2007 date set for the production of initial expert reports."<sup>9</sup> Furthermore, whether or not Respondents asked for certain documents after the fact discovery cutoff or used such documents during certain depositions, is irrelevant and they are hereby excluded. As such, the undersigned does not want any witness statement or deposition designation to refer to any of these excluded documents.<sup>10</sup>

---

<sup>9</sup> See Order No. 33 at 3 (November 26, 2007).

<sup>10</sup> See Order No. 56 at 3 (February 11, 2008).

The above ruling has been the subject of much dispute between the parties. As such, Tate & Lyle has submitted a number of exhibits, including documents and witness statements,<sup>11</sup> as an offer of proof which were labeled as exhibits in this investigation, but not admitted into evidence. Similarly, Respondents have also submitted a number of exhibits, including documents and witness statements,<sup>12</sup> as an offer of proof which were labeled as exhibits in this investigation, but not admitted into evidence.

The parties have stipulated as to certain material facts.<sup>13</sup> Particular stipulated facts that are relevant to this Initial Determination are cited accordingly.

An evidentiary hearing on liability was conducted before the undersigned from February 21-29, 2008. In support of its case-in-chief and rebuttal case, Tate & Lyle called the following witnesses:

- Austin J. Maguire (President of Tate & Lyle Sucralose, Inc.)<sup>14</sup>;
- Dr. Marvin Hayenga (Tate & Lyle's expert on domestic industry)<sup>15</sup>;
- Dr. Ware Flora (Tate & Lyle's Associate Director of Analytical Research & Development)<sup>16</sup>;
- Rev. Robert Walkup (inventor of the '463 patent)<sup>17</sup>;
- Nicholas Blank [ ]<sup>18</sup>;
- Fan Wu (Senior Scientist in the Analytical Research Department of Ciba Specialty

---

<sup>11</sup> For example, *see* CX-614-C-P (Maguire Direct Proffered), CX-622C-P (Hayenga Direct Proffered), CX-616C-P (Flora Direct) Proffered, CX-621C-P (Crich Direct Proffered), CX-617C-P (Sands Direct Proffered); CX-618C-P (Hand Direct Proffered).

<sup>12</sup> For example, *see* RX-216-C-P (M. Wang Direct Proffered); RX-218C-P (JJ Wu Direct Proffered).

<sup>13</sup> *See* JX-65C, Joint Stipulation regarding importation.

<sup>14</sup> CX-614C-R (Maguire Direct).

<sup>15</sup> CX-622C-R (Hayenga Direct).

<sup>16</sup> CX-616C-R (Flora Direct).

<sup>17</sup> CX-620C (Walkup Direct); CRX-57C (Walkup Rebuttal).

<sup>18</sup> CX-615C-R (Blank Direct).

- Chemicals)<sup>19</sup>;
- Dr. David Crich (Tate & Lyle's expert)<sup>20</sup>;
- Dr. John Sands (Tate & Lyle's expert)<sup>21</sup>;
- Dr. John Hand (Senior Staff Scientist II at Ciba Specialty Chemicals & Expert Services)<sup>22</sup>; and
- Jim Wiley (Tate & Lyle's Director of Process Technology).<sup>23</sup>

In support of its case-in-chief and rebuttal case, Respondents called the following witnesses:

- Joseph St. Laurent (JK Sucralose's expert witness and President of Chemic Laboratories)<sup>24</sup>;
- Dr. Baker (Sukerui's and Forbests' expert witness)<sup>25</sup>;
- Dr. Hanessian (JK Sucralose's expert witness)<sup>26</sup>;
- Mantang Wang (Sukerui's Chairman of the Board)<sup>27</sup>;
- Junjing Wu (Sukerui's Deputy General Manager)<sup>28</sup>;
- Guangli Wu (Sukerui's General Manager)<sup>29</sup>;
- Lijun An (JK Sucralose's CEO and Forbest's Chairman)<sup>30</sup>;
- Jinshan Wu (JK Sucralose's Deputy General Manager)<sup>31</sup>;
- Chunrong Li (GDFII's Deputy Director & L&P General Manager)<sup>32</sup>;
- Dr. Sanyong Wang (GDFII's Director & L&P's Chairman of the Board)<sup>33</sup>;
- Dr. Bertram Fraser-Reid (Niutang and GDFII's expert witness)<sup>34</sup>;
- Dr. Ca Yai (Niutang's Vice President of R&D)<sup>35</sup>;

---

<sup>19</sup> CX-611C (F. Wu Direct).

<sup>20</sup> CX-621C-R (Crich Direct); CX-621C-S (Crich Supplemental Direct); CRX-56C (Crich Rebuttal).

<sup>21</sup> CX-617C-R (Sands Direct); CRX-55C-R (Sands Rebuttal).

<sup>22</sup> CX-618C-R (Hand Direct).

<sup>23</sup> CX-619C (Wiley Direct); CRX-58C (Wiley Rebuttal).

<sup>24</sup> RX-702C (St. Laurent Direct); RX-702SC (St. Laurent Supplemental).

<sup>25</sup> RX-219C (Baker Direct); RX-641C-R (Baker Rebuttal).

<sup>26</sup> RX-703C (Hanessian Direct); RX-703SC (Hanessian Supplemental).

<sup>27</sup> RX-216C-R (M. Wang Direct).

<sup>28</sup> RX-218C-R (JJ Wu Direct); RX-642C (JJ Wu Rebuttal).

<sup>29</sup> RX-643C (G. Wu Rebuttal).

<sup>30</sup> RX-701C-C (An Direct).

<sup>31</sup> RX-700C (JS Wu Direct).

<sup>32</sup> RX-563C (Li Direct); RX-830C-R (Li Rebuttal).

<sup>33</sup> RX-562C (S. Wang Direct); RX-832C (S. Wang Rebuttal).

<sup>34</sup> RX-561C (Fraser-Reid Direct); RX-828C (Fraser-Reid Rebuttal).

<sup>35</sup> RX-564C (Yai Direct); RX-831C-R (Yai Rebuttal).

- Professor Tian (Professor at Nanjing University)<sup>36</sup>;
- Dr. Eric Walters (Niutang and GDFII's expert witness)<sup>37</sup>; and
- Teodor Gelov (Heartland's President).<sup>38</sup>

In addition, various deposition testimony was received into evidence in lieu of direct witness statements or live testimony.

After the hearing, post-hearing briefs and reply briefs, together with proposed findings of fact, conclusions of law and rebuttals to the same, were filed on March 14, 2008 and March 24, 2008, respectively.<sup>39</sup>

On May 27, 2008, the undersigned issued Order No. 58, an initial determination extending the target date by three months to twenty months, or January 12, 2009. On June 20, 2008, the Commission issued a notice not to review the initial determination.

On August 6, 2008, the undersigned issued Order No. 59, an initial determination extending the target date by seven days to January 21, 2009. That order also required Complainants to resubmit their post-trial brief, and post-trial reply brief, which were both re-filed on August 13, 2008.

## **B. The Parties**

### **1. Complainants**

Complainant Tate & Lyle Technology Limited is a United Kingdom corporation with its principal place of business at Sugar Quay, Lower Thames Street, London EC3R 6DQ, United Kingdom. Tate & Lyle Technology Limited is the owner of the asserted patents. Complainant Tate

---

<sup>36</sup> RX-833C-R (Tian Rebuttal).

<sup>37</sup> RX-829C (Walters Rebuttal).

<sup>38</sup> RX-844C (Gelov Rebuttal).

<sup>39</sup> On March 25, 2008, Staff filed a motion (604-090) for leave to file its objections and rebuttal findings to Complainants' and Respondents' Proposed Findings of Fact one day late due to electronic filing problems, which is hereby granted.

& Lyle Sucralose, Inc. is a Delaware corporation with its principal place of business at 2200 East Eldorado Street, Decatur, Illinois. Tate & Lyle Sucralose, Inc. is a licensee of the asserted patents and manufactures sucralose at a plant in McIntosh, Alabama.

**2. Respondents**

**a. Manufacturing Respondents**

**(1) Changzhou Niutang Chemical Plant Co.**

Changzhou Niutang Chemical Plant Co. (“Niutang Changzhou”) is a Chinese corporation with its principal place of business at No. 51 Yanzhang Road, Niutang Town, Changzhong, Jiangsu, People’s Republic of China.

**(2) Guangdong Food Industry Institute and L&P Food Ingredient Co., Ltd.**

Guangdong Food Industry Institute (“GDFII”) is a Chinese corporation with a principal place of business at No. 146 Xingang Dong Road, Guangzhou, Guangdong, People’s Republic of China. L&P Food Ingredient Co., Ltd. has been identified as GDFII’s sucralose manufacturing arm and has the same principal place of business.

**(3) Hebei Sukerui Science and Technology Co., Ltd.**

Hebei Sukerui Science and Technology Co., Ltd. (“Hebei Sukerui”) is a Chinese corporation with its principal place of business at Industrial Park of Zengcheng Town, Gaocheng City, Hebei, People’s Republic of China.

**(4) JK Sucralose, Inc.**

JK Sucralose, Inc. (“JK Sucralose”) is a Chinese corporation with its principal place of business at No. 118 Renming East Rd., Sheyang County, Jiangsu 224300, People’s Republic of China.

**b. Other Participating Respondents**

**(1) Beijing Forbest Chemical Co, Ltd. and Beijing Forbest Trade Co., Ltd.**

Beijing Forbest Chemical Co, Ltd. ("Forbest Chemical") and Beijing Forbest Trade Co., Ltd. ("Forbest Trade") are the same company that use both names. Forbest Chemical/Forbest Trade is a Chinese corporation with its principal place of business at Room 2 1801, Building 2, Yard 3, District 1, Fangqunyuan, Fangzhuang, Fengtai District, Beijing 100078, People's Republic of China.

**(2) Forbest International USA, LLC**

Forbest International USA, LLC ("Forbest USA") is a New Jersey limited liability company with its principal place of business at 131 Fieldcrest Avenue, Suite B, Edison, New Jersey 08873. Forbest USA shares common ownership interests with Forbest Chemical/Forbest Trade.

**(3) U.S. Niutang Chemical, Inc.**

U.S. Niutang Chemical, Inc. ("Niutang USA") is a California corporation with its principal place of business at 2913 Saturn Street, Unit G, Brea, California 92821. Niutang USA is a subsidiary of Niutang Changzhou.

**(4) Garuda International, Inc.**

Garuda International, Inc. ("Garuda") is a California corporation with its principal place of business at 180 West Chestnut Avenue, Exeter, California 93211.

**(5) Heartland Packaging Corporation and Heartland Sweeteners, LLC**

Heartland Packaging Corporation ("Heartland Packaging") is an Indiana corporation with its principal place of business at 14300 Clay Terrace Boulevard, Suite 249, Carmel, Indiana 46032. Heartland Sweeteners, LLC ("Heartland Sweeteners") is an Indiana corporation with its principal

place of business at 14300 Clay Terrace Boulevard, Suite 249, Carmel, Indiana 46032. [

]

**(6) MTC Industries, Inc. and Nantong Molecular Technology Co., Ltd.**

MTC Industries, Inc. ("MTC") is New York corporation with its principal place of business at 41 Mercedes Way, Unit 21, Edgewood, New York 11717. Nantong Molecular Technology Co., Ltd. ("Nantong MTC") is a Chinese corporation with its principal place of business at No. 15, Fuxing Road, Economic and Technological Development Zone, Nantong, Jiangsu Province, People's Republic of China.

**c. Non-participating Respondents**

**(1) AIDP, Inc.**

AIDP, Inc. ("AIDP") is a California corporation with its principal place of business in City of Industry, California.<sup>40</sup>

**(2) CJ America, Inc.**

CJ America, Inc. ("CJ America") is a California corporation with its principal place of business in Los Angeles, California.<sup>41</sup>

**(3) Fortune Bridge Co., Inc.**

Fortune Bridge Co., Inc. ("Fortune Bridge") is a New York corporation with its principal place of business in Elmont, New York.<sup>42</sup>

---

<sup>40</sup> See Complaint, ¶ 19.

<sup>41</sup> See Complaint, ¶ 40.

<sup>42</sup> See Complaint, ¶ 44.

**(4) Nu-Scaan Nutraceuticals, Ltd.**

Nu-Scaan Nutraceuticals, Ltd. (“Nu-Scaan”) is a company organized and existing under the laws of the United Kingdom with its principal place of business at Waterside House, Waterside, Macclesfield, Cheshire, SK11 7HG, United Kingdom.<sup>43</sup>

**(5) ProFood International, Inc.**

ProFood International, Inc. (“ProFood”) is an Illinois corporation with its principal place of business in Naperville, Illinois.<sup>44</sup>

**(6) Vivion, Inc.**

Vivion, Inc. (“Vivion”) is a California corporation with its principal place of business in San Carlos, California.<sup>45</sup>

**d. Defaulted Respondents**

**(1) Gremount International Co., Ltd.**

Gremount International Co., Ltd. (“Gremount”) is a Chinese corporation with its principal place of business at Room 2107, Plaza A, Freetown Center, No. 58, South Road Dongsanhuan, Chaoyang District, Beijing 100022, People’s Republic of China.

**(2) Hebei Province Chemical Industry Academe and Hebei Research Institute of Chemical Industry**

Hebei Province Chemical Industry Academe (“Hebei Academe”) is a Chinese corporation with its principal place of business at No. 18, Jianhua South Street, Shijiazhuang City, Hebei Province 050031, People’s Republic of China. Hebei Research Institute of Chemical Industry

---

<sup>43</sup> See Complaint, ¶ 88.

<sup>44</sup> See Complaint, ¶ 91.

<sup>45</sup> See Complaint, ¶ 99. On September 19, 2008, Vivion filed a motion (604-091) to extend the time to file a response to the Complaint, which is hereby granted.

("Hebei Research") is a Chinese corporation with the same principal place of business.

**(3) Lianyungang Natiprol (Int'l) Co., Ltd.**

Lianyungang Natiprol (Int'l) Co., Ltd. ("Natiprol") is a Chinese corporation with its principal place of business at 17/F, Building A, Longhe Mansion, No. 6, Cangwu Road, Xinpu, Lianyungang, Jiangsu, 222006, People's Republic of China.

**(4) Ruland Chemistry Co., Ltd.**

Ruland Chemistry Co., Ltd. ("Ruland") is a Chinese corporation with its principal place of business at Rm. 1201 Heping Mansion, No. 22 East Beijing Road, Nanjing 210018, People's Republic of China.

**(5) Shanghai Aurisco International**

Shanghai Aurisco International ("Shanghai Aurisco") is a Chinese corporation with its principal place of business at 1603, 3 Building, 1555 North Kaixuan Road, Shanghai, 200063, People's Republic of China.

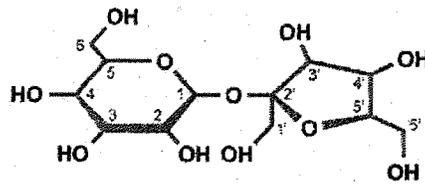
**(6) Zhongjin Pharmaceutical (Hong Kong) Co., Ltd.**

Zhongjin Pharmaceutical (Hong Kong) Co., Ltd. ("Zhongjin") is a Chinese corporation with its principal place of business at Rm. B 12/F Wing On Cheong Bldg., 5 Wing Lok St., Central, Hong Kong.

### C. Overview of the Technology

At issue in this investigation are the manufacturing processes used in the commercial manufacture of sucralose. Sucralose is an artificial sweetener that is produced from the chemical conversion of sucrose, *i.e.* table sugar, shown below in Figure CDX-1.2, by substituting three specific hydroxyl ( $-OH$ ) groups with chlorine ( $-Cl$ ) atoms.

Sucrose Structure (Simplified) CDX-1.2

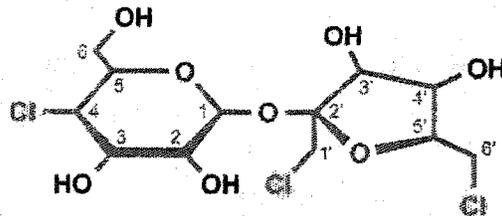


Sucrose has 8 hydroxyl (OH) groups

[Illustrative purposes only]

The chemical formula for sucralose is known as 4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose, which is represented below in Figure CDX-1.4:

Sucralose Structure (Simplified) CDX-1.4



Sucralose has chlorine (Cl) atoms at the 4, 1' & 6' positions

[Illustrative purposes only]

Sucralose was discovered in 1976 by Dr. Leslie Hough, an organic chemist at King's College London. Dr. Hough discovered that, when three of the eight hydroxyl ( $-OH$ ) groups in ordinary table sugar are replaced with chlorine atoms, the resulting compound is 600 times sweeter than sugar.

The overall process of manufacturing sucralose involves many steps but can be grouped into four phases including protection, chlorination, deprotection, and purification.

The first step, protection, is necessary to prevent the chlorination of five of the eight hydroxyl (-OH) groups. One such way to protect the five hydroxyl (-OH) groups is to substitute these hydroxyl (-OH) groups with an ester group that is not subject to chlorination, which was the subject of U.S. Patent No. 4,362,869 ("the '869 patent"), also referred to as the "penta-ester route." An alternative to the penta-ester route was developed by Khazar Mufti and Elnor Rathbone, which is illustrated in U.S. Patent No. 4,380,476 ("the Mufti '476 patent") and U.S. Patent No. 4,617,269 ("the Rathbone '269 patent") by using a sucrose mono-ester intermediate, which is much easier to form than a penta-ester. In Mufti and Rathbone, an acid chloride is mixed with a tertiary amide (such as dimethylformamide or "DMF"), to form a Vilsmeier salt, such as chloroformiminium chloride salt. The solid chloroformiminium salt is then combined with the sucrose-6-ester in DMF and heated to bring about the three desired chlorinations. The use of a solid chloroformiminium salt, however, is undesirable for large-scale production because it is cost-intensive, material-intensive, and equipment-intensive. In the '463 patent, a simplified mono-ester route is utilized by the formation of chloroformiminium chloride by reacting a tertiary amide (such as DMF), and an acid chloride (such as phosgene, which is  $\text{COCl}_2$ , or thionyl chloride).

Another protection method is disclosed in the '969 patent which teaches reacting sugar with a specific tin-containing catalyst in solution, dehydrating the mixture, and treating it with another chemical (a carboxylic acid anhydride) under reaction conditions appropriate to form the ester-protected sugar molecule. One method of practicing the '969 patent involves dissolving sugar and the tin-containing catalyst (a distannoxane diester or "DSDE") in a polar aprotic solvent, such as

DMF. This solution is dehydrated and then treated with a carboxylic acid anhydride (such as acetic anhydride or benzoic anhydride) to form a reaction mixture that includes the ester-protected sugar molecule, called a sucrose-6-ester.

The '551 patent discloses a process for extracting a tin-containing compound, DSDE, from a reaction mixture containing DSDE, an ester-protected sugar molecule (sucrose-6-ester), and a polar aprotic solvent, such as DMF. The extracted DSDE can be re-used in sucralose processing.

The '709 patent discloses a method for removing the ester group from a trichlorinated sucrose-6-ester molecule. This patent describes the third step of sucralose production, or deprotection, where the protected groups are deprotected, or de-esterified, with regeneration of the original hydroxyl (-OH) groups.

The '435 patent discloses a method to remove impurities, which is the final step in sucralose production, referred to as purification.

#### **D. The Patents at Issue**

##### **1. The '463 Patent**

The '463 patent is entitled "Sucrose-6-ester Chlorination" which was issued on December 25, 1990, based on Application No. 382,147 filed on July 18, 1989. The named inventors are Robert E. Walkup, Juan L. Navia, and Nicholas M. Vernon, and the patent was assigned to Noramco, Inc. Tate & Lyle Technology is the current owner of the '463 patent by assignment. The '463 patent has

a total of 24 claims. One independent claim, claim 1,<sup>46</sup> is at issue here. Dependent claims 2, 3, 16, 17 and 18 are also at issue here.<sup>47</sup>

## **2. The '969 Patent**

The '969 patent is entitled "Catalyzed Sucrose-6-ester Process" which was issued on November 28, 1995, based on Application No. 237,947, filed on May 2, 1994. The named inventors are George H. Sankey, Nicholas M. Vernon, and Robert E. Wingard, Jr. and the patent was assigned to McNeil-PPC, Inc. Tate & Lyle Technology is the current owner of the '969 patent by assignment. The '969 patent has a total of 40 claims. One independent claim, claim 20, is at issue here. Dependent claims 21-26, 28 and 29 are also at issue here.<sup>48</sup>

## **3. The '551 Patent**

The '551 patent is entitled "Process for Recovery of Organotin Esters from Reaction Mixtures Containing the Same and Re-use of the Recovered Organotin Compounds" which was issued on July 23, 1991, based on Application No. 512,690, filed on April 23, 1990. The named inventors are Nicholas M. Vernon and Robert E. Walkup and the patent was assigned to Noramco, Inc. Tate & Lyle Technology is the current owner of the '551 patent by assignment. The '551 patent has a total of 30 claims. One independent claim, claim 1, is at issue here. Dependent claims 2-4 and 11-22 are also at issue here.<sup>49</sup>

---

<sup>46</sup> On September 15, 1992, a Certificate of Correction was issued to correct a typographical error in Claim 1.

<sup>47</sup> See JX-1 ("the '463 patent") and JX-6 ("the '463 prosecution history").

<sup>48</sup> See JX-3 ("the '969 patent") and JX-8 and JX-9 ("the '969 prosecution history").

<sup>49</sup> See JX-2 ("the '551 patent") and JX-7 ("the '551 prosecution history").

#### **4. The '709 Patent**

The '709 patent is entitled "Production of Sucralose without Intermediate Isolation of Crystalline Sucralose-6-ester" which was issued on March 12, 1996, based on Application No. 448,710, filed on May 24, 1995. The named inventors are Juan L. Navia, Robert E. Walkup, Nicholas M. Vernon, and David S. Neiditch and the patent was assigned to McNeil-PPC, Inc. Tate & Lyle Technology is the current owner of the '709 patent by assignment. The '709 patent has a total of 15 claims. One independent claim, claim 8, is at issue here. Dependent claims 9 and 13 are also at issue here.<sup>50</sup>

#### **5. The '435 Patent**

The '435 patent is entitled "Extractive Methods for Purifying Sucralose" which was issued on May 23, 2006, based on Application No. 10/092,715, filed on March 8, 2002. The named inventors are Steven J. Catani, Nicholas M. Vernon, David Saul Neiditch, James Edwin Wiley, Jr., and Edward Micinski and the patent was assigned to Tate & Lyle Public Limited Company. Tate & Lyle Technology is the current owner of the '435 patent by assignment. The '435 patent has a total of 38 claims. One independent claim, claim 1, is at issue here.<sup>51</sup>

#### **E. The Products at Issue**

Tate & Lyle produces sucralose under the trademark SPLENDA<sup>®</sup>, which is a non-calorie sweetener that is sold to manufacturers of foods, beverages, and pharmaceuticals, as well as to consumers as a tabletop product. Respondents also sell sucralose under various generic and private label names.

---

<sup>50</sup> See JX-4 ("the '709 patent") and JX-10 ("the '709 prosecution history").

<sup>51</sup> See JX-5 ("the '435 patent") and JX-11 ("the '435 prosecution history").

## II. Jurisdiction and Importation

Section 337 confers subject matter jurisdiction on the International Trade Commission to investigate, and if appropriate, to provide a remedy for, unfair acts and unfair methods of competition in the importation of articles into the United States. In order to have the power to decide a case, a court or agency must have both subject matter jurisdiction, and jurisdiction over either the parties or the property involved.<sup>52</sup>

### A. Subject Matter Jurisdiction

#### 1. Introduction

The complaint alleges that Respondents have violated Subsection 337(a)(1)(A) and (B) in the importation and sale of products that infringe the asserted patents. 19 U.S.C. § 337(a)(1)(B)(ii) states:

(a) Unfair methods of competition declared unlawful.

(1) Subject to paragraph (2), the following are unlawful, and when found by the Commission to exist shall be dealt with, in addition to any other provision of law, as provided in this section:

[...]

(B) The importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles that--

[...]

(ii) are made, produced, processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States patent.

---

<sup>52</sup> 19 U.S.C. § 1337; also see *Certain Steel Rod Treating Apparatus and Components Thereof*, Inv. No. 337-TA-97, Commission Memorandum Opinion, 215 U.S.P.Q. 229, 231 (1981) ("*Steel Rod*").

While Respondents admit that they have imported sucralose into the United States, they allege that three of the asserted patents do not cover sucralose per se. Rather, two of the patents at issue cover processes that produce chemical precursors or intermediates of sucralose (*i.e.*, the '463 and '969 patents), while the other patent deals with the recovery of certain chemical catalysts from the synthesis of sucralose (the '551 patent). When instituting this investigation, the Commission specifically stated that it had not made any determination as to the scope of 35 U.S.C. 1337(a)(1)(B)(ii) or whether 337(a)(1)(B)(ii) is sufficiently broad as to encompass such processes. The relevant question is what the covered "article" is in this investigation. A review of the procedural history of the treatment of this issue in this proceeding is appropriate before a determination on this matter is made.

## **2. Background and Discussion**

### **a. Respondents' Motion**

In the Notice of Investigation, the Commission stated that:

[S]ome of the patents at issue may cover processes that produce chemical precursors or intermediates of sucralose or that recover certain chemical catalysts from the synthesis. In instituting this investigation, the Commission has not made any determination as to the scope of 35 U.S.C. § 1337(a)(1)(B)(ii) or whether [that provision] is sufficiently broad as to encompass such processes. Accordingly, the presiding administrative law judge may wish to consider these fundamental issues at an early date. Any such decision should be issued in the form of an initial decision (ID) under Rule 210.42(c), 19 C.F.R. § 210.42(c)...<sup>53</sup>

On June 12, 2007, Respondents Changzhou Kneading Chemical Plant Co., Ltd., U.S. Kneading Chemical, Inc., Garuda International, Inc., Guangdong Food Industry Institute, and L&P Food Ingredient Co., Ltd. (collectively "Respondents") filed a motion to terminate the investigation

---

<sup>53</sup> See 72 Fed. Reg. 26,645.

as to the '463, '969, and '551 patents. On June 15, 2007, Respondents Hebei Sukerui Science and Technology Co., Ltd., Beijing Forbest Trade Co., Ltd., Beijing Forbest Chemical Co., Ltd., and Forbest International USA, LLC filed a notice of joinder of Respondents' motion to terminate. On June 18, 2007, Respondents MTC Industries, Inc., and Nantong Molecular Technology Co., Ltd. also filed a notice of joinder of Respondents' motion to terminate. On June 22, 2007, Complainants filed an opposition to the motion. On June 22, 2007, Staff filed a response in partial support of the motion. No other responses were received.

On June 27, 2007, Complainants filed a motion for leave to reply and a reply to the Staff's response. On July 3, 2007, the Staff filed an opposition to Complainants' motion for leave to reply. On July 5, 2007, Respondents moved to reply and replied to Complainants' Response and Reply. On July 6, 2007, Complainants moved again for leave to reply and certified that they had raised its reply with both Respondents and the Staff. The undersigned granted Respondents Changzhou Kneading Chemical Plant Co., Ltd., U.S. Kneading Chemical, Inc., Garuda International, Inc., Guangdong Food Industry Institute, and L&P Food Ingredient Co., Ltd.'s Motion for Leave to Reply to Complainants' Opposition and Reply Submissions Regarding Respondents' Motion to Terminate Investigation as to the '463, '969, and '551 Patents and Complainants' Motion for Leave to Reply to the Staff's Response to Respondents' Motion to Terminate Investigation as to the '463, '969, and '551 Patents.

**b. Order No. 11**

In response to Respondents' motion, the undersigned issued Order No. 11.<sup>54</sup> In that order, the undersigned noted that Respondents' Motion addressed the issues raised by the Commission in

---

<sup>54</sup> See Order No. 11 (August 8, 2007).

the Notice of Investigation. Respondents argued that (1) there is no unfair act under § 337(a)(1)(B)(ii) because the '463, '969, and '551 patents are directed toward intermediate compounds of the imported article and the recovery of a catalyst used in the production of the imported article, and (2) the Commission does not have jurisdiction over the relief sought by Tate & Lyle nor should it seek to expand its jurisdiction to include such relief.

Complainants argued that Respondents' Motion should be denied for three reasons: (1) that the processes claimed in the '463, '969, and '551 patents are directed toward the manufacture of the imported end product sucralose; (2) that the accused end product need not be claimed in a process patent and (3) that Respondents import the intermediate compounds. Complainants further argue that the Commission should assume jurisdiction because subject matter jurisdiction is intertwined with the merits of its case and public policy favors such an assumption.

The Staff argued that the Commission should apply a "nexus" test to determine whether processes for the production of intermediate compounds and the recovery of catalysts fall within the scope of § 337(a)(1)(B)(ii). Specifically, the Staff argued that there must be a nexus between the unfair act and the importation. As applied here, the Staff argued that there is a sufficient nexus between the processes claimed in the '463 and '969 patents such that they fall within the scope of Section 337, but that the nexus between the '551 patent and the imported sucralose is insufficient and falls outside the scope of Section 337.

Respondents argued that the investigation should be terminated as to the '463, '969, and '551 patents because these patents are directed to processes for producing intermediates of sucralose or for the extraction of a catalyst used in the production of sucralose. Since these process patents do not directly result in sucralose, Respondents argued that there can be no unfair act. The reason,

Respondents argued, is that the statute “only applies to ‘articles’ that are actually imported and/or sold in the U.S.” and does not cover intermediate compounds or processes creating such compounds. Respondents focused on the meaning of “article” in the statute and argue that the intermediate products that the processes in ‘463, ‘969, and ‘551 patents produce are not the “articles” imported for sale, *i.e.* sucralose.

In the alternative, Respondents argued that the Commission should not expand the scope of Section 337 to include “intermediates” and that any relief with respect to the ‘463, ‘969, and ‘551 patents is outside the scope of the Commission’s jurisdiction and authority. Respondents argued that its limited interpretation of the statute is supported by public policy and would avoid absurd results. Specifically, Respondents argue that if the Commission were to include “intermediates” in the scope of Section 337, then there is no logical stopping point as to how far back the chain of “intermediates” could potentially extend. A clear line is established if the scope of Section 337 is limited to only a process for making the final product actually imported in the United States. Respondents further argue that in light of the Supreme Court’s decision in *Microsoft*,<sup>55</sup> the Commission’s interpretation of Section 337 should be such that its extraterritorial effect is limited, *i.e.* the Commission should not extend its jurisdiction to include processes that create intermediates or precursors or processes that recover catalysts.

Complainants opposed Respondents’ Motion arguing that the processes claimed in the ‘463, ‘969, and ‘551 patents are within the scope of Section 337. Tate & Lyle argue that Section 337 only requires that the imported article be “made, produced, processed, or mined under, or by means of, a process covered by” the asserted claims of the patent. The plain language of the statute “does not

---

<sup>55</sup> *Microsoft Corp. v. AT&T Corp.*, 550 U.S. —, 127 S. Ct. 1746 (2007) (“*Microsoft*”).

state that the accused article must result directly from the patented process without further steps...nothing in the language of Section 337 limits its coverage only to products expressly recited in the claims of the asserted patents.” Complainants argued that the ‘463, ‘969, and ‘551 patents are directed to a process for producing sucralose, noting that the specifications for each of the patents describes the overall process for making sucralose and the manner in which the claimed process fits within this manufacturing effort. As such, Complainants argued that because Respondents’ sucralose is manufactured using the processes claimed in the asserted patents, then the Commission has jurisdiction to investigate violations of the claims in these process patents.

Complainants further argued that Respondents’ Motion should be denied because Federal Circuit and Commission precedent recognize that an end product need not be claimed in a process patent for the Commission to have jurisdiction. Complainants cited the Federal Circuit’s decision *Bio-Technology General Corp v. Genentech*<sup>56</sup> to support their argument, noting that the Federal Circuit held that jurisdiction over the accused product was proper, even though that product was not recited in the asserted process claim. Complainants also cited Commission investigations that show that importing end products made by or under claimed intermediate processes resulted in violation determinations and issuance of exclusion orders. Complainants argued that such precedents show that the Commission has jurisdiction over patents that claim a process for producing an intermediate product used in the production of the accused end product.

Complainants then argued that there was a genuine issue of fact that precluded the undersigned from granting Respondents’ Motion. Specifically, Complainants argued that

---

<sup>56</sup> *Bio-Technology Gen. Corp. v. Genentech, Inc.*, 80 F.3d 1553 (Fed. Cir. 1996) (“*Bio-Technology*”).

Respondents imported the intermediate compounds claimed in the the '463 and '551 patents, namely mixtures of sucralose and 6',4,1'-trichloro-sucrose-6-ester and mixtures of sucralose and tin compounds. Complainants further argued that the intermediate product claimed in the '463 patent is not materially different from sucralose and may even be an equivalent for infringement purposes.

Complainants further argued that Commission should assume jurisdiction because the merits of Complainants' claims, namely infringement of its patents, are the same facts upon which the Commission finds subject matter jurisdiction. Complainants argued that the issue of whether Respondents' imported products are "made, produced, processed by, or mined under, or by means of, a process covered by" the asserted claims of the patents are material both to its infringement claims and to establishing jurisdiction. As such, the Commission should assume jurisdiction. Complainants further argued that public policy supports the Commission's jurisdiction and that expanding the scope of Section 337 to include the intermediate products of sucralose will not lead to "absurd results." Complainants argued that Section 1337(a) was enacted to prevent precisely the type of activity alleged in its Complaint—the extraterritorial manufacture of a product using a process patented in the United States. Specifically, the statute was intended to protect domestic industries by preventing entities from performing processes abroad that they could not lawfully perform in the United States.

The Staff supported Respondents' motion in part and opposed it in part. The Staff agreed with Respondents in terminating the investigation with respect to the '551 patent. However, the Staff opposed the Respondents in terminating the investigation with respect to the '463 and '969 patents. The Staff based its recommendation on whether there is a "fairly close nexus" between the process patents and the imported articles. The Staff noted that the language of the statute is

ambiguous and does not expressly address whether process patents that create intermediate products of an imported end product are within the scope of Section 337. However, the Staff found that the legislative history of § 337(a)(1)(B)(ii) provides guidance. The legislative history noted that a “patentable process” is defined as “a method of treatment of certain materials to produce a *particular result or product...*” Thus, it is argued, the legislative history supports a construction of § 337(a)(1)(B)(ii) that allows the assertion of only those process patents that have a fairly close nexus to the imported article.

The Staff further noted that there has been “no instance” in the Commission’s history where it found a violation when the asserted patent claimed *only* a process for making a chemical intermediate or precursor of an imported end product. However, the Staff did not interpret § 337(a)(1)(B)(ii) to be directed *solely* to the importation of articles that are the direct end result of the patented process and noted that such an interpretation is contrary to Commission precedent. As such, in applying its nexus test, the Staff found that there is a sufficient nexus between the intermediate compounds created in the claimed processes for the ‘463 and ‘969 patents and the imported sucralose to warrant Commission jurisdiction. However, the Staff found that the application of the same test led to an insufficient nexus between the tin catalyst created in the process claimed in the ‘551 patent and the imported sucralose and, therefore, did not warrant Commission jurisdiction.

Respondents moved to reply and replied to Complainants’ Response and Complainants’ Reply. Respondents argued that the claims of the ‘463, ‘969 and ‘551 patents “should be the focus” in determining whether these process patents fall within the scope of § 337(a)(1)(B)(ii) and that those claims are not directed toward the manufacture of sucralose, the focus of this investigation.

Respondents further argued that since the complaint does not accuse Respondents of importing any intermediate compounds of sucralose, then Tate & Lyle should not be able to recast their infringement and other contentions to include intermediate compounds in order to overcome a motion to terminate.

Respondents then argued that the cases cited by Complainants are irrelevant or do not support Complainants' construction of Section 337. Specifically, Respondents argue that the Federal Circuit cases cited by Complainants are irrelevant since they address 35 U.S.C. § 271(g) or the standard for "material change." According to Respondents, the Commission cases cited by Complainants also do not support complainants' construction of Section 337 because none of those cases provide any guidance or address whether § 337(a)(1)(B)(ii) extends to include patented processes for making intermediate compounds. Contrary to Complainants' assertion, Respondents argue that they do not import the intermediate compounds claimed in the '463, '969 and '551 patents and the "evidence" cited by Complainants fails to support Tate & Lyle's assertion. Respondents concluded by arguing that public policy dictates that the scope of § 337(a)(1)(B)(ii) should not be expanded.

Complainants moved to reply and replied to the Staff's Response. Complainants disagreed with the Staff's proposed "nexus" test and argue that even with the application of the Staff's "nexus" test, the '551 patent would meet that test and would fall within the scope of § 337(a)(1)(B)(ii). Complainants argued that while the Staff's proposed "nexus" test provides guidance in determining an appropriate remedial order, it does not necessarily define what types of patent infringement constitute unlawful acts under Section 337. Complainants further argued that even in applying the Staff's "nexus" test, the process claimed in the '551 patent meets the "nexus" test proposed by the Staff because the result or effect of these chemical processes is to produce a particular result or

product: sucralose. Complainants further argued that, contrary to the Staff's assertion, the complaint specifically alleged that the Respondents imported sucralose compounds that are products of the '551 patent. Complainants then argued that the Federal Circuit cases it cited in its response can provide some guidance in construing Section 337 because there are similarities between the language in 35 U.S.C. § 271(g) and Section 337, and the Federal Circuit has treated the two as related statutes. Moreover, Complainants asserted that the Commission decisions cited by it also provide guidance, despite the arguably non-binding nature of some of the decisions.

In Order No. 11, the undersigned found that, based on the language of the statute and on Congress's intent, process patents and products created as a result of such process patents, regardless of whether they are the end product, are within the scope of § 337(a)(1)(B)(ii) when the "article" is (1) imported and (2) "made, produced, processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States patent."<sup>57</sup>

Here, the undersigned found that the imported articles need not be the actual end products sold, namely sucralose. If the articles are (1) imported and (2) made, produced, processed or by means of a process claimed by a valid United States patent, then such articles are within the scope of § 337(a)(1)(B)(ii). In other words, if the intermediate products of sucralose and the catalyst used in the production of sucralose are (1) imported and (2) made, produced or by means of the processes claimed in the '463, '969 and/or '551 patents, then they fall within the scope of Section 337.

Therefore, the undersigned found that in order for Tate & Lyle to prove there is a violation under Section 337 for the '463, '969 and/or '551 patents, it must prove (1) importation; (2)

---

<sup>57</sup> 19 U.S.C. § 1337(a)(1)(B)(ii)

infringement and (3) domestic industry for the intermediate products of sucralose and the catalyst used in the production of sucralose.

In its motion, Respondents focused on the definition of the term “article” in Section 337 and argue that the intermediate compounds of sucralose and the catalyst used in the production of sucralose are not “articles” as defined by Section 337. Respondents argued that the term “article” is defined as “an item of commerce” or an “‘article’ imported for sale,” which in this investigation is sucralose. The undersigned rejected that argument stating that there was nothing in the statute that required that the article be imported for sale; only that it be imported and be “made, produced processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States patent.”

The undersigned also rejected Staff’s nexus test as unnecessary. Finally, because a finding was made that there were clearly genuine issues of fact remaining, the undersigned denied Respondents’ motion.

**c. Commission’s September 24, 2007 Order**

In the Commission’s September 24, 2007 Order (Commission Order), it noted that the undersigned had correctly questioned “the adequacy of the record as it then existed as to the importation of the involved intermediates and catalyst and because of the need for further development of the factual record as to respondents’ processes and importation, the Commission [ordered] that:

...The ALJ’s ID is vacated in order to provide an opportunity, utilizing a complete factual record, to address the issues raised by Changzhou’s motion, including whether the importation of the finished product alone (sucralose) constitute a violation of section 337 based on the ‘463, ‘969, and ‘551 patents, as well as issues raised in the subject ID, including whether trace amounts of an intermediate product

or catalyst in the imported product can be considered a violation of section 337. In addressing these issues, the parties and the ALJ should consider the following:

- (a) The amount of any subject product which has been or is currently being imported
- (b) Whether there is a difference in effective scope between 35 U.S.C. § 271(g) and 19 U.S.C. § 1337(a)(1)(B)(ii) and whether this question has been decided by *Kinik v. International Trade Commission*, 362 F.3d 1359, 1361-63 (Fed. Cir. 2004)
- (c) The language and legislative history of 19 U.S.C. §1337(a)(1)(B)(ii) and the language and legislative history of 19 U.S.C. § 1337(a)(1)(B)(ii) and the language and legislative history of former section 337a (former 19 U.S.C. § 1337a). The statements in *Amgen v. ITC*, 902 F.2d 1532, 1536 (Fed. Cir. 1990), as to “covered” and that former section 337a was reenacted as section 1337(a)(1)(B)(ii) without a change in scope. Any special rule of statutory interpretation that should be applied given that former section 337a was enacted in response to *In re Amtorg Trading Corp.*, 75 F.2d 826 (CCPA 1935). The processes and patents in *In re Amtorg Trading Corp.* and in *In re Northern Pigment Co.*, 71 F.2d 447 (CCPA 1934), and the underlying Commission proceedings. The processes and patents in all Commission and related court proceedings involving process patents and section 337 before and after the enactment of former section 337a.
- (d) The Supreme Court’s recent decision in *Microsoft Corp. v. AT&T Corp.*, 550 U.S. – (2007).
- (e) How the above cases may best be read in conjunction with each other.<sup>58</sup>

**d. The Parties’ Positions**

**(1) Complainants**

Complainants assert that the Commission has jurisdiction with respect to all three of the patents; the ‘969 patent, the ‘463 patent, and the ‘551 patent. As such, Complainants disagree that Respondents’ position is correct, or that Staff’s position with respect to the ‘551 patent is correct. Essentially, Complainants continue to assert that the statutory language, the legislative history, and

---

<sup>58</sup> Commission Order at 2.

the various cases on this matter, as well as the facts in this case, support its position that the Commission has jurisdiction over the three patents at issue in this portion of this Initial Determination.

## (2) Respondents

Respondents assert that the Commission does not have jurisdiction over the three patents in question. With respect to the '463 patent, they allege, among other things, that the importation of sucralose into the United States does not constitute a violation of Section 337 based on the '463 patent. They note that 19 U.S.C. § 1337(a)(1)(B)(ii) prohibits the importation into the United States "...of articles that are made produced, processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States patent." Respondents argue that Complainants are seeking to expand the definition of an "article" under that section to prohibit not only the importation of an article or product "made...under, or by means of,...a process covered by the claims of a valid ...patent" as the statute states, but to prohibit the importation of the article or final product when the patent asserted in the investigation covers only a process to make an intermediate of the final product that is sought to be excluded from importation.

Respondents state that Complainants, by initiating this investigation, are attempting to prevent the importation of dry sucralose. Respondents state that for that to occur, Complainants would have to show that the dry sucralose at issue is being "made, produced ...under, or by means of a process covered by the claims of a valid and enforceable United States patent." Respondents argue, however, that the article covered by the '463 patent is not dry sucralose, but rather 6'4,1'-trichlorosucralose-6-ester, from which dry sucralose can be made. Respondents assert that *Amgen* supports its position because it stands for the proposition that the patent must contain at least one

claim defining a process for making that article—in this case dry sucralose. Since the only asserted independent claim of the '463 patent describes a process “for the chlorination of sucrose-6-esters to produce 6',4,1'-trichloro-sucrose-6-esters,” the '463 patent cannot be used as a basis for excluding dry sucralose in this Section 337 investigation.

Respondents state that Complainants distort the meaning of the word “article” by not using its plain meaning. By initiating this investigation, it is argued, Complainants are attempting to expand the definition of “article” to include the article itself as well as all precursor or intermediate substances that might later be transformed into that article, no matter how removed such an intermediate substance may be from the final product. They state that common sense dictates that the plain meaning of the term article cannot be stretched in such a manner to include intermediate substances with no commercial value.

Respondents assert that a review of the legislative history supports its position. They note that the scope of the present § 1337(a)(1)(B)(ii), enacted in 1988, is no larger than the previous version of the statute, Section 1337a. They cite *Amgen*,<sup>59</sup> as support for their position. Respondents also argue that Section 1337a was enacted in direct response to the Court of Customs and Patent Appeals' holding in *Amtorg* that the owner of a patented process for separating mined apatite from unusable surrounding material could not prevent individuals from importing apatite that was separated using that patented process. The effect of that ruling, it is argued, was to reject the holding of *Northern Pigment* that the owner of a patented process for creating pigments could obtain relief to prevent the importation of pigments made from the same process. Respondents argue that the legislative history of § 1337a indicates specific Congressional intent to overturn the precedent of *Amtorg*, and reinstate

---

<sup>59</sup> *Amgen*, 902 F.2d at 1539.

the holding of *Northern Pigment* that protected U.S. businesses from importation into the United States of products made outside the United States by a process covered by a claim of a valid U.S. patent. In making this argument, Respondents reject Complainants' argument that *Northern Pigment* dealt with intermediate compounds or precursors to imported products. They also reject Complainants' interpretation of more recent ITC decisions.

Respondents also argue that the "materially changed" defense under 35 U.S.C. § 271(g) is irrelevant to this investigation. They assert that *Kinik*<sup>60</sup> holds that Section 271(g) does not in any way limit the ability of process owners to obtain relief from the U.S. International Trade Commission. In addition, Respondents assert that the U.S. Supreme Court's decision in *Microsoft* should not be held to be support for a finding that dry sucralose violates the '463 patent.

Respondents also assert that trace amounts of 6',4,1'-trichlorosucrose-6-esters are not imported articles under § 1337a(a)(1)(B)(ii). They argue that such trace amounts cannot be considered "articles" within the meaning of the statute. They also argue that Complainants' position is inconsistent with *Microsoft* and that, in any event, Complainants have no domestic industry for 6',4,1'-trichlorosucrose-6-esters.

With respect to the '551 patent and the '969 patent ( the tin patents), Respondents incorporate by reference their arguments above made in response to the Commission's Order and Order No. 22 in this proceeding.

### (3) Staff

Staff basically reiterates the position that it took with regard to Respondents' original motion to terminate. It believes that a nexus test is the proper way to evaluate whether the article at issue is

---

<sup>60</sup> *Kinik*, 362 F.3d at 1662-63.

covered by the process patent at issue. Applying the nexus test, Staff believes that the Commission should assert jurisdiction with respect to the '463 and the '969 patents, but should find that the '551 patent is outside the Commission's jurisdiction.

More specifically, while Staff notes that the '463 and the '969 patents, relating to the synthesis of chemical precursors to sucralose, present "a particularly close question," because each of the intermediate products is chemically very closely related to the imported sucralose, and involves a process of converting sucrose to sucralose that is not a lengthy, multi-step process. Further, Staff argues, the '463 and '969 patent specifications specifically posit the use of the resultant chemical intermediates in the eventual synthesis of sucralose, and there is no evidence at this time that compounds resulting from the claimed processes have any other use than as precursors in the synthesis of sucralose. Thus, Staff finds that there is a sufficient nexus between the patented processes described in the '463 and '969 patents and the importation of sucralose.

By contrast, Staff asserts that such is not the case with respect to the '551 patent. Specifically, Staff notes the patent is directed to the recovery and reuse of the tin catalyst and, unlike the processes claimed in the '463 and '969 patents, the tin catalyst is not chemically related to sucralose and the recovery step does not appear to be necessary in the synthesis of sucralose.

Staff then proceeds to specifically answer the questions posed by the Commission's Order and Order No. 22. With respect to question 1, to the extent there may be amounts of the intermediate products that are the subject of the respective patents, Staff asserts that the quantities are so minute as to not be significant. To the extent that there are actual quantifiable amounts of these respective products, Staff asserts that the importation requirement of the statute cannot be satisfied by these trace impurities alone. While the Staff admits that the Commission has not generally required a

minimum quantity in order to satisfy the importation requirement, Staff argues that there is a distinction in this case because any intermediates, precursors, and catalysts that are made or recovered are only present as impurities in the sucralose. Staff asserts that to find that the presence of trace amounts of an unintended and undesired substance as an inseparable part of an imported product is insufficient to support a Section 337 violation and could well lead to absurd results.

With respect to question 2, Staff states that there are clear language and scope differences between 35 U.S.C. § 271(g) and 19 U.S.C. § 1337(a)(1)(B)(ii). They state that *Kinik* notes that the Process Patent Amendments Act of 1988 state that the amendment adding § 271(g) to Title 35 “shall not deprive a patent owner of any remedies available ...under section 337 of the Tariff Act of 1930, or under any other provision of law.” Thus, Staff submits that the scope of Section 337 remained unaffected by the 1988 amendments to the Patent Act. Therefore, Staff concludes that the legislative history of § 271(g) and court decisions interpreting that statutory provision are of marginal relevance in determining the scope of the Commission’s jurisdiction under § 337(a)(1)(B)(ii).

With respect to question 3, Staff argues that, while the language of § 337(a)(1)(B)(ii) is ambiguous, the legislative history of this statutory provision provides some guidance as to its meaning. Staff states that much of this legislative history was summarized in the *Amgen* decision. Specifically, Staff states that the Court noted that, although that section was introduced in its current form as a part of the Process Patent Amendment Act of 1988, the language of that statutory provision was originally enacted under what was formerly 19 U.S.C. § 1337a. That section, it is asserted, in turn, was enacted in response to the CCPA’s decision in *Amtorg*, which held that the patented process for the concentration of phosphate-bearing material could not be asserted under then-existing

Section 337 against the importation of apatite, a phosphoric mineral concentrated using the patented process.

Staff notes that the *Amtorg* court had expressly overruled the CCPA's prior decision in *Northern Pigment* wherein the CCPA had affirmed the Tariff Commission's holding that the importation of iron oxides suitable for pigments that were made by the process disclosed in U.S. Patent Nos. 1,327,061 and 1,368,748 "is an unfair method of competition or an unfair act within the meaning and intent of section 337."<sup>61</sup> In so doing, Staff asserts, the CCPA noted that the Commission excluded "any oxides of iron produced by the method or process disclosed in these patents, as well as" any of the foregoing oxides calcined or burned or processed in any other manner.<sup>62</sup> Staff states that it is notable that even though the patents at issue only claimed "processes for manufacturing iron compounds," the CCPA upheld the exclusion of iron oxides that were further processed. Thus, Staff argues, *Northern Pigment* found that the scope of the original Section 337 encompassed products that were other than those that are the direct result of the patented process. Staff also asserts that, even though the Court did not go so far as to say that there was no need for a nexus to exist between the imported product and the unfair act, in the facts of the case, a nexus clearly existed between the imported article and the patented process.

Staff then argues that the legislative history of Section 1337a, which later became § 337(a)(1)(B)(ii), supports a construction of that statutory provision that allows the assertion of those process patents that have a fairly close nexus to the imported article.

---

<sup>61</sup> SIB 25 quoting *Northern Pigment*, 22 CCPA at 170.

<sup>62</sup> *Id.* at 26 quoting *Northern Pigment*, 22 CCPA at 167 n.2.

With respect to question 4, Staff argues that *Microsoft* does not address the scope of § 337(a)(1)(B)(ii). Staff states that *Microsoft* held that the scope of 35 U.S.C. § 271(f) did not cover activities where Microsoft sent “software master disks to foreign countries, master disks were then copied, and the copies were installed in computers which were sold in foreign countries.”<sup>63</sup> Staff notes that the Court stated that “[i]t is a general rule under United States patent law that no infringement occurs when a patented product is made and sold in another country.”<sup>64</sup> Staff states that although the Court mentions a presumption against extraterritorial application of U.S. patent laws, it makes no mention as to whether the presumption applies to the Commission’s authority under § 337(a)(1)(B)(ii). Staff submits that the presumption does not apply to Commission proceedings because Section 337 is a trade statute. In any event, Staff states that the proper application of its nexus test alleviates any concerns about the extraterritorial application of U.S. patent laws.

As to question 5, Staff believes that the above cases are best read as imposing a nexus requirement between the unfair act and the imported article for the Commission to invoke jurisdiction pursuant to § 337(a)(1)(B)(ii), and that this has long been the manner in which the Commission has asserted its jurisdiction.

### 3. Discussion and Conclusion

The complaint alleges that Respondents have violated Subsection 337(a)(1)(A) and (B) in the importation and sale of products that infringe the asserted patents. 19 U.S.C. § 337(a)(1)(B)(ii) states:

- (a) Unfair methods of competition declared unlawful.

---

<sup>63</sup> SIB 27.

<sup>64</sup> *Id.* at 27 quoting *Microsoft*, 550 U.S. at – , 127 S.Ct. at 1750.

- (1) Subject to paragraph (2), the following are unlawful, and when found by the Commission to exist shall be dealt with, in addition to any other provision of law, as provided in this section:

[...]

- (B) The importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles that--

[...]

- (ii) are made, produced, processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States patent.

The first question to be decided is the meaning of the statutory provision set forth above in the context of the instant proceeding. When resolving issues of statutory construction, the first step is to look at the plain meaning of the statutory language, and then, if necessary, examine extrinsic aids like legislative history, rules of statutory construction and the interpretation of the administrative agency charged with administering the statute.<sup>65</sup>

The plain language of the statute indicates that the importation of “articles that are made, produced, processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States Patent” are unlawful.<sup>66</sup> Thus, if an article was produced abroad using a patented process, then any importation of such an article would be unlawful under Section 337. However, the plain language of the statute does not explicitly state whether Section 337 provides protection for processes that create intermediate compounds or for processes that recover catalysts used in the production of an end product. Therefore, we must now examine other extrinsic aids.

---

<sup>65</sup> *Amgen*, 902 F.2d at 1538, citing *Johns-Manville Corp. v. United States*, 855 F.2d 1556, 1559 (Fed. Cir. 1988) (“*Johns-Manville*”).

<sup>66</sup> 19 U.S.C. § 1337(a)(1)(B)(ii).

The legislative history of Section 337 provides some guidance as to whether Congress intended to include intermediate compounds and catalysts that are produced as a result of patented processes or whether the scope of Section 337 is limited to end products. In enacting the Omnibus Trade and Competitiveness Act of 1988, Senator Lautenberg, a sponsor of the bill, stated:

Section 337(a)(1) (a reenactment of section 337a) will provide the assistance necessary for emerging U.S. industries, such as the biotechnology industry, to compete in a marketplace without interference due to unfair acts of foreign competitors. The continued broad jurisdiction of the International Trade Commission will help U.S. industry address the unfair activity of foreign competitors who, for example, import products manufactured using patented genetic engineering technology. Merely moving manufacture offshore does not absolve the wrongdoer from the requirement to compete fairly. This Trade Act protection prohibits the foreign enterprise from taking jobs from American workers by doing offshore that which they could not lawfully do in the United States.<sup>67</sup>

Thus, Congress's intent in enacting Section 337(a)(1) was to address the unfair acts of foreign companies who "import products manufactured [abroad] using patented [ ] engineering technology" under Section 1337(a) to remedy such unfair acts by prohibiting the importation of "articles that--are made, produced, processed, or by means of, a process covered by the claims of a valid and enforceable United States Patent."<sup>68</sup>

Clearly, if Respondents were to use Complainants' patented processes here in the United States, whether for the creation of sucralose or intermediate products or catalysts of sucralose, then its actions would be unlawful. Similarly, given Congress's intent in protecting "patented ... technology" from unfair foreign competition, if Respondents used Complainants' patented processes outside of the United States, including those that create intermediate compounds and recover catalysts, then the use of such patented processes is equally unlawful. And, under Section 337, the

---

<sup>67</sup> 134 Cong Rec S 10711, S10714.

<sup>68</sup> 19 U.S.C. § 1337(a)(1)(B)(ii).

importation of products resulting from the use of those patented processes is prohibited. As noted by Senator Lautenberg, “[m]erely moving manufacture offshore does not absolve the wrongdoer from the requirement to compete fairly.” Therefore, if Respondents used Complainants’ processes, whether for the production of sucralose, intermediate compounds of sucralose or for the recovery of catalysts used in the creation of sucralose, the use of the patented processes and the subsequent importation of products resulting from the use of such patented processes are the unlawful activities that Congress intended to address in enacting Section 337.

Such an interpretation is further supported by the legislative history of the predecessor statute of § 337(a)(1)(B)(ii), namely Section 1337a. In enacting that statute, Congress stated that

[t]his bill was designed to correct the present problem which was created when the Court of Customs and Patent Appeals... reversed its former decisions and held that the importation of products made abroad in accordance with a United States process patent without consent of the patentee was not regarded as an unfair method of competition.<sup>69</sup>

To understand the context of this legislation, it is important to discuss the background of the cases decided by the CCPA that led up to the enactment of this statutory provision. In *Northern Pigment*, the CCPA affirmed the Tariff Commission’s holding that the importation of iron oxides suitable for pigments that were made by the process disclosed in U.S. Patent Nos. 1,327,061 and 1,368,748 “is an unfair method of competition or an unfair act within the meaning and intent of section 337.”<sup>70</sup> In so doing, the CCPA noted that the Commission excluded “any oxides of iron produced by the method or process disclosed in these patents, as well as” any of the foregoing oxides calcined or burned or processed in any other manner.<sup>71</sup> Even though the patents at issue only claimed

---

<sup>69</sup> *Amgen*, 902 F.2d. at 1538-1539 (discussing the history of Section 337) (emphasis added).

<sup>70</sup> *Northern Pigment*, 22 CCPA at 170.

<sup>71</sup> *Id.* at 167 n.2.

“processes for manufacturing iron compounds,” the CCPA upheld the exclusion of iron oxides that were further processed. Thus, *Northern Pigment* found that the scope of the original Section 337 encompassed products that were other than those that are the direct result of the patented process.

Subsequently, the CCPA issued its *Amtorg* decision that expressly overruled the CCPA’s prior decision in *Northern Pigment*. In *Amtorg*, the CCPA ruled that the owner of a patented process for separating mined apatite from unusable surrounding material could not prevent individuals from importing apatite that was separated using that patented process. The effect of that ruling was to reject the holding of *Northern Pigment* that the owner of a patented process for creating pigments could prevent the importation of pigments made from the same process. The legislative history of § 1337a indicates a specific Congressional intent to overturn the precedent of *Amtorg* and reinstate the precedent of *Northern Pigment* that protected U.S. businesses from importation of products made outside the United States by a process covered by a claim of a valid U.S. patent.

Thus, in enacting Section 1337a, Congress specifically sought to provide protection to the holders of United States process patents and prevent unfair competition from foreign manufacturers that use such patented processes without authorization by prohibiting the importation of products that were created using such process patents. There is no indication in the legislative history of either Section 337a or its predecessor Section 1337a that the product can only be an end product. Rather, Congress sought to provide protection to process patents by prohibiting the importation of products that resulted from the use of those processes.

As stated by the Federal Circuit in *Amgen*:

In response [to the CCPA’s decision in *Amtorg*], several bills were introduced into Congress, the one that became former section 1337a being H.R. 8285, 76<sup>th</sup> Congress. Both the House and Senate reports accompanying H.R. 8285 indicate that former

section 1337a was specifically directed toward *process patents* and the *Amtorg* decision.

This bill is designed to correct the present problem which was created when the Court of Customs and Patent Appeals in the case *In re Amtorg Trading Corporation* reversed its former decisions and held that the importation of products made abroad *in accordance with a United States patent* without the consent of patentee was not regarded as an unfair method of competition [Emphasis ours.] H.R.Rep. No. 1781, 76<sup>th</sup> Cong., 3d Sess. 1 (1940); *see also* S. Rep. No. 1903, 76<sup>th</sup> Cong., 3d Sess. 1 (1940).<sup>72</sup>

It is clear that the Commission is bound by a determination by the Federal Circuit in *Amgen* as to the meaning of section 1337(a)(1)(B)(ii), including its determination as to the legislative history underlying that statutory provision. This discussion also makes clear that the scope of the Commission's jurisdiction as to process patents is the same today as it was determined to be in *Northern Pigment*. Since *Northern Pigment* involved products that were further processed from those that were the direct result of the process covered by the patent at issue, it is clear that an intermediate product would also be covered if it meets the other requirements of the statute.

The question then becomes whether sucralose, the product that is at issue in this proceeding, is covered by the subject three patents in this proceeding. In the first instance, the question is whether sucralose:

- (ii) [is] made, produced processed, or mined under, or *by means of*, a process covered by the claims of a valid and enforceable United States patent.<sup>73</sup>

With respect to the '463<sup>74</sup> and '969<sup>75</sup> patents, which relate to the synthesis of chemical precursors of sucralose, it is clear that the products that are the direct result of those patents meet the test of the statute. In both instances, since they are chemical precursors of sucralose, sucralose in

---

<sup>72</sup> *Amgen*, 902 F.2d at 123-24.

<sup>73</sup> 19 U.S.C. § 1337(a)(1)(B)(ii) [Italics added].

<sup>74</sup> See JX-1 (the '463 patent), col.1:42-61; 2: 25-29.

<sup>75</sup> See JX-3 (the '969 patent), col. 3:3-4:39; 4:40-58.

both instances can be said to “made, produced [or] processed ...*by means of* a process covered by the claims of a valid and enforceable United States patent.”<sup>76</sup>

By contrast, the product that is the direct result of the process which is the subject of the ‘551 patent is not a precursor of sucralose. The ‘551 patent is entitled “Process for Recovery of Organotin Esters from Reaction Mixtures Containing the Same and Re-Use of the Recovered Organotin Compounds.”<sup>77</sup> In addition, the patent is directed to the recovery and re-use of the tin catalyst, and, unlike the processes claimed in the ‘463 and ‘969 patents, the tin catalyst that is the direct result of the process covered by the ‘551 patent, is not chemically related to sucralose and the recovery step has not been shown to be necessary in the synthesis of sucralose.<sup>78</sup> Thus, sucralose cannot be said to be “processed .... *by means of*” the ‘551 patent.

At this point, a word about Staff’s “nexus” test is appropriate. Nowhere in the statute does the word nexus appear. For resolving the issues at hand in this proceeding, there is no need to graft the nexus test upon the statute. It is simply necessary to interpret the plain language of the statute, as was done above. Accordingly, the Staff’s nexus test shall not be adopted.

With regard to 35 U.S.C. § 271(g), the Federal Circuit in *Kinik* found that the defenses to patent infringement set forth in that provision are not relevant to alleged violations of 19 U.S.C. § 1337(a)(1)(B)(ii).<sup>79</sup> In reaching this holding, the Federal Circuit relied heavily on the fact that Section 271(g) does not “limit in any way the ability of process patent owners to obtain relief from

---

<sup>76</sup> *Id.*

<sup>77</sup> See JX-2 (the ‘551 patent).

<sup>78</sup> *Id.*

<sup>79</sup> *Kinik*, 362 F.3d at 1362-1363.

the U.S. International Trade Commission.”<sup>80</sup> Thus the “materially changed” defense of § 271(g) is irrelevant to the scope of relief available to a party under § 1337(a)(1)(B)(ii).<sup>81</sup>

In addition, the U.S. Supreme Court’s *Microsoft* decision is not relevant to this decision. That case, which was brought in U.S. District Court under Section 271(f) of the Patent Act, involved a patent held by AT&T, which was allegedly infringed by Microsoft’s Windows operating system. Microsoft sells Windows to foreign manufacturers who make copies of the software overseas, and then install the copies of the software into the computers they sell. The foreign-made computers are then sold to users abroad.<sup>82</sup> The Court held that because Microsoft does not export from the United States the copies of Windows which are actually used in the manufacture of the foreign-made computers, there is no infringement under Section 271(f).<sup>83</sup>

This case is clearly distinguishable from the instant case. In the instant case, the sucralose is being imported from overseas to the United States. In any event, no showing has been made that Section 271(f) would restrict this Commission’s jurisdiction under Section 337.<sup>84</sup>

In addition to being manufactured or created by a patented process, the article must also be imported to fall within the scope of § 337(a)(1)(B)(ii). The requirement for importation stems from the territorial limitations of United States law, *i.e.* Congress cannot dictate the actions of a foreign entity on foreign soil. Congress has the authority, however, to control its borders and can stop the importation of articles from abroad. Congress noted that in enacting Section 1337a, “instead of

---

<sup>80</sup> *Id.* (quoting S.Rep.No. 100-83 at 60-61(1987)).

<sup>81</sup> See also *Bayer AG v. Housey Pharm., Inc.*, 340 F.3d 1367, 1373-1374 (Fed. Cir. 2003) (“*Bayer*”).

<sup>82</sup> *Microsoft*, 550 U.S. —, 127 S.Ct. at 1750-51.

<sup>83</sup> *Id.*

<sup>84</sup> *Kinik, supra.*

extending our territorial jurisdiction, we are trying to operate on the article and say if it comes into this country it would be an unfair trade practice."<sup>85</sup> Therefore, in order to fall within the jurisdiction of the United States and Section 337, the article must also be imported.

All parties agree that Respondents import sucralose into the United States. However, another issue has been raised which is whether trace amounts of compounds that are the direct result of the processes of the three patents in question can provide a separate basis for subject matter jurisdiction. This issue is more appropriately dealt with in the infringement sections of the respective patents below.

### **B. Personal Jurisdiction**

The participating Respondents have responded to the complaint and notice of investigation, participated in the investigation, including participating in discovery, made an appearance at the hearing, and submitted post-hearing briefs, thereby submitting to the personal jurisdiction of the Commission.<sup>86</sup>

As to the non-participating Respondents and defaulted Respondents, the Commission has found that a finding of personal jurisdiction over a foreign respondent who does not participate in a Section 337 proceeding may be based on evidence that the respondent has minimum contacts with the United States and that the respondent had adequate notice of the Commission's proceeding.

As to minimum contacts, Complainants offered evidence that the non-participating and defaulted respondents have exported the accused sucralose to the United States after the issuance of

---

<sup>85</sup> *Importation of Goods Covered by United States Process Patents: Hearing on H.R. 7851 Before H. Comm. on Patents, 75<sup>th</sup> Cong. 1-2 (1938) (statement of Hon. J. Hardin Peterson).*

<sup>86</sup> *See Certain Miniature Hacksaws, Inv. No. 337-TA-237, U.S.I.T.C. Pub. No. 1948, Initial Determination (unreviewed by Commission in relevant part) at 4, 1986 WL 379287 (U.S.I.T.C., October 15, 1986) ("Miniature Hacksaws").*

the patents at issue, therefore there is evidence which supports a finding that these Respondents have minimum contacts with the United States. In this investigation, the Commission Secretary served the complaint and notice of investigation on all respondents, and there is sufficient proof on this record to establish that all respondents received notice of this investigation. On the basis of the facts of record, the undersigned finds that the Commission has personal jurisdiction over all respondents named in the investigation.

### III. Relevant Law

#### A. Claim Construction

Analyzing whether a patent is infringed “entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device or process accused of infringing.”<sup>87</sup> The first step is a question of law, whereas the second step is a factual determination.<sup>88</sup> Concerning the first step of claim construction, “[i]t is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history . . . . Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.”<sup>89</sup>

---

<sup>87</sup> *Dow Chem. Co. v. United States*, 226 F.3d 1334, 1338 (Fed. Cir. 2000) (“*Dow Chemical*”), citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*), *aff’d*, 517 U.S. 370 (1996) (“*Markman*”).

<sup>88</sup> *Markman*, *supra*.

<sup>89</sup> *Bell Atlantic Network Serv., Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001) (“*Bell Atlantic*”). See also *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-17 (Fed. Cir. 2005) (“*Phillips*”), *cert. denied*, 126 S.Ct. 1332.

“In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to ‘particularly point [ ] out and distinctly claim [ ] the subject matter which the patentee regards as his invention.’”<sup>90</sup>

“Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms.”<sup>91</sup> Usage of a term in both the asserted and unasserted claims is “highly instructive” in determining the meaning of the same term in other claims.<sup>92</sup> “Furthermore, a claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent.”<sup>93</sup>

“While not an absolute rule, all claim terms are presumed to have meaning in a claim.”<sup>94</sup> If the claim language is not clear on its face, “[t]hen we look to the rest of the intrinsic evidence, beginning with the specification and concluding with the prosecution history, if in evidence” for the purpose of “resolving, if possible, the lack of clarity.”<sup>95</sup>

There is a “heavy presumption” that claim terms are to be given “their ordinary and accustomed meaning as understood by one of ordinary skill in the art,” and in aid of this interpretation, “[d]ictionaries and technical treatises, which are extrinsic evidence, hold a ‘special place’ and may sometimes be considered along with the intrinsic evidence when determining the

---

<sup>90</sup> *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“*Interactive Gift Express*”), citing 35 U.S.C. § 112, ¶ 2.

<sup>91</sup> *Phillips*, 415 F.3d at 1314 citing *Vitronics Corp. v. Conceptoronic Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 2003) (“*Vitronics*”).

<sup>92</sup> *Id.*

<sup>93</sup> *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001) (“*Rexnord*”) citing *Phonometrics Inc. v. Northern Telecom Inc.*, 133 F.3d 1459, 1465 (Fed. Cir. 1998) (“*Phonometrics*”).

<sup>94</sup> *Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004) (“*Innova*”).

<sup>95</sup> *Id.*

ordinary meaning of claim terms.”<sup>96</sup> Caution must be used, however, when referring to non-scientific dictionaries “lest dictionary definitions . . . be converted into technical terms of art having legal, not linguistic significance.”<sup>97</sup>

The presumption in favor of according a claim term its ordinary meaning is overcome “(1) where the patentee has chosen to be his own lexicographer, or (2) where a claim term deprives the claim of clarity such that there is ‘no means by which the scope of the claim may be ascertained from the language used.’”<sup>98</sup> In this regard, “[t]he specification acts as a dictionary ‘when it expressly defines terms used in the claims or when it defines terms by implication.’”<sup>99</sup>

The specification is considered “always highly relevant” to claim construction and “[u]sually, it is dispositive; it is the single best guide to the meaning of a disputed term.”<sup>100</sup> The prosecution history is also examined for a claim’s scope and meaning “to determine whether the patentee has relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference.”<sup>101</sup>

“[I]f the meaning of the claim limitation is apparent from the intrinsic evidence alone, it is improper to rely on extrinsic evidence other than that used to ascertain the ordinary meaning of the claim limitation. [citation omitted] However, in the rare circumstance that the court is unable to determine the meaning of the asserted claims after assessing the intrinsic evidence, it may look to

---

<sup>96</sup> *Bell Atlantic*, 262 F.3d at 1267-68.

<sup>97</sup> *Id.* at 1267 (internal quotation marks omitted).

<sup>98</sup> *Id.* at 1268.

<sup>99</sup> *Id.* See also *Phillips*, 415 F.3d at 1316.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

additional evidence that is extrinsic to the complete document record to help resolve any lack of clarity.”<sup>102</sup>

“Extrinsic evidence consists of all evidence external to the patent and prosecution history . . . .”<sup>103</sup> It includes “such evidence as expert testimony, articles, and inventor testimony.”<sup>104</sup> But, “[i]f the intrinsic evidence resolves any ambiguity in a disputed claim, extrinsic evidence cannot be used to contradict the established meaning of the claim language.”<sup>105</sup> “What is disapproved of is an attempt to use extrinsic evidence to arrive at a claim construction that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.”<sup>106</sup>

In interpreting particular limitations within each claim, “adding limitations to claims not required by the claim terms themselves, or unambiguously required by the specification or prosecution history, is impermissible.”<sup>107</sup> Usually, a patent is not limited to its preferred embodiments in the face of evidence of broader coverage by the claims.<sup>108</sup> A claim construction that

---

<sup>102</sup> *Id.* at 1268-69.

<sup>103</sup> *Markman*, 52 F.3d at 980.

<sup>104</sup> *Bell Atlantic*, 262 F.3d at 1269.

<sup>105</sup> *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1322-23 (Fed. Cir. 2001) (“*DeMarini*”).

<sup>106</sup> *Markman*, 52 F.3d at 979.

<sup>107</sup> *Dayco Prod., Inc. v. Total Containment, Inc.*, 258 F.3d 1317, 1327 (Fed. Cir. 2001) (“*Dayco Products*”), citing *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1347 (Fed. Cir. 1998) (“*Laitram*”) (“a court may not import limitations from the written description into the claims”).

<sup>108</sup> *Acromed Corp. v. Sofamor Danek Group, Inc.*, 253 F.3d 1371, 1382-83 (Fed. Cir. 2001) (“*Acromed*”); *Electro Med. Sys. S.A. v. Cooper Life Sci., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994) (“*Electro Med*”) (“particular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments”).

excludes the preferred embodiment in the specification of a patent, however, is “rarely, if ever, correct.”<sup>109</sup>

On the other hand, “there is sometimes ‘a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification.’”<sup>110</sup> In order to negotiate this “fine line,” one guideline is that features of embodiments in the specification do not restrict patent claims “unless the patentee has demonstrated a clear intention to limit the claim scope using ‘words or expressions of manifest exclusion or restriction.’”<sup>111</sup> Another guideline is that features of an embodiment in the specification do not restrict claims unless the specification defines the claim terms “by implication” as may be “found in or ascertained by a reading of the patent documents.”<sup>112</sup> For the specification to limit the claims, there must be “a clear case of the disclaimer of subject matter that, absent the disclaimer, could have been considered to fall within the scope of the claim language.”<sup>113</sup>

---

<sup>109</sup> *Vitronics*, 90 F.3d at 1583-34.

<sup>110</sup> *Bell Atlantic*, 262 F.3d at 1270.

<sup>111</sup> *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (“*Liebel-Flarsheim I*”).

<sup>112</sup> *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004) (“*Irdeto*”).

<sup>113</sup> *Liebel-Flarsheim I*, 358 F.3d at 907. The Federal Circuit “has expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.” *Liebel-Flarsheim I*, *supra*, 358 F.3d at 906 (emphasis added); also see, e.g., *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004) (“*Golight*”); *Bio-Technology General Corp. v. Duramed Pharmaceuticals, Inc.*, 325 F.3d 1356, 1362 (Fed. Cir. 2003) (“*Duramed*”) (aspects of only embodiment described in specification not read into claims). The *Liebel-Flarsheim I* panel further held that even where a patent describes only a single embodiment, claims will not be “read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using ‘words or expressions of manifest exclusion or restriction.’” *Id.*

Claims amenable to more than one construction should, when it is reasonably possible to do so, be construed to preserve their validity.<sup>114</sup> A claim cannot, however, be construed contrary to its plain language.<sup>115</sup> Claims cannot be judicially rewritten in order to fulfill the axiom of preserving their validity; “if the only claim construction that is consistent with the claim’s language and the written description renders the claim invalid, then the axiom does not apply and the claim is simply invalid.”<sup>116</sup>

Pursuant to 35 U.S.C. § 112, ¶ 6, “[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” An applicant may therefore “claim an element of a combination functionally, without reciting structures for performing those functions.”<sup>117</sup> To invoke this rule, “a claim limitation that actually uses the word ‘means’ will invoke a rebuttable presumption that § 112 ¶ 6 applies. By contrast, a claim term that does not use ‘means’ will trigger the rebuttable presumption that § 112 ¶ 6 does not apply.”<sup>118</sup> In general, the words “circuit” and “circuitry” connote sufficient structure in and of themselves so as not to be deemed as “means-plus-function” elements.<sup>119</sup>

---

<sup>114</sup> *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1384 (Fed. Cir. 2001) (“*Karsten*”).

<sup>115</sup> *See Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999) (“*Rhine*”).

<sup>116</sup> *Id.*

<sup>117</sup> *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1371 (Fed. Cir.), *cert. denied*, 540 U.S. 1073 (2003) (“*Apex*”).

<sup>118</sup> *Linear Technology Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1319 (Fed. Cir. 2004) (“*Linear*”).

<sup>119</sup> *See Linear, supra; Apex*, 325 F.3d at 1374.

## **B. Infringement**

### **1. Literal Infringement**

Literal infringement is a question of fact.<sup>120</sup> Literal infringement requires the patentee to prove that the accused device contains each limitation of the asserted claim(s). Each element of a claim is considered material and essential, and in order to show literal infringement, every element must be found to be present in the accused device.<sup>121</sup> If any claim limitation is absent from the accused device, there is no literal infringement of that claim as a matter of law.<sup>122</sup>

### **2. Indirect Infringement**

To establish a claim for induced infringement, a complainant must show that a respondent has actively induced a person to make, use, or sell a product or use a method that falls within the scope of the claims of the patent at issue.<sup>123</sup> The required elements of a claim of induced infringement are: “(1) an act of direct infringement; (2) the accused infringer actively induced a third party to infringe the patent; and (3) the accused infringer knew or should have known that his actions would induce infringement.”<sup>124</sup>

Under 35 U.S.C. § 271(c), a seller of a component of an infringing product can be held liable for contributory infringement if: “(1) there has been an act of direct infringement by a third party;

---

<sup>120</sup> *Tegal Corp. v. Tokyo Electron Am., Inc.*, 257 F.3d 1331, 1350 (Fed. Cir. 2001) (“*Tegal*”), *cert. denied*, 535 U.S. 927 (2002).

<sup>121</sup> *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991) (“*London*”).

<sup>122</sup> *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000) (“*Elan*”).

<sup>123</sup> 35 U.S.C. § 271(b).

<sup>124</sup> *Certain Flash Memory Circuits*, Inv. No. 337-TA-382, U.S.I.T.C. Pub. 3046, Commission Opinion on the Issues Under Review and on Remedy, the Public Interest, and Bonding, at 16, 1997 WL 817778 (U.S.I.T.C., July 1997) (“*Flash Memory*”) citing *Manville Sales Corp. v. Paramount Sys. Inc.*, 917 F.2d 544, 553 (Fed. Cir. 1990) (“*Manville*”). See also *Certain Headboxes and Papermaking Machine Forming Sections for the Continuous Production of Paper, and Components Thereof*, Inv. No. 337-TA-82, USITC Pub. No. 1138 at 18- 19 (1981) (“*Headboxes*”).

(2) the accused contributory infringer knows that the combination for which its component was made was both patented and infringing; and (3) there are no substantial non-infringing uses for the component part, *i.e.*, the component is not a 'staple article' of commerce."<sup>125</sup>

### 3. Infringement under the Doctrine of Equivalents

Where literal infringement is not found, infringement nevertheless can be found under the doctrine of equivalents based on "the substantiality of the differences between the claimed and accused products or processes, assessed according to an objective standard" judged from "the vantage point of one of ordinary skill in the relevant art."<sup>126</sup> Determining infringement under the doctrine of equivalents "requires an intensely factual inquiry."<sup>127</sup>

In *Warner-Jenkinson*, the Supreme Court noted that the doctrine of equivalents is subject to several limitations, including applying the doctrine to individual elements of a claim and not to the invention as a whole.<sup>128</sup> The court acknowledged that the commonly used "function-way-result" test is suitable in some instances, including analyzing mechanical devices.<sup>129</sup>

#### C. Domestic Industry

In a patent-based complaint, a violation of Section 337 can be found "only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the

---

<sup>125</sup> *Flash Memory*, Commission Opinion at 9-10.

<sup>126</sup> *Hilton Davis Chem. Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1518-1519 (Fed. Cir. 1995) ("*Hilton Davis*"), *rev'd*, 520 U.S. 17 (1997) ("*Warner-Jenkinson*").

<sup>127</sup> *Vehicular Tech. Corp. v. Titan Wheel Int'l, Inc.*, 212 F.3d 1377, 1381 (Fed. Cir. 2000) ("*Vehicular Technologies*").

<sup>128</sup> *Warner-Jenkinson*, 520 U.S. at 29.

<sup>129</sup> *See Hilton Davis*, 62 F.3d at 1518 ("In applying the doctrine of equivalents, it is often enough to assess whether the claimed and accused products or processes include substantially the same function, way, and result").

process of being established.”<sup>130</sup> This “domestic industry requirement” has an “economic” prong and a “technical” prong.

The term “domestic industry” in Section 337 is not defined by the statute, but the Commission has interpreted the intent of Section 337 to be “the protection of domestic manufacture of goods.”<sup>131</sup> The Commission has further stated that “[t]he scope of the domestic industry in patent-based investigations has been determined on a case by case basis in light of the realities of the marketplace and encompasses not only the manufacturing operations but may include, in addition, distribution, research and development and sales.”<sup>132</sup>

In making this determination, Section 337(a)(2) provides that for investigations based on patent infringement, a violation can be found “only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2). Section 337(a)(3) sets forth the following economic criteria for determining the existence of a domestic industry in such investigations:

an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the . . . patent . . . concerned –

- (A) significant investment in plant and equipment;
- (B) significant employment of labor or capital; or
- (C) substantial investment in its exploitation, including engineering, research and development, or licensing.<sup>133</sup>

---

<sup>130</sup> 19 U.S.C. § 1337(a)(2).

<sup>131</sup> *Certain Dynamic Random Access Memories, Components Thereof and Products Containing Same*, Inv. No. 337-TA-242, U.S.I.T.C. Pub. No. 2034 (November 1987), Commission Opinion at 61, 1987 WL 450856 (U.S.I.T.C., September 21, 1987) (“DRAMs”).

<sup>132</sup> *Id.* at 62 (footnotes omitted).

<sup>133</sup> 19 U.S.C. § 1337(a)(3).

As the statute uses the disjunctive term “or,” a complainant can demonstrate this so-called “economic prong” of the domestic industry requirement by satisfying any one of the three tests set forth in Section 337(a)(3).<sup>134</sup> The complainant bears the burden of establishing that the domestic industry requirement is satisfied.<sup>135</sup>

In addition to meeting the economic criteria of the domestic industry requirement, a complainant in a patent-based Section 337 investigation must also demonstrate that it is practicing or exploiting the patents at issue.<sup>136</sup> In order to find the existence of a domestic industry exploiting a patent at issue, it is sufficient to show that the domestic industry practices any claim of that patent, not necessarily an asserted claim of that patent.<sup>137</sup> Fulfillment of this so-called “technical prong” of the domestic industry requirement is not determined by a rigid formula, but rather by the articles of commerce and the realities of the marketplace.<sup>138</sup>

---

<sup>134</sup> See *Certain Plastic Encapsulated Integrated Circuits*, Inv. No. 337-TA-315, U.S.I.T.C. Pub. No. 2574 (November 1992), Initial Determination at 83, 1992 WL 813952 (U.S.I.T.C., October 15, 1991) (unreviewed by Commission in relevant part) (“*Encapsulated Circuits*”).

<sup>135</sup> See *Certain Set-Top Boxes and Components Thereof*, Inv. No. 337-TA-454, U.S.I.T.C. Pub. No. 3564 (November 2002), Initial Determination at 294, 2002 WL 31556392 (U.S.I.T.C., June 21, 2002), *unreviewed by Commission in relevant part*, Commission Opinion at 2 (August 29, 2002) (“*Set-Top Boxes*”).

<sup>136</sup> See 19 U.S.C. § 1337(a)(2) and (3); also see *Certain Microsphere Adhesives, Process for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Commission Opinion at 8, 1996 WL 1056095 (U.S.I.T.C., January 16, 1996) (“*Microsphere Adhesives*”), *aff’d sub nom. Minnesota Mining & Mfg. Co. v. U.S. Int’l Trade Comm’n*, 91 F.3d 171 (Fed. Cir. 1996) (Table); *Encapsulated Circuits*, Commission Opinion at 16.

<sup>137</sup> *Certain Microsphere Adhesives*, Commission Opinion at 7-16.

<sup>138</sup> *Certain Diltiazem Hydrochloride and Diltiazem Preparations*, Inv. No. 337-TA-349, U.S.I.T.C. Pub. No. 2902, Initial Determination at 138, 1995 WL 945191 (U.S.I.T.C., February 1, 1995) (unreviewed in relevant part) (“*Diltiazem*”); *Certain Double-Sided Floppy Disk Drives and Components Thereof*, Inv. No. 337-TA-215, 227 U.S.P.Q. 982, 989 (Commission Opinion 1985) (“*Floppy Disk Drives*”).

The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement.<sup>139</sup> “First, the claims of the patent are construed. Second, the complainant’s article or process is examined to determine whether it falls within the scope of the claims.”<sup>140</sup> As with infringement, the first step of claim construction is a question of law, whereas the second step of comparing the article to the claims is a factual determination.<sup>141</sup> To prevail, the patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent either literally or under the doctrine of equivalents.<sup>142</sup>

#### D. Validity

A patent is presumed valid.<sup>143</sup> The party challenging a patent’s validity has the burden of overcoming this presumption by clear and convincing evidence.<sup>144</sup> Since the claims of a patent measure the invention at issue, the claims must be interpreted and given the same meaning for purposes of both validity and infringement analyses. As with an infringement analysis, an analysis of invalidity involves two steps: the claim scope is first determined, and then the properly construed claim is compared with the prior art to determine whether the claimed invention is anticipated and/or rendered obvious.<sup>145</sup>

---

<sup>139</sup> *Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, Initial Determination at 109, 1990 WL 710463 (U.S.I.T.C., May 21, 1990) (“*Doxorubicin*”), *aff’d*, Views of the Commission at 22 (October 31, 1990).

<sup>140</sup> *Id.*

<sup>141</sup> *Markman*, 52 F.3d at 976.

<sup>142</sup> *See Elan*, 212 F.3d at 1247.

<sup>143</sup> 35 U.S.C. § 282; *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1480 (Fed. Cir. 1997) (“*Richardson-Vicks*”).

<sup>144</sup> *Richardson-Vicks Inc., supra*; *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044 (Fed. Cir.) (“*Uniroyal*”), *cert. denied*, 488 U.S. 825 (1988).

<sup>145</sup> *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) (“*Amazon.com*”).

**1. Anticipation, 35 U.S.C. §§ 102 (a), (b) and (e)**

A patent may be found invalid as anticipated under 35 U.S.C. § 102(a) if “the invention was known or used by others in this country, or patented or described in a printed publication in this country, or patented or described in a printed publication in a foreign country, before the invention thereof by the applicant for patent.” 35 U.S.C. § 102(a). A patent may be found invalid as anticipated under 35 U.S.C. § 102(b) if “the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.”<sup>146</sup> Under 35 U.S.C. § 102(e), a patent is invalid as anticipated if “the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent.”<sup>147</sup> Anticipation is a question of fact.<sup>148</sup>

Under the foregoing statutory provision, a claim is anticipated and therefore invalid when “the four corners of a single, prior art document describe[s] every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.”<sup>149</sup> To be considered anticipatory, the prior art reference must be enabling and describe the applicant’s claimed invention sufficiently to have placed it in

---

<sup>146</sup> 35 U.S.C. § 102(b).

<sup>147</sup> 35 U.S.C. § 102(e).

<sup>148</sup> *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1177 (Fed. Cir. 1993) (“*Texas Instruments II*”).

<sup>149</sup> *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000), cert. denied, 532 U.S. 904 (2001) (“*Advanced Display Systems*”).

possession of a person of ordinary skill in the field of the invention.<sup>150</sup> But, the degree of enabling detail contained in the reference does not have to exceed that contained in the patent at issue.<sup>151</sup>

Further, the disclosure in the prior art reference does not have to be express, but may anticipate by inherency where the inherency would be appreciated by one of ordinary skill in the art.<sup>152</sup> To be inherent, the feature must necessarily be present in the prior art.<sup>153</sup> Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient. This modest flexibility in the rule that “anticipation” requires that every element of the claims appear in a single reference accommodates situations where the common knowledge of technologists is not recorded in the reference; that is, where technological facts are known to those in the field of the invention, albeit not known to judges.<sup>154</sup>

## 2. Obviousness, 35 U.S.C. § 103 (a)

Under 35 U.S.C. § 103(a), a patent is valid unless “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

---

<sup>150</sup> *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000) (“*Helifix*”); *In re Paulsen*, 30 F.3d 1475, 1478 (Fed. Cir. 1994) (“*Paulsen*”).

<sup>151</sup> *Paulsen*, 30 F.3d at 1481 n.9.

<sup>152</sup> *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047 (Fed. Cir.), *cert. denied*, 516 U.S. 988 (1995) (“*Glaxo*”).

<sup>153</sup> *See Finnigan Corp. v. U.S. Int’l Trade Comm’n*, 180 F.3d 1354, 1365-66 (Fed. Cir. 1999) (“*Finnigan*”).

<sup>154</sup> *See Cont’l Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268-69 (Fed. Cir. 1991) (“*Continental Can*”); *Finnigan*, 180 F.2d at 1365.

subject matter pertains.”<sup>155</sup> The ultimate question of obviousness is a question of law, but “it is well understood that there are factual issues underlying the ultimate obviousness decision.”<sup>156</sup>

Once claims have been properly construed, “[t]he second step in an obviousness inquiry is to determine whether the claimed invention would have been obvious as a legal matter, based on underlying factual inquiries including : (1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art ; and (4) secondary considerations of non-obviousness” (also known as “objective evidence”).<sup>157</sup>

Although the Federal Circuit case law also required that, in order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that there is a “teaching, suggestion, or motivation to combine, the Supreme Court has rejected this “rigid approach” employed by the Federal Circuit in *KSR Int’l Co. v. Teleflex Inc.*:<sup>158</sup>

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* and *Anderson’s-Black Rock* are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established function.

Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known

---

<sup>155</sup> 35 U.S.C. § 103(a).

<sup>156</sup> *Richardson-Vicks Inc.*, 122 F.3d at 1479; *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 863 (Fed. Cir. 1993) (“*Wang Laboratories*”).

<sup>157</sup> *Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1354 (Fed. Cir. 1999) (“*Smiths Industries*”), citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (“*Graham*”).

<sup>158</sup> *KSR Int’l Co. v. Teleflex Inc.*, – U.S. – (2007), 127 S.Ct. 1727, 1739 (“*KSR*”).

to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicitly. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusions of obviousness”). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

[...]

The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advance that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.<sup>159</sup>

“Secondary considerations,” also referred to as “objective evidence of non-obviousness,” such as “commercial success, long felt but unsolved needs, failure of others, etc.” may be used to understand the origin of the subject matter at issue, and may be relevant as indicia of obviousness or non-obviousness.<sup>160</sup> Secondary considerations may also include copying by others, prior art teaching away, and professional acclaim.<sup>161</sup>

---

<sup>159</sup> *KSR*, 550 U.S. at – ; 127 S.Ct. at 1740-41.

<sup>160</sup> *Graham*, 383 U.S. at 17-18.

<sup>161</sup> See *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984) (“*Perkin-Elmer*”), cert. denied, 469 U.S. 857 (1984); *Avia Group Int’l, Inc. v. L.A. Gear California*, 853 F.2d 1557, 1564 (Fed. Cir. 1988) (“*Avia*”) (copying by others); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986) (“*Hedges*”) (prior art teaching away; invention contrary to accepted wisdom); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986) (“*Kloster*”), cert. denied, 479 (continued...)

Evidence of “objective indicia of non-obviousness,” also known as “secondary considerations,” must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. A court must consider all of the evidence under the *Graham* factors before reaching a decision on obviousness.<sup>162</sup> In order to accord objective evidence substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention, and a *prima facie* case is generally made out “when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent.”<sup>163</sup> Once the patentee has made a *prima facie* case of nexus, the burden shifts to the challenger to show that the commercial success was caused by “extraneous factors other than the patented invention, such as advertising, superior workmanship, etc.”<sup>164</sup>

### 3. Written Description/Enablement, 35 U.S.C. § 112, ¶ 1

Section 112, ¶ 1 of Title 35 requires that the specification describe the manner and process of making and using the invention “in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.”

---

<sup>161</sup>(...continued)

U.S. 1034 (1987) (wide acceptance and recognition of the invention).

<sup>162</sup> *Richardson-Vicks Inc.*, 122 F.3d at 1483-84.

<sup>163</sup> *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) (“GPAC”); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 956 (1988) (“Demaco”); *Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Commission Opinion (March 15, 1990), 15 U.S.P.Q.2d 1263, 1270 (“Crystalline”).

<sup>164</sup> *Id.* at 1393.

The issue of whether a disclosure is enabling is a matter of law.<sup>165</sup> “To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’”<sup>166</sup> “Patent protection is granted in return for an enabling disclosure of an invention, not for vague, intimations of general ideas that may or may not be workable.”<sup>167</sup> Although a specification need not disclose minor details that are well known in the art, “[i]t is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement,” and in so doing the specification cannot merely provide “only a starting point, a direction for further research.”<sup>168</sup> On the other hand, “[i]t is not fatal if some experimentation is needed, for the patent document is not intended to be a production specification.”<sup>169</sup> “Undue experimentation” is “a matter of degree” and “not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed ....”<sup>170</sup>

It is well-settled that in order to be enabling under Section 112, “the patent must contain a description sufficient to enable one skilled in the art to make and use the full scope of the claimed

---

<sup>165</sup> *Applied Materials, Inc. v. Advanced Semiconductor Materials America, Inc.*, 98 F.3d 1563, 1575 (Fed. Cir. 1996) (“*Applied Materials*”).

<sup>166</sup> *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (“*Genentech*”).

<sup>167</sup> *Id.* at 1366.

<sup>168</sup> *Id.*

<sup>169</sup> *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 941 (Fed. Cir. 1990) (“*Northern Telecom*”).

<sup>170</sup> *PPG Industries, Inc. v. Guardian Industries Corp.*, 75 F.3d 1558, 1564 (Fed. Cir. 1996) (“*PPG Industries*”).

invention.”<sup>171</sup> Section 112 requires that the scope of the claims must bear a reasonable correlation to the scope of enablement provided by the specification to such persons.<sup>172</sup>

#### 4. Indefiniteness

Claims must “. . . particularly point[ ] out and distinctly claim[ ] the subject matter which the applicant regards as his invention.”<sup>173</sup> When “means plus function” language is used in the claims, the specification must set forth “adequate disclosure showing what is meant by that language.”<sup>174</sup>

Claim indefiniteness under Section 112, ¶ 2 is a question of law.<sup>175</sup>

“[I]f the claims, read in light of the specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the courts can demand no more.”<sup>176</sup> Further in this connection, the Federal Circuit has observed:

We have not insisted that claims be plain on their face in order to avoid condemnation for indefiniteness; rather, what we have asked is that the claims be amenable to construction, however difficult that task may be. If a claim is insolubly ambiguous, and no narrowing construction can properly be adopted, we have held the claim indefinite. If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will

---

<sup>171</sup> *United States v. Teletronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988) (“*Teletronics*”); see also *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 1213 (Fed. Cir. 1991) (“*Chugai*”) (inventor’s disclosure must be “sufficient to enable on skilled in the art to carry out the invention commensurate with the scope of his claims”).

<sup>172</sup> *Application of Fischer*, 427 F.2d 833, 839 (C.C.P.A. 1970) (“*Fischer*”).

<sup>173</sup> 35 U.S.C. § 112, ¶ 2.

<sup>174</sup> *In re Donaldson*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (“*Donaldson*”).

<sup>175</sup> *Exxon Research and Engineering Co. v. U.S.*, 265 F.3d 1371, 1376 (Fed. Cir. 2001) (“*Exxon Research*”); *Union Pacific Resources Co. v. Chesapeake Energy Corp.*, 236 F.3d 684, 692 (Fed. Cir. 2001) (“*Union Pacific*”).

<sup>176</sup> *Shatterproof Glass Corp. v. Libby-Owens-Ford Co.*, 758 F.2d 613, 624 (Fed. Cir. 1985), cert. dismissed, 474 U.S. 976 (1985) (“*Shatterproof Glass*”); accord, *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1385 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987) (“*Hybritech*”).

disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.<sup>177</sup>

“By finding claims indefinite only if reasonable efforts at claim construction prove futile,” the Federal Circuit continued in *Exxon Research*, “we accord respect to the statutory presumption of patent validity.”<sup>178</sup> In this regard, where claims on their face cover various methods that produce widely varying and non-overlapping results such that they “fail to put competitors on notice of the limits of the claimed invention, so that they may fairly know the point at which their activities may begin to pose a serious risk of infringement,” those claims are indefinite under Section 112, ¶ 2.<sup>179</sup>

#### IV. The '463 Patent

##### A. Claim Construction

##### 1. Asserted Claims

The asserted claims read as follows (with the first instance of the disputed terms highlighted in *italics*):

1. A process for the chlorination of sucrose-6-esters to produce 6', 4,1'-trichloro-sucrose-6-esters which comprises the steps of:

(a) *adding at least seven molar equivalents of an acid chloride to a reaction mixture containing a sucrose-6-ester and a tertiary amide to form a chloroformiminium chloride salt in the presence of said sucrose-6-ester, whereby the chloroformiminium salt forms an O-alkylformiminium chloride adduct with the hydroxyl groups of the sucrose-6-ester;*

(b) *subjecting the reaction mixture product of step (a) to an elevated temperature not higher than about 85 °C. for a period of time sufficient to produce a mixture of chlorinated sucrose-6-ester products consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester; and*

---

<sup>177</sup> *Exxon Research, supra*, 265 F.3d at 1375. See also *Energizer Holdings Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366 (Fed. Cir. 2006) (“*Energizer*”).

<sup>178</sup> *Id.*

<sup>179</sup> *Certain Polyethylene Terephthalate Yarn and Products Containing Same*, Inv. No. 337-TA-457, Commission Opinion at 18, 2002 WL 1349938 (U.S.I.T.C., June 18, 2002) (“*Pet Yarns*”).

*(c) subjecting the reaction mixture product of step (b) to an elevated temperature of at least about 100 °C. but not higher than about 130 °C. for a period of time sufficient to produce a chlorinated product comprising predominantly 1',4,6'-trichlorosucrose-6-ester.*

2. The process of claim 1 wherein said tertiary amide contains an N-formyl group.
3. The process of claim 2 wherein said tertiary amide is N,N-dimethylformamide.
16. The process of claim 1 wherein the sucrose-6-ester is sucrose-6-benzoate or sucrose-6-acetate.
17. The process of claim 2 wherein the sucrose-6-ester is sucrose-6-benzoate or sucrose-6-acetate.
18. The process of claim 3 wherein the sucrose-6-ester is sucrose-6-benzoate or sucrose-6-acetate.

## **2. Disputed Claim Terms - Claim 1**

### **a. Step (a)**

#### **(1) "adding"**

Complainants assert that the claim term "adding" should be construed by its ordinary meaning, which does not require that the reagents be added in any particular order.<sup>180</sup> Staff agrees with Complainants that "adding" does not require a particular order of addition.<sup>181</sup> Respondents do not construe the term "adding" separately from the entire phrase "adding at least seven molar equivalents of an acid chloride to a reaction mixture containing a sucrose-6-ester and a tertiary amide," which Respondents construe as "an amount of acid chloride that is at least seven molar equivalents of the amount of a sucrose-6-ester is added to a mixture containing both the sucrose-6-

---

<sup>180</sup> CIB 38-41.

<sup>181</sup> SIB 34; SRB 3-4.

ester and a tertiary amide.”<sup>182</sup> In sum, Respondents’ construction asserts that the claim term “adding” requires a specific order of addition.

In support, Complainants cite to the dictionary definition of “adding.”<sup>183</sup> Complainants also cite to the specification that provides examples that use both orders of addition. In particular, Complainants cite to Examples 7 and 13.<sup>184</sup> Complainants counter Respondents’ arguments that Example 7 is not applicable.<sup>185</sup> Complainants also counter Respondents’ arguments in regard to the tests performed with different orders of addition because the tests were not reliable as other variables may account for the different reaction results.<sup>186</sup>

Respondents argue that the plain language of the claim states a specific order of addition to a specific mixture because the claim reads “*adding* . . . an acid chloride *to* a reaction mixture.”<sup>187</sup> Respondents assert that the specification and prosecution history confirm that the claim is limited to a particular order of addition.<sup>188</sup> Respondents assert that the patentees’ own documents confirm that “adding . . . to” requires a certain order of addition.<sup>189</sup> Respondents also assert that the inventors distinguished the prior art Mufti patent based on the claimed order of addition.<sup>190</sup> Respondents

---

<sup>182</sup> RIB 20; RRB 7-8.

<sup>183</sup> CIB 39 citing THE AMERICAN HERITAGE COLLEGE DICTIONARY (3d ed. 1993); CRB 10.

<sup>184</sup> CIB 39 citing CX-621CR (Crich Direct Redacted) at Q. 140; CFF 5.B.8-5.B.15; CRB 9-10.

<sup>185</sup> CRB 10-11; 13.

<sup>186</sup> CRB 11-12.

<sup>187</sup> RIB 20 (emphasis in original); RRB 7.

<sup>188</sup> RIB 21 citing JX-1 (the ‘463 patent) at col. 4:38-48 and JX-6 (the ‘463 prosecution history) at 319.

<sup>189</sup> RIB 21 citing RFF 2.138.

<sup>190</sup> RIB 22-23 citing JX-6 (the ‘463 prosecution history) at 320-21.

counter Complainants' reliance on Example 7 in the specification because Respondents assert that Example 7 does not actually cover the claimed method.<sup>191</sup>

Staff agrees with Complainants that Example 7 covers the claimed method and also cites to Example 5 in support.<sup>192</sup> Staff also asserts that statements made by the inventors, as well as arguments made during the prosecution history, do not constitute a clear disclaimer of the ordinary meaning of the term "adding."<sup>193</sup>

The undersigned finds Complainants' and Staff's arguments to be persuasive. There is no dispute regarding the ordinary meaning of the term "adding." And there is nothing in the claim term itself that requires the addition to be in a particular order. The specification supports this construction, which includes examples of both orders of addition.<sup>194</sup> While adding the chemicals in a different order of addition may affect product yields, making one particular order of addition preferable, the claim language itself does not limit the order of addition.<sup>195</sup> Furthermore, the undersigned finds that the inventors did not specifically disclaim any particular order of addition to overcome the prior art.

Accordingly, the undersigned construes the term "adding" as not requiring any particular order of addition.

**(2) "at least seven molar equivalents"**

Complainants assert that there does not appear to be a specific dispute about the meaning of the claim term "at least seven molar equivalents," but that Respondents are attempting to combine

---

<sup>191</sup> RIB 23-24.

<sup>192</sup> SIB 35; SRB 4.

<sup>193</sup> SIB 36.

<sup>194</sup> See JX-1 (the '463 patent), Examples 5, 7, and 13.

<sup>195</sup> RX-267C (Athens status report); RX-641CR (Baker Rebuttal) at Q. 71.

this limitation with a different limitation in step (a). Therefore, Complainants argue that, in order to avoid confusion, the meaning of “seven molar equivalents” should be construed as “seven moles of acid chloride are added for each mole of the sucrose-6-ester.”<sup>196</sup> Neither Respondents nor Staff address this claim limitation or dispute this construction.

As there appears to be no dispute regarding this claim term, “least seven molar equivalents” is hereby construed as “seven moles of acid chloride are added for each mole of the sucrose-6-ester.”

### (3) “acid chloride”

Complainants assert that the claim term “acid chloride” should be construed by its ordinary meaning, or a substance that is formed formally by the replacement of an OH group in an acid by a chlorine atom.<sup>197</sup> Staff agrees with Complainants that an acid chloride is simply an acid in which a hydroxyl (-OH) group has been replaced with a chlorine atom.<sup>198</sup> Respondents agree with Complainants and Staff on the ordinary meaning of an acid chloride, but assert that the acid chloride must be different than the chloroformiminium chloride salt.<sup>199</sup>

Complainants assert that all of Respondents’ experts agreed with Dr. Crich’s definition of an acid chloride.<sup>200</sup> Complainants argue that there is no dispute as to the ordinary meaning of an acid chloride and that the issue is whether the ‘463 patent redefines acid chloride to have a different meaning. According to Complainants, nothing in the prosecution history contradicts the ordinary meaning of acid chloride.<sup>201</sup> As to Respondents’ narrower definition of acid chloride, Complainants

---

<sup>196</sup> CIB 41-42 citing CFF 5.B.25-5.B.27.

<sup>197</sup> CIB 42 citing CFF 5.B.29; CX-621C-R (Crich Direct Redacted) at Q. 155.

<sup>198</sup> SIB 37; SRB 4-5.

<sup>199</sup> RIB 26; RRB 8-9.

<sup>200</sup> CIB 43 citing Hanessian, Tr. 1599; RX-828C (Fraser-Reid Rebuttal) at Q. 23.

<sup>201</sup> CIB 43-44.

argue that their list does not even include all of the examples of acid chlorides recited in the '463 patent because it does not include phosgene iminium chloride, the acid chloride used in Example 7.<sup>202</sup>

While Staff agrees with Complainants that an acid chloride should be construed as a substance in which one or more hydroxyl (-OH) groups of an acid is replaced by chlorine, Staff disagrees with Complainants as to the application of the definition. According to Staff, when the ordinary meaning of the claim is read within the context of the claim, specification, and prosecution history, it is clear that the acid chloride must be capable of reacting with the tertiary amide to form a chloroformiminium chloride salt. Specifically, Staff asserts that the acid chloride must be different from the claimed chloroformiminium chloride salt.<sup>203</sup>

Respondents assert that they agree that the acid chlorides listed in the specification is a non-exclusive list. Respondents argues, however, that the claim does not cover every possible acid chloride that can exist and should be limited to acid chlorides that react with a tertiary amide to form a chloroformiminium chloride salt. According to Respondents, the patent specifically defines an acid chloride as something that is different from a chloroformiminium chloride salt.<sup>204</sup>

The undersigned finds there is no dispute between the parties regarding the ordinary meaning of the term "acid chloride."<sup>205</sup> As to the issue of whether the acid chloride must be different from the chloroformiminium chloride salt, that issue will be addressed separately below.

---

<sup>202</sup> CIB 42-43.

<sup>203</sup> SIB 38; SRB 4-5.

<sup>204</sup> RRB 9 citing JX-1 (the '463 patent) at col. 2:30-37; 4:8-14.

<sup>205</sup> CX-621C-R (Crich Direct Redacted) at Q. 155; Hanessian, Tr. 1599; RX-828C (Fraser-Reid Rebuttal) at Q. 23.

Accordingly, the undersigned construes the term “acid chloride” as a substance in which one or more hydroxyl (-OH) groups of an acid is replaced by chlorine.

**(4) “sucrose-6-ester”**

Complainants assert that the claim term “sucrose-6-ester” should be construed by its ordinary meaning, which is that it is a mono-ester, or has a single ester group on the 6-position.<sup>206</sup> In support, Complainants cite to Figure 3 in the ‘463 patent.<sup>207</sup> According to Complainants, a sucrose-6-ester does not include a sucrose-penta-ester, which has five ester groups.<sup>208</sup> Respondents agree with Complainants’ construction of sucrose-6-ester.<sup>209</sup> Staff agrees with the private parties that a sucrose-6-ester is a mono-ester of the sucrose molecule where the ester group is on the 6 position, which does not include a sucrose-penta-ester.<sup>210</sup>

As there appears to be no dispute regarding this claim term, “sucrose-6-ester” is construed as a mono-ester of the sucrose molecule where the ester group is on the 6 position, which does not include a sucrose-penta-ester.

**(5) “tertiary amide”**

Complainants assert that the claim term “tertiary amide” should be construed by its ordinary meaning which is not in dispute. For example, the ‘463 patent identifies a number of tertiary amides,

---

<sup>206</sup> CIB 44.

<sup>207</sup> CIB 44 citing JX-1 (the ‘463 patent) at Fig. 3; col. 5:10-11.

<sup>208</sup> CIB 44 citing CFF 5.B.61-5.B.-64; CX-621C-R (Crich Direct Redacted) at Q. 166.

<sup>209</sup> RRB 11. Respondents refer to the following definition provided by Complainants “[t]he ‘463 Patent defines a ‘sucrose-6-ester’ as a sucrose molecule in which the seven positions other than the 6-position remain hydroxyl groups.”

<sup>210</sup> SIB 44.

including DMF, which is preferred.<sup>211</sup> Neither Respondents nor Staff address this claim limitation or dispute this construction.

As there appears to be no dispute regarding this claim term, "tertiary amide" is hereby construed by its ordinary meaning.

**(6) "to form a chloroformiminium chloride salt in the presence of said sucrose-6-ester"**

Complainants assert that the claim term "to form a chloroformiminium chloride salt in the presence of said sucrose-6-ester" should not be construed to require that the chloroformiminium chloride salt be formed via a direct reaction sequence between the tertiary amide and the acid chloride.<sup>212</sup> Respondents assert that the acid chloride must react with the tertiary amide to form a chloroformiminium chloride salt in the presence of a sucrose-6-ester.<sup>213</sup> Staff agrees with Respondents that the acid chloride must react with the tertiary amide in the presence of the sucrose-6-ester to form a chloroformiminium chloride salt.<sup>214</sup>

According to Complainants, there is nothing in the language that requires that the chloroformiminium chloride salt be formed via a particular reaction sequence. In fact, Complainants assert that in Example 13 the chloroformiminium chloride salt is formed indirectly via the decomposition of the thionyl chloride/DMF adduct.<sup>215</sup>

Respondents assert that the claim language clearly states that the acid chloride must react with a tertiary amide to form a chloroformiminium chloride salt, as shown as structure 2 of Fig. 2

---

<sup>211</sup> CIB 45 citing JX-1 (the '463 patent) at col. 5:53-55.

<sup>212</sup> CIB 45; CRB 13-14.

<sup>213</sup> RIB 26.

<sup>214</sup> SIB 40.

<sup>215</sup> CIB 48-49 citing CFF 5.E.446; CRB 14.



The requirement that the acid chloride must react with the tertiary amide in the presence of the sucrose-6-ester to form a chloroformiminium chloride salt is further supported by the specification.<sup>221</sup>

In addition, the undersigned agrees that any broader interpretation was specifically disclaimed during prosecution in order to overcome prior art.<sup>222</sup>

Accordingly, the undersigned construes the term “to form a chloroformiminium chloride salt in the presence of said sucrose-6-ester” to require the acid chloride to react with the tertiary amide in the presence of the sucrose-6-ester to form a chloroformiminium chloride salt.

**(7) “whereby the chloroformiminium salt forms an O-alkylformiminium chloride adduct with the hydroxyl groups of the sucrose-6-ester”**

Complainants assert that the claim term “whereby the chloroformiminium salt forms an O-alkylformiminium chloride adduct with the hydroxyl groups of the sucrose-6-ester” should be construed as not requiring the formation of O-alkylformiminium chloride adducts on all seven of the available hydroxyl groups of the sucrose-6-ester.<sup>223</sup> Staff agrees with Complainants that adducts do not necessarily have to be formed with all seven hydroxyl groups.<sup>224</sup> Respondents assert that the claim should be construed to require the chloroformiminium chloride salt to subsequently form an O-alkylformiminium chloride adduct with all of the hydroxyl groups of the sucrose-6-ester.<sup>225</sup>

Complainants assert that the claim language itself does not require “all” of the seven hydroxyl groups to form O-alkylformiminium chloride via the reaction with the chloroformiminium chloride salt. Complainants assert that Respondents’ experts agreed that this step does not require

---

<sup>221</sup> See JX-1 (the ‘463 patent) at col. 4:40-50; 5:31-34.

<sup>222</sup> See JX-6 (the ‘463 prosecution history) at 320.

<sup>223</sup> CIB 45; CRB 14-16.

<sup>224</sup> SIB 44-45; SRB 6-7.

<sup>225</sup> RIB 27-28; RRB 13-14.

that all seven hydroxyl groups be converted into O-alkylformiminium chloride adducts.<sup>226</sup> Complainants also counter Respondents arguments regarding dependent claim 8, because that claim refers to step (c) of claim 1, rather than step (a) of claim 1.<sup>227</sup>

Respondents assert that the claim refers to “the hydroxyl groups” and therefore, that it must be referring to all of the hydroxyl groups on the sucrose-6-ester. Furthermore, Respondents asserts that the use of the word “the” before “hydroxyl groups” is a definite article that, in claim drafting, refers to an element previously referred to in the claim.<sup>228</sup> Respondents cite to the specification as support.<sup>229</sup> Respondents further refer to testimony from Complainants’ employees that in Complainants’ manufacturing process, all seven hydroxyl groups form adducts.<sup>230</sup> Respondents also argue that dependent claims 7-9 and 22-24 support their position because the dependent claims can be no broader than the claim from which they depend.<sup>231</sup> Respondents counter Complainants’ citation to Respondents’ experts testimony as misleading.<sup>232</sup>

While Staff agrees with Respondents that the definite article of the phrase “the hydroxyl groups” implicitly find an antecedent basis in the seven free hydroxyl groups that are inherent to the sucrose-6-ester, Staff does not agree that it necessarily follows that the formation of the O-alkylformiminium chlorine adduct must be with all seven of the free hydroxyl groups.<sup>233</sup> In support,

---

<sup>226</sup> CIB 45-46 citing CFF 5.B.94-97; 5.B.102-103; Baker, Tr. 1458-60; Hanessian, Tr. 1585-89; CRB 16.

<sup>227</sup> CIB 47 citing CFF 5.B.104-105; CRB 16-17.

<sup>228</sup> RIB 28.

<sup>229</sup> RIB 29.

<sup>230</sup> RIB 30-31; RRB 14.

<sup>231</sup> RIB 31-32.

<sup>232</sup> RRB 13-14.

<sup>233</sup> SIB 45-46 citing *Baldwin Graphic Sys. v. Siebert, Inc.*, 512 F.3d 1338, 1342-43 (Fed. Cir. 2008) (“*Baldwin Graphic*”).

Staff cites to Respondents' experts who testify that adducts only need to be formed with three of the hydroxyl groups in order to carry out the claimed process.<sup>234</sup>

The undersigned finds Complainants' and Staff's arguments to be persuasive. The use of the word "the" before "hydroxyl groups" does not, by itself, require that all seven of the hydroxyl groups form adducts.<sup>235</sup> As there is nothing in the claim language itself, or the specification or the prosecution history that indicates that the inventors intended adducts be formed on all seven hydroxyl groups, Respondents' arguments are rejected.

Accordingly, the undersigned construes the term "whereby the chloroformiminium salt forms an O-alkylformiminium chloride adduct with the hydroxyl groups of the sucrose-6-ester" as not

---

<sup>234</sup> SIB 46-47 citing Baker, Tr. 1457; Hanessian, Tr. 1583.

<sup>235</sup> See *Baldwin Graphics, supra* ("[t]his court has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.'" *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000). That "a" or "an" can mean "one or more" is best described as a rule, rather than merely as a presumption or even a convention. The exceptions to this rule are extremely limited: a patentee must "evinced[] a clear intent" to limit "a" or "an" to "one." *Id.* The subsequent use of definite articles "the" or "said" in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning. An exception to the general rule that "a" or "an" means more than one only arises where the language of the claims themselves, the specification, or the prosecution history necessitate a departure from the rule. See, e.g., *Abtox Inc. v. Exitron Corp.*, 122 F.3d 1019 (Fed. Cir. 1997); *Insituform Techs., Inc. v. Cat Contracting, Inc.*, 99 F.3d 1098 (Fed. Cir. 1996).

This record does not contain a clear indication that the applicant departed from the general rule for the article "a." Nothing in the claim language, specification, or prosecution history compels an exceptional reading of "a" in this case. The district court erred by misapplying the term "said fabric roll" later in the claim and the phrase "in intimate contact with the fabric roll" in the specification. Initial Order, 2005 U.S. Dist. LEXIS 15527, at \*14. As noted above, the use of a definite article ("said" or "the") to refer back to an initial indefinite article does not implicate, let alone mandate the singular. Because the initial indefinite article ("a") carries either a singular or plural meaning, any later reference to that same claim element merely reflects the same potential plurality. In grammatical terms, the instances of "said fabric roll" in the claim are anaphoric phrases, referring to the initial antecedent phrase. Because the initial phrase carries no definitive numerosity, the anaphoric phrases do not alter that meaning in the slightest.")

requiring the formation of O-alkylformiminium chloride adducts on all seven of the available hydroxyl groups of the sucrose-6-ester.

**b. Step (b)**

**(1) “subjecting the reaction mixture product of step (a) to an elevated temperature not higher than about 85°C”**

Complainants assert that the claim term “subjecting the reaction mixture product of step (a) to an elevated temperature not higher than about 85°C” in step (b) should not be construed as requiring a discrete heating step that is separate and distinct from the heating in step (c).<sup>236</sup> Staff agrees with Complainants that the claim language does not inherently require the heating in step (b) to “plateau” or be “held” at one particular temperature below 85°C for a period of time.<sup>237</sup> Respondents assert that step (b) of claim 1 is a discrete, separate, and distinct step from the heating performed in step (c) of claim 1.<sup>238</sup>

Complainants assert that there is nothing in the claim language itself that requires the heating in step (b) to be separate and distinct from that of step (c). According to Complainants, adopting Respondents’ claim construction would exclude the preferred embodiment, along with multiple examples in the ‘463 patent, which all utilize a gradient heating profile without any plateaus or hold times.<sup>239</sup> Complainants also assert that the prosecution history does not disclaim a gradient heating profile.<sup>240</sup> According to Complainants, Respondents are relying on a misinterpretation of the inventors’ argument to the examiner on “stepped heating” to distinguish the prior art. Complainants

---

<sup>236</sup> CIB 49.

<sup>237</sup> SIB 50; SRB 7-8.

<sup>238</sup> RIB 33.

<sup>239</sup> CIB 49-50 citing CFF 5.B.153-58, 5.B.160-61; CRB 19.

<sup>240</sup> CIB 51-52.

assert that the inventors were merely pointing out that chlorination is carried out in distinct phases at different temperatures, therefore referring to incremental chlorination, not incremental heating step.<sup>241</sup>

Respondents assert that step (b) includes three parts: (1) that step (b) must result in a mixture of three separate and distinct chlorinated sucrose-6-ester products, including a monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester; (2) that step (b) is a discrete, separate and distinct step from the heating performed in step (c); and (3) that at the end of step (b), substantially all of the sucrose-6-ester has been converted to monochloro-sucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-esters, where little or no trichlorination or higher levels of chlorination have occurred.<sup>242</sup>

According to Respondents, a central focus of the invention is that the chlorination reaction proceeds in two separate, discrete heating steps where the temperature is maintained for a period of time at or below 85°C to produce the claimed mixture of chlorinated intermediates. Respondents assert that the patent discloses: (1) a reaction mixture is heated at a temperature of not higher than 85°C and is maintained at this temperature for a period of time sufficient to produce a mixture of chlorinated sucrose-6-ester product [step (b)]; and (2) after the chlorinated products are formed, the mixture is heated to a higher temperature of about 100-130°C [step (c)].<sup>243</sup> In support, Respondents cite to the specification which refers to an “incremental” chlorination approach.<sup>244</sup> Furthermore, Respondents argue that during prosecution, the inventors argued that the prior art did not teach a

---

<sup>241</sup> CRB 19-20 citing CFF 5.B.185-189.

<sup>242</sup> RIB 33-34.

<sup>243</sup> RIB 34-35 citing JX-1 (the '463 patent) at col. 22: 32-35, 39-43; RRB 15.

<sup>244</sup> RIB 35 citing JX-1 (the '463 patent) at col. 4:55-59.

method where the reaction is carried out in phases at increasing temperatures, thereby distinguishing the prior art.<sup>245</sup> Respondents' counter Complainants' argument as to this claim construction not covering certain embodiments because claims need be interpreted to encompass every single example in a patent.<sup>246</sup>

Staff asserts that the indefinite article "an," which refers to "elevated temperature" in this claim term, is properly interpreted to mean "one or more temperatures" that fall within the claimed range.<sup>247</sup> Therefore, Staff asserts that subjecting the reaction mixture to "an elevated temperature" can refer to a continuous range of temperatures through a ramped heating process. According to Staff, the only requirement is that the heating must be controlled at an appropriate rate to produce the required mixture of chlorinated sucrose-6-ester products before the temperature reaches 85°C.<sup>248</sup> Staff cites to the specification in support. Furthermore, Staff asserts that the comments made during prosecution do not constitute a clear disclaimer of a ramped heating process.<sup>249</sup>

The undersigned finds Complainants' and Staff's arguments to be persuasive. While the claim is written into two steps, there is nothing in the claim language itself that requires the heating in step (b) to be separate and distinct from that of step (c). The preferred embodiment of the '463 patent describes the heating profile using a temperature gradient and further states that there are no particular advantages in using discrete incremental heating steps.<sup>250</sup> If the undersigned were to adopt Respondents' claim construction, it would exclude the preferred embodiment which is rarely, if ever

---

<sup>245</sup> RIB 35-36 citing JX-6 (the '463 prosecution history) at 321.

<sup>246</sup> RIB 37 citing *Sinorgchem Co. v. U.S. Int'l Trade Comm'n*, 511 F.3d 1132, 1138 (Fed. Cir. 2007) ("*Sinorgchem*"); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1327 (Fed. Cir. 2002) ("*Rheox*").

<sup>247</sup> SIB 50 citing *Baldwin Graphics, supra*; *KCJ*, 223 F.3d at 1356.

<sup>248</sup> SIB 50.

<sup>249</sup> SIB 51-52.

<sup>250</sup> JX-1 (the '464 patent) at col. 7:9-17.

correct.<sup>251</sup> Furthermore, the undersigned finds that the inventors did not make a clear disclaimer of a ramped heating process in order to overcome prior art because patentability was asserted based on the production of mono- and dichlorosucrose-6-esters at a lower temperature before trichlorination occurs.<sup>252</sup>

Accordingly, the undersigned construes the term “subjecting the reaction mixture product of step (a) to an elevated temperature not higher than about 85 °C” as not requiring a discrete heating step that is separate and distinct from the heating in step (c).<sup>253</sup>

**(2) “a mixture of chlorinated sucrose-6-ester products consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester”**

Complainants assert that the claim term “a mixture of chlorinated sucrose-6-ester products consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester” should be construed as a mixture of monochlorinated sucrose-6-esters, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester, where little or no trichlorination or higher chlorination has occurred.<sup>254</sup> Respondents appear to agree with this construction, but emphasize that at the end of step (b), the claim requires substantially all of the sucrose-6-ester to have been converted to mono- and dichlorosucrose-6-esters where little or no further chlorination has occurred.<sup>255</sup> Staff agrees with Respondents that the claim requires substantially all of the sucrose-6-

---

<sup>251</sup> *Vitronics*, 90 F.3d at 1583-34.

<sup>252</sup> See JX-6 (the '463 prosecution history) at 321.

<sup>253</sup> Staff also addresses the claim construction of “about 85 °C.” According to Staff, this should be construed to mean 85±5 °C. SIB 54. As none of the private parties addressed this claim limitation, the undersigned adopts Staff’s claim construction for “about 85 °C.”

<sup>254</sup> CIB 52-53.

<sup>255</sup> RIB 37-38.

ester initially present in the reaction mixture of step (a) to be converted into a chlorinated sucrose-6-ester product in step (b).<sup>256</sup>

Complainants assert that Respondents' and Staff's claim construction misses a fundamental aspect of the '463 patent. According to Complainants, formation of chloroformiminium salt according to the '463 process provided a commercially practical means for achieving the milder chlorination conditions that enabled a phased chlorination through mono- and dichlorinated species, followed by controlled heating to achieve the trichlorinated species, while minimizing over-chlorination that generates undesirable tetrachlorinated by-products. Complainants assert that Respondents' and Staff's construction is not realistic because one of ordinary skill in the art would recognize that other products are formed.<sup>257</sup> In support, Complainants cite to various yields percentages in the patent, none of which come close to 100%.<sup>258</sup>

Respondents assert that the claim language is clear, which requires substantially all of the sucrose-6-ester at the end of step (b) to be converted to mono- and dichlorosucrose-6-esters, where little or no further chlorination has occurred. According to Respondents, if Dr. Crich's interpretation were adopted, the claim would be satisfied if only 0.1% of the sucrose-6-acetate had chlorinated below 85°C, which would be nonsensical.<sup>259</sup> Furthermore, Respondents assert that each of the three compounds formed must be detected and that the existence of a few molecules of these compounds does not satisfy the claim limitation.<sup>260</sup>

---

<sup>256</sup> SIB 55.

<sup>257</sup> CRB 21.

<sup>258</sup> CRB 21-22 citing JX-1 (the '463 patent) at col. 10:48-53, 14:60, 18:52.

<sup>259</sup> RIB 38 citing Crich, Tr. 1013-15.

<sup>260</sup> RIB 34; RRB 16.

Staff asserts that Figures 4 and 5 of the patent support its construction requiring substantially all of the sucrose-6-ester to be converted to mono- and dichlorosucrose-6-ester at the end of the first heating step.<sup>261</sup> Furthermore, Staff asserts that sequential chlorination is one of the allegedly novel features of the invention, which the inventors discussed during prosecution in order to overcome prior art.<sup>262</sup> As to Respondents' argument that the three compounds must be detected, Staff disagrees with Respondents that there must be commercially significant amounts of the claimed compound.<sup>263</sup>

Complainants also counter Respondents' new "detectable" limitation. According to Complainants, Respondents arguments should be rejected because they were not raised in the pre-trial brief, in violation of Ground Rule 8.2.<sup>264</sup>

The undersigned finds Respondents' and Staff's arguments in regard to the "substantially all" limitation to be persuasive. The use of the word "consisting essentially of" suggests that the inventors intended to include the listed ingredients, but could also include unlisted ingredients that do not materially affect the basic and novel properties of the invention.<sup>265</sup> The presence of unreacted sucrose-6-ester at the end of step (b) would affect the basic and novel characteristics of the claimed invention, which is to increase product purity and yield through sequential chlorination.<sup>266</sup> The undersigned rejects, however, Respondents' argument that the claim requires a "detectable" amount of chlorinated products to be present because this issue was not clearly raised in Respondents'

---

<sup>261</sup> SIB 57 citing JX-1 (the '463 patent) at Figs. 4, 5; col. 16:30-68.

<sup>262</sup> SIB 57-58 citing JX-6 (the '463 prosecution history) at 6/12/90 Office Action Response at 4.

<sup>263</sup> SRB 8-9 citing *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1335 (Fed. Cir. 2005) ("SKB").

<sup>264</sup> CRB 17-18.

<sup>265</sup> See *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1354 (Fed. Cir. 1998) ("*PPG Industries IP*").

<sup>266</sup> CX-621C (Crich Direct) at Q. 193; JX-1 (the '463 patent) at col. 2:16-3:3, 16:30-68.

pretrial briefs. Accordingly, the undersigned construes the term, “a mixture of chlorinated sucrose-6-ester products consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester” as requiring substantially all of the sucrose-6-ester to be converted into a mixture of monochlorinated sucrose-6-esters, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester, where little or no trichlorination or higher chlorination has occurred.

- c. **Step (c): “subjecting the reaction mixture product of step (b) to an elevated temperature of at least about 100°C but not higher than about 130°C for a period of time sufficient to produce a chlorinated product comprising predominantly 1',4,6'-trichlorosucrose-6-ester”**

Complainants assert that the claim term “subjecting the reaction mixture product of step (b) to an elevated temperature of at least about 100°C but not higher than about 130°C for a period of time sufficient to produce a chlorinated product comprising predominantly 1',4,6'-trichlorosucrose-6-ester” should be construed by its ordinary meaning. Specifically, Complainants assert that the major or most predominant chlorinated sucrose-6-ester product at the end of step (c) must be 1',4,6'-trichlorosucrose-6-ester.<sup>267</sup> Staff agrees with Complainants that the term “predominantly” should be given its ordinary meaning, which only requires the trichlorosucrose-6-ester to be present in an amount that is greater than any other chlorinated sucrose-6-ester.<sup>268</sup> Staff also asserts that “chlorinated product” should be construed as referring to chlorinated sucrose-6-ester that is made according to the claimed process.<sup>269</sup> While Respondents also assert that this claim term should be construed by its ordinary meaning, Respondents assert that predominately means more than 50%.<sup>270</sup>

---

<sup>267</sup> CIB 53.

<sup>268</sup> SIB 58.

<sup>269</sup> SIB 58-59.

<sup>270</sup> RIB 38-39.

Complainants assert that Respondents are attempting to import a numerical value requirement into the ordinary meaning of the term predominant. Complainants cite to the following dictionary definition of “predominant”: “most common or conspicuous; main or prevalent.”<sup>271</sup> Therefore, Complainants assert that the claim only requires that trichlorosucrose-6-ester be present in an amount that is greater than any other chlorinated sucrose-6-ester in the reaction mixture. As to Respondents’ argument that a “chlorinated product” may include products other than chlorinated sucrose-6-esters, Complainants note that step (c) begins with the “reaction mixture product of step (b),” which is the chlorinated sucrose-6-ester products produced at the end of step (b).<sup>272</sup>

Respondents assert that, under Complainants’ construction, trichlorinated sucrose-6-esters need not be the predominant product of step (c) as long as they are the predominant chlorinated sucrose-6-ester product present at the end of step (c). According to Respondents, this is a “results-oriented construction” that is contrary to the plain language of the claim which requires a chlorinated product comprising predominantly 1',4,6'-trichlorosucrose-6-ester. Respondents argue that the term “chlorinated product” is broader than “chlorinated sucrose-6-ester.”<sup>273</sup>

The undersigned finds Complainants’ and Staff’s arguments to be persuasive and agrees that the ordinary meaning of the word “predominantly” does not mean more than 50%, especially when there is a mixture of three products. Rather, predominantly simply means “main or prevalent.” In addition, while the undersigned agrees that the term “chlorinated product” is broader than “chlorinated sucrose-6-ester,” the starting point in step (c) come from step (b), which are the chlorinated sucrose-6-ester products produced at the end of step (b).

---

<sup>271</sup> CRB 22-23 citing CFF 5.B.231.

<sup>272</sup> CRB 23 citing CFF 5.B.225.

<sup>273</sup> RIB 38-39; RRB 16-18.

Accordingly, the claim term “subjecting the reaction mixture product of step (b) to an elevated temperature of at least about 100°C but not higher than about 130°C for a period of time sufficient to produce a chlorinated product comprising predominantly 1',4,6'-trichlorosucrose-6-ester,” is hereby construed as requiring 1',4,6'-trichlorosucrose-6-ester to be the most predominant chlorinated sucrose-6-ester product at the end of step (c).

**B. Infringement**

**1. GDFII**

Complainants assert that GDFII’s process is described in CX-47C, CX-48C, CDX 1.23 and CDX 1.24 as follows: the chlorination process begins by [

]; the solution is then [

]; the contents in the [

]; the mixture is [

] and then transferred to [ ] in the [

], the solution is [

] to complete the chlorination reaction; and, afterwards, [

].<sup>274</sup>

GDFII does not appear to dispute the actual steps in its chlorination process, but disputes Complainants’ characterization of certain steps, along with Complainants’ infringement allegations, which are set forth in more detail below.<sup>275</sup>

---

<sup>274</sup> CIB 56 citing CFF 5.C.12-51, 70-98.

<sup>275</sup> RIB 62.

Staff asserts that Complainants have not established, by a preponderance of the evidence, that any of the participating Respondents infringe the '463 patent either literally or under the doctrine of equivalents. Specifically, Staff asserts that, under its claim construction, the evidence does not support a finding that each of the Respondents utilize a process for manufacturing sucralose that satisfies the following limitations: (1) step (a) of claim 1's requirement to form a chloroformiminium chloride salt by the reaction of an acid chloride with a tertiary amide in the presence of sucrose-6-ester, and (2) step (b) of claim 1's requirement to produce 1',6'-dichlorosucrose-6-ester by subjecting the reaction mixture to a temperature below 85°C.<sup>276</sup>

Staff asserts that the evidence is insufficient to establish that a chloroformiminium chloride salt is formed in the manner required by step (a) of claim 1 by GDFII, Changzhou Niutang, and JK Sucralose because [

]<sup>277</sup>

Staff also asserts that the evidence is insufficient to establish that [

] can even

be formed in the manner required by the '463 patent under any parties' claim construction.<sup>278</sup>

---

<sup>276</sup> SIB 60.

<sup>277</sup> SIB 61; SRB 10.

<sup>278</sup> SIB 61-62.

**a. Claim 1**

**(1) Step (a)**

Complainants assert that there is no dispute that [

] According to Complainants, the

[ ] if construed by its ordinary meaning.<sup>279</sup>

Complainants assert that the remaining limitations of step (a) are also met because: (1)

] and (2) that upon [

] which is part of the [

] <sup>280</sup>

Complainants counter Respondents' argument that a chloroformiminium chloride salt is formed [ ] because Changzhou Niutang filed a Chinese patent application

in 2003 that stated that a chloroformiminium chloride salt will be formed under these conditions.<sup>281</sup>

Complainants also counter Respondents' alternative argument that [even if some chloroformiminium chloride salt is formed [ ]], it will not react to form O-alkylformiminium

chloride adducts, because it would require placing seven positive charges on the sucrose-6-ester molecule [ ] Furthermore, Complainants counter Respondents' argument

that [the chloroformiminium chloride salt is not formed in a direct reaction between [ ]]

---

<sup>279</sup> CIB 57-58; CRB 31-32.

<sup>280</sup> CIB 58-59.

<sup>281</sup> CIB 60-61 citing CX-81 (Chinese patent 200310106025.1).

[ ] because the '463 patent does not require a "direct reaction."<sup>282</sup>

GDFII asserts that its process does not meet this claim limitation because [

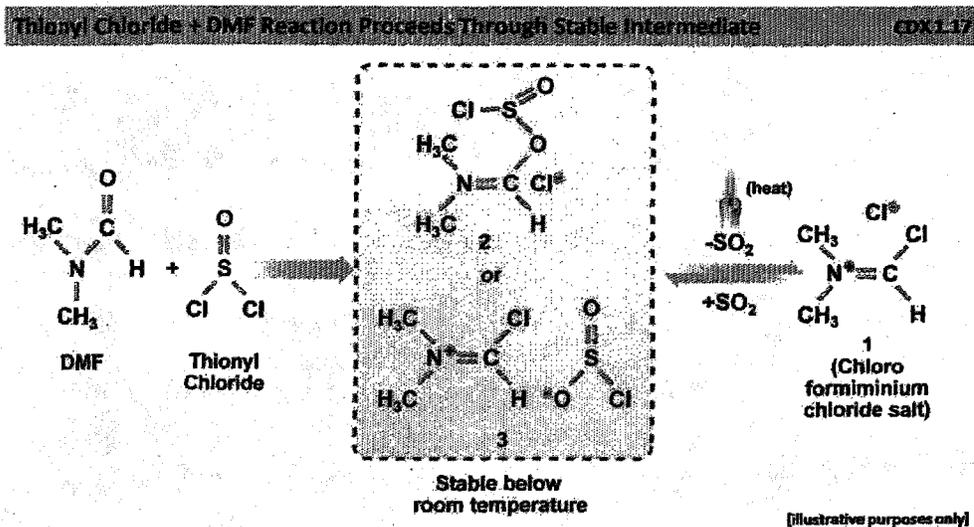
] GDFII also asserts that its process does not meet this claim limitation because its process does not involve the formation of a chloroformiminium chloride salt, let alone in the presence of a sucrose-6-ester, because [

]<sup>283</sup>

Staff asserts that there is no dispute that [

], which can be one of two possible structures depicted in

CDX-1.17:



<sup>282</sup> CIB 62-63; CRB 32-33.

<sup>283</sup> RIB 63-65; RRB 23-27.

Staff asserts that the issues which remain in dispute are: (1) whether [

] can be considered an “acid chloride,” (2) whether [

] forms a chloroformiminium chloride salt in the presence of sucrose-6-ester, and (3) whether the chloroformiminium chloride salt forms an O-alkylformiminium chloride adduct with each of the seven hydroxyl groups of the sucrose-6-ester.

As to whether the [ ] is considered an “acid chloride,” Staff asserts that it depends on whether the [ ] is like structure 2 or structure 3 of CDX

1.17. According to Staff, if [ ] is like structure 2, it infringes, but if [ ] is like structure 3, it doesn’t infringe because that structure is a chloroformiminium chloride salt and the claim requires the chloroformiminium chloride salt and the acid chloride to be two different materials. Although Staff asserts that there is no evidence as to which of these two structures is actually formed in Respondents’ [ ] Staff appears to agree with Complainants that this limitation is met.<sup>284</sup>

As to whether the [ ] forms a chloroformiminium chloride salt in the presence of sucrose-6-ester, Staff asserts that the evidence does not show that [ ] is capable for further reacting with [ ], or with any other tertiary amide that may be present in the reaction mixture containing sucrose-6-ester to form a chloroformiminium chloride salt as required in step (a). According to Staff, Complainants have presented no test data to show the formulation of chloroformiminium chloride salt in any of Respondents’ in-process samples. Rather, Staff asserts that Complainants merely rely upon Dr. Crich’s conclusory theories about the [ ]

While Staff agrees with Complainants that there is some support for Dr. Crich’s theories, Staff

---

<sup>284</sup> SIB 65-67; SRB 10-11.

asserts that even if chloroformiminium chloride salt is inherently formed in Respondents' chlorination process, then Dr. Crich's testimony is insufficient because he never testified that [

] undergoes further reaction with [ ] in the presence of sucrose-6-ester. Rather, Staff asserts that Dr. Crich merely stated that [ ] decomposes into the chloroformiminium chloride salt. Therefore, Staff asserts that the claim limitation is not met because the claim requires a direct reaction of an acid chloride with a tertiary amide and that the decomposition of an intermediate is not sufficient.<sup>285</sup>

Staff also submits that, with respect to [

] <sup>286</sup>

As to whether the chloroformiminium chloride salt forms an O-alkylformiminium chloride adduct with each of the seven hydroxyl groups of the sucrose-6-ester, Staff asserts that, under proper claim construction, the claim does not require the formation of O-alkylformiminium chloride adducts with each of the seven hydroxyl groups of the sucrose-6-ester.<sup>287</sup> Based on the evidence, Staff asserts that the evidence shows that [

] <sup>288</sup>

---

<sup>285</sup> SIB 67-72; SRB 11.

<sup>286</sup> SIB 72-73.

<sup>287</sup> SIB 74-75.

<sup>288</sup> SIB 76-77; SRB 11-12.

Staff agrees that there does not appear to be any dispute that [

] Therefore, Staff asserts that this claim limitation is satisfied by all four manufacturing Respondents.<sup>289</sup>

**(2) Step (b)**

Complainants assert that under its claim construction of step (b), which does not require a temperature “plateau,” that there is no dispute that GDFII subjects the mixture to a temperature [

] Therefore, Complainants assert that the only issue is whether GDFII’s reaction mixture satisfies the “consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester.” Complainants assert that based on the literature, a mixture of dichlorinated sucrose-6-ester products results below 85°C would include 4,6'-dichlorosucrose-6-ester, and a lesser amount of 1',6'-dichlorosucrose-6-ester.<sup>290</sup> Complainants assert that this is supported by the analytical data.<sup>291</sup>

Specifically, Complainants assert that the chemical reactions at issue here are governed by “rate constants,” which reflect how fast each reaction occurs at a given temperature. According to Complainants, at any given temperature, the molecules in solution have various energies, which are distributed according to the Maxwell-Boltzmann distribution.<sup>292</sup> Complainants assert that it is undisputed that the rate of a reaction doubles for every 10 degrees of increase in the temperature of the solution, whereas a 10 degree decrease in the temperature of the solution results in the reaction

---

<sup>289</sup> SIB 77.

<sup>290</sup> CIB 63 citing CFF 5.C.248-541; CRB 33-34.

<sup>291</sup> CIB 63-64 citing CFF 5.C.303-435.

<sup>292</sup> See SX-7 (The Activation Energy of Chemical Reactions).

rate dropping by approximately half. Based on “real-world” evidence, Complainants assert that this correlates almost perfectly, citing to Hebei Sukerui’s chlorination process, as well as Complainants own process.<sup>293</sup> Based on the above, Complainants assert that it is a “matter of *scientific certainty* that some 1',6'-dichlorosucrose-6-ester will form below 85°C . . . in *all* of Respondents’ processes.”<sup>294</sup>

GDFII asserts that it does not meet this claim limitation because there is no evidence that its manufacturing process produces the mixture of three separate chlorinated species below 85°C, and in particular the presence of 1',6'-dichlorosucrose-6-ester.<sup>295</sup>

Staff agrees with Complainants that, under proper claim interpretation, step (b) does not require a stepped heating process. According to Staff, the evidence shows that all four manufacturing Respondents’ processes [

] thereby meeting

this claim limitation.<sup>296</sup>

Staff agrees with Respondents that the evidence does not show that any of the four manufacturing Respondents’ processes meet step (b)’s requirement that the three separate chlorinated sucrose-6-ester products (*i.e.* monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester) be produced when the reaction mixture is subjected to an elevated temperature below 85°C. Staff argues that Complainants’ evidence, namely high performance liquid chromatography (“HPLC”) conducted by Ciba Specialty Chemicals (“Ciba”) on samples obtained

---

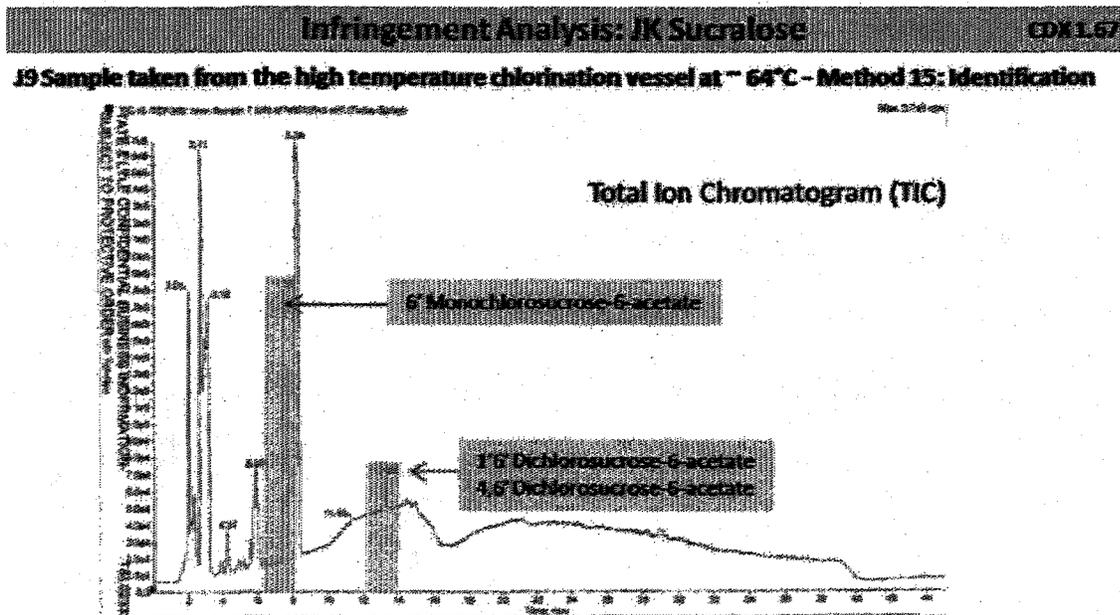
<sup>293</sup> CIB 64-65 citing CFF 5.C.1161-84, 5.C.1213-34.

<sup>294</sup> CIB 66 (emphasis in original).

<sup>295</sup> RIB 66-67; RRB 27-31.

<sup>296</sup> SIB 78.

from Changzhou Niutang's and JK Sucralose's chlorination vessels when the reaction temperature was below 85° during the plant inspections, does not establish that 1',6'-dichlorosucrose-6-ester is produced in any of the four manufacturing Respondents' processes.<sup>297</sup> Staff asserts Ciba's testing methods were flawed because the HPLC/mass spectrometry tests only show peaks that are attributable to monochlorosucrose-6-esters and dichlorosucrose-6-ester, with no separate test results separating 1',6'-dichlorosucrose-6-ester from 4,6'-dichlorosucrose-6-ester.<sup>298</sup> Instead, Complainants rely on a single peak in Changzhou Niutang's and JK Sucralose's sample to show the presence of both dichlorosucrose-6-esters:



Respondents' expert, Mr. St. Laurent, testified that Dr. Crich's analysis was flawed because he did not connect any particular test methods to the data relied upon, and that there is no evidence to show

<sup>297</sup> SIB 78-79 citing CX-618C (Hand Direct).

<sup>298</sup> SIB 79-81.

that appropriate steps were taken to determine the reliability of the experimental data. According to the testimony of Dr. Hand, Staff asserts that Ciba's methodology was flawed because Ciba followed Complainants' specifications without independently determining the optimal parameters. For example, Dr. Hand testified that when Ciba "ran our standards and did the method development, we got most of the compounds separated, except for the two dichloroacetates."<sup>299</sup> Therefore, Staff asserts that the impartiality and reliability of the tests results is questionable, especially, since one of the critical factual disputes is whether there are two separate dichloro-sucrose-6-esters present in Respondents' samples. According to Mr. St. Laurent, while it could have been possible to separate these two isomers by varying the HPLC column conditions, there is no evidence that Ciba attempted to do so. Staff asserts that the fact that Ciba was unable to obtain separate peaks suggests that the two dichlorosucrose-6-esters were not present in Respondents' samples. In addition, Staff asserts that another reason Ciba's test are unreliable is that Ciba did not run an authentic standard on the HPLC chromatogram. Instead, Ciba used the standard provided by Complainants, and the standard provided by Complainants was a mixed standard that contained all three of the chlorinated sucrose-6-ester products.<sup>300</sup>

Staff disagrees with Complainants' argument that 1',6'-dichlorosucrose-6-ester will necessarily form below 85°C as a matter of "fundamental kinetics theory." While there is no genuine dispute that 4,6'-dichlorosucrose-6-ester is produced in Respondents' chlorination processes, there is a sharp dispute as to whether 1',6'-dichlorosucrose-6-ester is formed below 85°C. According to the '463 patent, there is a particular order in which chlorination of the free hydroxyl groups of the

---

<sup>299</sup> SIB 80 citing Hand, Tr. 1288-89.

<sup>300</sup> SIB 81-82 citing Hand, Tr. 1279-85; SRB 16.

sucrose-6-ester will occur, where the 6' position would be the most likely chlorinated, followed by the 4 position, and then the 1' position.<sup>301</sup> Staff asserts that Dr. Crich's reliance on the Khan, Jenner and Mufti article is unconvincing.<sup>302</sup> Furthermore, Staff asserts that it is not aware of any scientific literature that discusses the chlorination of the 1' position before the 4 position for any sucrose derivative under any reaction conditions. Staff argues that under the standards in *Daubert*, Dr. Crich's testimony is unreliable.<sup>303</sup>

Staff also disagrees with Complainants' arguments regarding activation energies and asserts that Complainants are misapplying the Maxwell-Boltzmann distribution.<sup>304</sup>

### (3) Step (c)

Complainants assert that it is undisputed that GDFII's chlorination process subjects the reaction mixture to a temperature [ ] and that the result is a chlorinated product that contains 1',4,6'-trichlorosucrose-6-ester, or sucralose-6-ester. Therefore, Complainants assert that the only issue is whether 1',4,6'-trichlorosucrose-6-ester is the predominant chlorinated sucrose-6-ester product. According to Complainants, the evidence (*i.e.* analytical testing) shows that it is.<sup>305</sup>

GDFII asserts that, based on its claim construction, it does not meet the limitations of steps (b) and (c) because it uses a [ ]<sup>306</sup> GDFII also asserts that it does not meet the limitation of step (c) because GDFII does not start with the mixture of step (b), and because

---

<sup>301</sup> SIB 83-83 citing JX-1 (the '463 patent) at col. 4:32-37; CX-621C (Crich Direct) at Q. 84.

<sup>302</sup> SIB 84-85 referring to CX-760 (Khan article).

<sup>303</sup> SIB 85; SRB 12-16 citing *Daubert v. Merrel Dow Pharms, Inc.*, 509 U.S. 579 (1993) ("*Daubert*"); *Seaboard Lumber Co. v. United States*, 308 F.3d 1283, 1302 (Fed. Cir. 2002) ("*Seaboard*"); *Libas, Ltd. v. United States*, 193 F.3d 1361, 1366 (Fed. Cir. 1999) ("*Libas*").

<sup>304</sup> SIB 85-86 citing to SX-7 (The Activation Energy of Chemical Reactions); SRB 13-14.

<sup>305</sup> CIB 69-70; CRB 35.

<sup>306</sup> RIB 66.

Complainants' have produced no evidence that GDFII's manufacturing process produces a product which is predominantly 1',4,6'-trichlorosucrose-6-ester, as there are [

] <sup>307</sup>

Staff asserts that none of the Respondents (except JK Sucralose) dispute that they meet the claim limitations of step (c). Accordingly, Staff asserts that GDFII's manufacturing process meets the claim limitations of step (c). <sup>308</sup>

#### (4) Conclusion

The undersigned agrees with Respondents that it is Complainants' burden to prove infringement. <sup>309</sup> Based on a review of all the evidence presented, the undersigned agrees with Respondents and Staff that Complainants have failed to meet this burden. While many limitations are in dispute, the major dispute among the parties is whether Complainants have sufficiently shown that any of the four manufacturing Respondents' processes contain the limitation in step (b) of claim 1, which requires the reaction mixture to consist essentially of "monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester" at a temperature below 85°C. In general, there does not appear to be much disagreement as to whether monochlorosucrose-6-ester and 4,6'-dichlorosucrose-6-ester are present in Respondents' chlorination vessels. This is because the parties generally agree that there is a particular order in which chlorination of the free hydroxyl groups of the sucrose-6-ester will occur, where the 6' position would be the most likely chlorinated, followed

---

<sup>307</sup> RIB 68; RRB 31-32.

<sup>308</sup> SIB 90-91.

<sup>309</sup> *Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1050-55 (Fed. Cir. 2001) ("Novartis"); *Ultra-Tex Surfaces, Inc. v. Hill Bros. Chem. Co.*, 204 F.3d 1360, 1364 (Fed. Cir. 2000) ("Ultra-Tex").

by the 4 position, and then the 1' position.<sup>310</sup> The real disagreement is whether 1',6'-dichlorosucrose-6-ester is also present. Based on a review of the parties' arguments and the evidence, the undersigned finds that none of Complainants' evidence comes close to meeting their burden in proving infringement.

While Complainants submitted HPLC test data from Ciba based on plant inspection samples from Changzhou Niutang and JK Sucralose, the undersigned finds these tests results to be unreliable for numerous reasons. First, Ciba obtained certain specifications from Complainants without independently determining whether these specifications were reasonable.<sup>311</sup> Second, Ciba did not run an authentic standard on the HPLC chromatogram.<sup>312</sup> Third, Ciba used a mixed standard that contained all three of the chlorinated sucrose-6-ester products.<sup>313</sup> Fourth, the HPLC test results only show peaks that are attributable to monochlorosucrose-6-esters and dichlorosucrose-6-ester, with no separate test results separating 1',6'-dichlorosucrose-6-ester from 4,6'-dichlorosucrose-6-ester.<sup>314</sup> As the claim language clearly requires the presence of all three products, this data is insufficient to prove infringement.

In addition, the undersigned finds that it was improper for Complainants to rely upon a sample taken from JK Sucralose's plant inspection, and then conclude that, because JK Sucralose and Hebei Sukerui conduct very analogous processes, that Hebei Sukerui also infringes based on the same test results.<sup>315</sup> A comparison of the chlorination processes for Hebei Sukerui and JK Sucralose

---

<sup>310</sup> JX-1 (the '463 patent) at col. 4:32-37; CX-621C (Crich Direct) at Q. 84.

<sup>311</sup> RX-702C (St. Laurent Direct) at Q. 52-54; Hand, Tr. 1279-82.

<sup>312</sup> RX-702C (St. Laurent Direct) at Q. 9.

<sup>313</sup> CX-618C (Hand Direct) at Q. 22; Hand, Tr. 1282; RX-702C (St. Laurent Direct) at Q. 63.

<sup>314</sup> See RX-627C (LC-MS identification and HPLC Quantitation of Chlorination Samples).

<sup>315</sup> See CX-621C (Crich Direct) at Q. 365, 438-440.

show that each Respondents' processes are different enough to affect any possible tests results.<sup>316</sup>

The same holds true for analogizing GDFII's and Changzhou Niutang's manufacturing processes.<sup>317</sup>

Furthermore, the undersigned rejects Complainants' reliance on the mass spectroscopy tests performed by Respondents' expert, Dr. Baker, which were taken from Hebei Sukerui's plant inspection at 70°C, referred to as sample "H7," to support a finding of infringement because those tests results did not affirmatively establish the presence of 1',6'-dichlorosucrose-6-ester.<sup>318</sup>

The undersigned finds Complainants other arguments to be unpersuasive as well. While Complainants have offered the testimony of Dr. Crich that 1',6'-dichlorosucrose-6-ester necessarily forms at below 85°C, this theory is not supported by the scientific literature as there is no reference which discusses the chlorination of the 1' position before the 4 position for any sucrose derivative under any reaction conditions.

In light of this failure of proof, the undersigned finds that, for at least the reasons stated above, that none of the four manufacturing Respondents infringe step (b) of claim 1 of the '463 patent. As each and every limitation of a claim is required in order to prove infringement, the undersigned does not find it necessary to address all of the other parties' arguments as to infringement under claim 1.<sup>319</sup>

---

<sup>316</sup> See CX-58C and JX-18C.

<sup>317</sup> See CX-6C, CX-8C, CX-47C, CX-48C.

<sup>318</sup> RX-641C (Baker Rebuttal) at Q.137-48; Baker, Tr. 1519-20.

<sup>319</sup> *Markman*, 52 F.3d at 976; *Zenith Labs., Inc. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1424 (Fed. Cir. 1994) ("*Zenith Labs*").

**b. Claims 2-3 and 16-18**

Complainants assert that, because GDFII uses [ ] and because it also uses [ ] GDFII literally infringes dependent claims 2-3 and 16-18 of the '463 patent.<sup>320</sup>

None of the four manufacturing Respondents deny that they use [ ] in their manufacturing processes. Respondents assert, however, that because they do not infringe claim 1 of the '463 patent, they also do not infringe any of its dependent claims.<sup>321</sup> Staff agrees.<sup>322</sup>

As the undersigned has already ruled above that independent claim 1 is not infringed, none of the dependent claims infringe as well.

**c. Doctrine of Equivalents**

Complainants assert that, to the extent any element is missing, that GDFII's chlorination process infringes the '463 patent under the doctrine of equivalents. According to Complainants, GDFII's [

] performs the same function (*i.e.* chlorinating a sucrose-6-ester to obtain sucralose-6-ester), in substantially the same way (*i.e.* [ ]), and produces the same result (*i.e.* a chlorination process that [

]).<sup>323</sup>

---

<sup>320</sup> CIB 70; CRB 35.

<sup>321</sup> RIB 61, 68, 76 citing *Oak Tech., Inc. v. U.S. Int'l Trade Comm'n*, 248 F.3d 1316, 1323 n.4 (Fed. Cir. 2001) ("*Oak Tech*"); RRB 32.

<sup>322</sup> SIB 91 citing *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007) ("*Monsanto*").

<sup>323</sup> CIB 70-71 citing *Abraxis Bioscience, Inc. v. Mayne Pharma (USA) Inc.*, 467 F.3d 1370 (continued...)

GDFII asserts that it does not infringe under the doctrine of equivalents for various reasons, but mainly because doing so would vitiate a limitation of claim 1.<sup>324</sup>

Staff asserts that the evidence does not support a finding of infringement under the doctrine of equivalents because the differences between Respondents' manufacturing processes and the claimed process are substantial. Staff also asserts that the doctrine of equivalents is barred by prosecution history estoppel, as well as the "all-elements rule."<sup>325</sup>

Specifically, Staff asserts that Complainants have not shown why a process in which [ ] is equivalent to a process where [ ]

] Even if it were equivalent, however, Staff asserts that Complainants are barred from asserting the doctrine of equivalents based on prosecution history estoppel. According to Staff, the inventors relied upon the claimed feature of reacting the acid chloride with the tertiary amide in the presence of sucrose-6-ester to distinguish the prior art.<sup>326</sup>

Staff also asserts that Complainants have not shown why a process in which a 1',6'-dichlorosucrose-6-ester is not formed below 85°C is equivalent to a process in which a 1',6'-dichlorosucrose-6-ester is formed below 85°C. Even if it were equivalent, however, Staff asserts

---

<sup>323</sup>(...continued)

(Fed. Cir. 2006) ("*Abraxis*"); CRB 35-36.

<sup>324</sup> RIB 65-67; RRB 32-34.

<sup>325</sup> SIB 62.

<sup>326</sup> SIB 92 citing *Pods, Inc. v. Porta Stor, Inc.*, 484 F.3d 1359, 1368 (Fed. Cir. 2007) ("*Pods*").

that Complainants are barred from asserting the doctrine of equivalents based on the “all-elements rule.”<sup>327</sup>

The undersigned does not find Complainants’ doctrine of equivalents arguments to be persuasive. Claim 1 explicitly requires the presence of a 1',6'-dichlorosucrose-6-ester being formed below 85°C. Complainants have not shown that any of Respondents’ processes show the presence of an equivalent to meet this claim limitation. Accordingly, Complainants’ doctrine of equivalents arguments are hereby rejected.

## 2. Changzhou Niutang

Complainants assert that there is evidence that Changzhou Niutang either: 1) misrepresented its manufacturing process in this investigation, (2) misrepresented its manufacturing process to the Chinese government, and/or (3) changed its manufacturing process in an attempt to design around the ‘463 patent. In support, Complainants cite to CX-51C, an August 2006 Niutang environmental impact report (“Report”) to the Chinese government for approval to expand its sucralose plant. Complainants assert the Report describes the overall sucralose manufacturing process which includes a description of the chlorination process that is [ ] <sup>328</sup>

Complainants assert that Changzhou Niutang attempted to design around the ‘463 patent by [ ]

---

<sup>327</sup> SIB 92-93 citing *Warner-Jenkinson, supra*; *Wleklinski v. Targus, Inc.*, 258 Fed.Appx. 325 (Fed. Cir. 2007) (“*Wleklinski*”).

<sup>328</sup> CIB 54-55 citing CFF 5.C.608-632.

[ ] But Complainants argue that this [

] <sup>329</sup>

Complainants assert that Changzhou Niutang's process is [ ] GDFII's process, described in CX-6C, CX-8C, CX-47, CDX-1.116, and CDX- 1.117.<sup>330</sup>

Changzhou Niutang recites both its old and new process and states that its chlorination process is similar, although [ ]<sup>331</sup> Changzhou Niutang asserts that both its old and new processes do not infringe claim 1 of the '463 patent for the same reasons GDFII does not infringe claim 1 of the '463 patent.<sup>332</sup>

Staff asserts that Complainants' citation to the environmental impact report for Changzhou Niutang, Hebei Sukerui, and JK Sucralose should not be given any weight because: (1) Complainants are not alleging infringement based on the process descriptions in the report, and (2) the reports date from 2004-2006 and there is no evidence that the Respondents imported sucralose manufactured according to the processes in the reports into the United States.<sup>333</sup>

**a. Claim 1**

**(1) Step (a)**

Complainants assert that there is no dispute that Changzhou Niutang [

] According to

---

<sup>329</sup> CIB 55 citing 5.C.566-569, 574-575, 647, 666-667, 691-692.

<sup>330</sup> CIB 71-72. Changzhou Niutang, however, asserts that its process is [ ] GDFII. RRB 34.

<sup>331</sup> RIB 69-70 citing RX-525C (Niutang's Operations Manual).

<sup>332</sup> RIB 70, 76.

<sup>333</sup> SIB 63-64.

Complainants, the [ ] is an “acid chloride,” if construed by its ordinary meaning. Complainants assert that the remaining limitations of step (a) are also met by Changzhou Niutang’s process for same reasons they are met in GDFII’s process.<sup>334</sup>

Changzhou Niutang asserts that its process does not meet this claim limitation because [

] Changzhou Niutang also asserts that its process does not meet this claim limitation because its process does not involve the formation of a chloroformiminium chloride salt, let alone in the presence of a sucrose-6-ester, because [

] <sup>335</sup>

As detailed above, Staff asserts that the evidence does not show that any of the four manufacturing Respondents meet each and every limitation of step (a).<sup>336</sup>

## (2) Step (b)

Complainants assert that under its claim construction of step (b), which does not require a temperature “plateau,” that there is no dispute that Changzhou Niutang subjects the mixture to a temperature [ ] Therefore, Complainants assert the only issue is whether Changzhou Niutang’s reaction mixture satisfies the “consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester.” Complainants assert that this limitation

---

<sup>334</sup> CIB 72; CRB 36-37.

<sup>335</sup> RIB 70-71; RRB 35-36.

<sup>336</sup> See Section (IV)(B)(1)(a)(1).

of step (b) is met by Changzhou Niutang's process for same reasons they are met in GDFII's process.<sup>337</sup>

Changzhou Niutang asserts that it does not meet this claim limitation because there is no evidence that its manufacturing process produces the mixture of three separate chlorinated species below 85°C, and in particular the presence of 1',6'-dichlorosucrose-6-ester.<sup>338</sup>

As detailed above, Staff asserts that the evidence does not show that any of the four manufacturing Respondents meet each and every limitation of step (b).<sup>339</sup>

### (3) Step (c)

Complainants assert that it is undisputed that Changzhou Niutang's chlorination process subjects the reaction mixture to a temperature [ ] and that the result is a chlorinated product that contains 1',4,6'-trichlorosucrose-6-ester, or sucralose-6-ester. Therefore, Complainants assert that the only issue is whether 1',4,6'-trichlorosucrose-6-ester is the predominant chlorinated sucrose-6-ester product. Complainants assert that this limitation of step (c) is met by Changzhou Niutang's process for same reasons they are met in GDFII's process.<sup>340</sup>

Changzhou Niutang asserts that, based on its claim construction, it does not meet the limitations of steps (b) and (c) because it uses a [ ]<sup>341</sup> Changzhou Niutang also asserts that it does not meet the limitation of step (c) because Changzhou Niutang does not start with the mixture of step (b), and because Complainants' have produced no evidence that Changzhou

---

<sup>337</sup> CIB 72-73; CRB 37.

<sup>338</sup> RIB 73-74; RRB 36.

<sup>339</sup> See Section (IV)(B)(1)(a)(2).

<sup>340</sup> CIB 73.; CRB 37-38.

<sup>341</sup> RIB 73.

Niutang's manufacturing process produces a product which is predominantly 1',4,6'-trichlorosucrose-6-ester, as there are [ ]<sup>342</sup>

Staff asserts that none of the Respondents (except JK Sucralose) dispute that they meet the claim limitations of step (c). Accordingly, Staff asserts that Changzhou Niutang's manufacturing process meets the claim limitations of step (c).<sup>343</sup>

#### (4) Conclusion

The undersigned has already ruled above that Complainants have not shown, by a preponderance of the evidence, that any of the four manufacturing Respondents meet each and every limitation of claim 1, and therefore, none of the four manufacturing Respondents infringe claim 1 of the '463 patent.<sup>344</sup>

#### b. Claims 2-3 and 16-18

Complainants assert that, because Changzhou Niutang uses [ ] and because it also uses [ ] Changzhou Niutang literally infringes claims 2-3 and 16-18 of the '463 patent.<sup>345</sup>

As noted above, none of the four manufacturing Respondents deny that they use DMF and sucrose-6-acetate in their manufacturing processes. Respondents assert, however, that because they do not infringe claim 1 of the '463 patent, they also do not infringe any of its dependent claims.<sup>346</sup>

Staff agrees.<sup>347</sup>

---

<sup>342</sup> RIB 74-76; RRB 36.

<sup>343</sup> SIB 90-91.

<sup>344</sup> See Section (IV)(B)(1)(a)(4).

<sup>345</sup> CIB 73-74.; CRB 38.

<sup>346</sup> RIB 61, 68, 76; RRB 37.

<sup>347</sup> SIB 91.

As the undersigned has already ruled above that independent claim 1 is not infringed, none of the dependent claims infringe as well.

**c. Doctrine of Equivalents**

Complainants assert that, to the extent any element is missing, that Changzhou Niutang's chlorination process infringes the '463 patent under the doctrine of equivalents for the same reasons GDFII's process infringes under the doctrine of equivalents.<sup>348</sup>

Changzhou Niutang asserts that it does not infringe under the doctrine of equivalents for various reasons, but mainly because doing so would vitiate a limitation of claim 1.<sup>349</sup>

As detailed above, Staff asserts that the evidence does not support a finding of infringement under the doctrine of equivalents against any of the four manufacturing Respondents.<sup>350</sup>

The undersigned does not find Complainants' doctrine of equivalents arguments to be persuasive. Claim 1 explicitly requires the presence of a 1',6'-dichlorosucrose-6-ester being formed below 85°C. Complainants have not shown any of the Respondents' processes show the presence of an equivalent to meet this claim limitation. Accordingly, Complainants' doctrine of equivalents arguments are hereby rejected.

**3. Hebei Sukerui**

Complainants assert that there is evidence that Hebei Sukerui either: (1) misrepresented its manufacturing process in this investigation, (2) misrepresented its manufacturing process to the Chinese government, and/or (3) changed its manufacturing process in an attempt to design around the '463 patent. In support, Complainants cite to a December 2004 "Environmental Impact Report"

---

<sup>348</sup> CIB 74; CRB 38.

<sup>349</sup> RIB 72-74; RRB 37.

<sup>350</sup> See Section (IV)(B)(1)(C).

("Report") to the Chinese government for approval of a sucralose plant. Complainants assert the Report includes [

].<sup>351</sup> Complainants assert that Hebei Sukerui attempted to design around the '463 patent [

352

] <sup>353</sup>

Complainants assert that Hebei Sukerui's process is described [

]

---

<sup>351</sup> CIB 54-55 citing CX-59C (Hebei Sukerui Environmental Impact Report) at T&L0231861-63; CX-621C (Crich Direct) at Q. 403.

<sup>352</sup> CIB 55.

<sup>353</sup> CIB 55 citing CFF 5.C.881-883.

] <sup>354</sup>

Hebei Sukerui does not appear to dispute the actual steps in its chlorination process.<sup>355</sup> Hebei Sukerui does dispute Complainants' infringement allegations based on certain failed test results. Hebei Sukerui asserts that Complainants failed to offer any empirical evidence [

] For example, sample H7 was taken from Hebei Sukerui's process [ ], but Complainants did not rely on these tests results, asserting that the results were "invalid."<sup>356</sup> Instead, Complainants relied upon a sample taken from JK Sucralose, [

] <sup>357</sup> Hebei Sukerui asserts that its expert, Dr. Baker, took sample H7 and [

] <sup>358</sup>

---

<sup>354</sup> CIB 74-75 citing CFF 5.C.847-925.

<sup>355</sup> RIB 42-44.

<sup>356</sup> RIB 44 citing RFF 3.153-56.

<sup>357</sup> RIB 45 citing CX-621C (Crich Direct) at Q. 438, 441.

<sup>358</sup> RIB 45 citing RFF 3.158, 3.93-96.

**a. Claim 1**

**(1) Step (a)**

Complainants assert that there is no dispute that Hebei Sukerui [

359

360

] <sup>361</sup>

Hebei Sukerui asserts that it does not meet this claim limitation because [

] <sup>362</sup> Hebei Sukerui also asserts that it does not meet

this claim limitation because [

363

]

---

<sup>359</sup> CIB 75; CRB 23.

<sup>360</sup> CIB 75-76; CRB 23-24.

<sup>361</sup> CIB 76.

<sup>362</sup> RIB 46-49; RRB 44-45.

<sup>363</sup> RIB 49-52; RRB 38-44.

[ ]<sup>364</sup> Finally, Hebei Sukerui asserts that it does not meet this claim limitation because there is no evidence [

] <sup>365</sup>

As detailed above, Staff asserts that the evidence does not show that any of the four manufacturing Respondents meet each and every limitation of step (a).<sup>366</sup> Furthermore Staff asserts that, with respect to Hebei Sukerui's process, [

367

] <sup>368</sup>

Complainants counter Hebei Sukerui's arguments that there is no proof that its process

[

] <sup>369</sup> Complainants also counter Hebei Sukerui's

arguments that [

] <sup>370</sup>

---

<sup>364</sup> RIB 49-50 citing RFF 3.126-127; JX-37 (Conversion of Aromatic and a,b-Unsaturated Aldehydes to Dichlorides by Thionyl Chloride and Dimethylformamide).

<sup>365</sup> RIB 52-53; RRB 44.

<sup>366</sup> See Section (IV)(B)(1)(a)(1).

<sup>367</sup> SIB 61.

<sup>368</sup> SIB 77.

<sup>369</sup> CRB 24-26.

<sup>370</sup> CRB 26-27.

(2) Step (b)

Complainants assert that under its claim construction of step (b), which does not require a temperature “plateau,” [

] Complainants assert that this limitation of step (b) is met by Hebei Sukerui’s process for many of the same reasons they are met in GDFII’s and Changzhou Niutang’s processes, namely the “literature in the area and the basic laws of reaction kinetics” and analytical data.<sup>371</sup> Complainants also rely on [

] <sup>372</sup>

Hebei Sukerui asserts that it does not meet this claim limitation because Complainants have failed to show [

] According to Hebei Sukerui, Complainants’ only evidence is the conclusory opinion of Dr. Crich, which is insufficient.<sup>373</sup> Furthermore, Hebei Sukerui asserts that Complainants’ attempt to analogize Hebei Sukerui’s process with JK Sucralose is not permissible, considering the many differences in both processes.<sup>374</sup> Finally, Hebei Sukerui assert that its own

---

<sup>371</sup> CIB 77-78; CRB 27-28.

<sup>372</sup> CRB 28-29.

<sup>373</sup> RIB 53-56 citing *Lucent Techs Inc. v. Gateway, Inc.*, 509 F. Supp.2d 912, \*36-42 (S.D. Ca. 2007) (“*Lucent*”); *E-Pass Techs., Inc. v. 3Com Corp.*, 473 F.3d 1213, 1221-23 (Fed. Cir. 2007) (“*E-Pass*”); *Novartis*, 271 F.3d at 1050-55; RRB 45-47.

<sup>374</sup> RIB 56-58.

expert's [

] <sup>375</sup>

As detailed above, Staff asserts that the evidence does not show that any of the four manufacturing Respondents meet each and every limitation of step (b).<sup>376</sup> Furthermore, Staff questions Complainants' reliance on the [

] <sup>377</sup>

### (3) Step (c)

Complainants assert that it is undisputed that Hebei Sukerui's chlorination process [

] Complainants assert that this limitation of step (c) is met by Hebei Sukerui's process for same reasons they are met in GDFII's and Changzhou Niutang's processes, namely support from the literature and analytical data based on a sample drawn from the plant inspection at Hebei Sukerui.<sup>378</sup>

---

<sup>375</sup> RIB 58-59.

<sup>376</sup> See Section (IV)(B)(1)(a)(2).

<sup>377</sup> SIB 87 citing RX-641C (Baker Rebuttal) at Q.137-48; Baker, Tr. 1519-20.

<sup>378</sup> CIB 78-79; CRB 30.

Hebei Sukerui asserts that, [

] <sup>379</sup>

Staff asserts that none of the Respondents (except JK Sucralose) dispute that they meet the claim limitations of step (c). Accordingly, Staff asserts that Hebei Sukerui's manufacturing process meets the claim limitations of step (c).<sup>380</sup>

#### (4) Conclusion

The undersigned has already ruled above that Complainants have not shown, by a preponderance of the evidence, that any of the four manufacturing Respondents meet each and every limitation of claim 1, and therefore, none of the four manufacturing Respondents infringe claim 1 of the '463 patent.<sup>381</sup>

#### b. Claims 2-3 and 16-18

Complainants assert that, because Hebei Sukerui uses N,N-dimethylformamide (DMF), which contains an N-formyl group, and because it also uses sucrose-6-acetate, Hebei Sukerui literally infringes claims 2-3 and 16-18 of the '463 patent.<sup>382</sup>

As noted above, none of the four manufacturing Respondents deny that they use [

] in their manufacturing processes. Respondents assert, however, that because they do not infringe claim 1 of the '463 patent, they also do not infringe any of its dependent claims.<sup>383</sup>

Staff agrees.<sup>384</sup>

---

<sup>379</sup> RIB 60-61; RRB 47-48.

<sup>380</sup> SIB 90-91.

<sup>381</sup> See Section (IV)(B)(1)(a)(4).

<sup>382</sup> CIB 79; CRB 30.

<sup>383</sup> RIB 61, 68, 76.

<sup>384</sup> SIB 91.

As the undersigned has already ruled above that independent claim 1 is not infringed, none of the dependent claims infringe as well.

**c. Doctrine of Equivalents**

Complainants assert that, to the extent any element is missing, that Hebei Sukerui's chlorination process infringes the '463 patent under the doctrine of equivalents. According to Complainants, [

385

386

]387

Complainants assert that Hebei Sukerui's process performs the same overall function as recited in the '463 patent (*i.e.* chlorinating a sucrose-6-ester to obtain sucralose-6-ester as the predominant chlorinated product), in substantially the same way [

]388

---

<sup>385</sup> CIB 79-80; CRB 31.

<sup>386</sup> CIB 79 citing JX-1 (the '463 patent) at col. 5:41-46.

<sup>387</sup> CIB 79-80.

<sup>388</sup> CIB 80.

Hebei Sukerui asserts that it does not infringe under the doctrine of equivalents for various reasons, but mainly because doing so would vitiate a limitation of claim 1.<sup>389</sup>

As detailed above, Staff asserts that the evidence does not support a finding of infringement under the doctrine of equivalents against any of the four manufacturing Respondents.<sup>390</sup>

The undersigned does not find Complainants' doctrine of equivalents arguments to be persuasive. Claim 1 explicitly requires the presence of a 1',6'-dichlorosucrose-6-ester being formed below 85°C. Complainants have not shown any of the Respondents' processes show the presence of an equivalent to meet this claim limitation. Accordingly, Complainants' doctrine of equivalents arguments are hereby rejected.

#### 4. JK Sucralose

Complainants assert that there is evidence that JK Sucralose either: (1) misrepresented its manufacturing process in this investigation, (2) misrepresented its manufacturing process to the Chinese government, and/or (3) changed its manufacturing process in an attempt to design around the '463 patent. In support, Complainants cite to CX-353C, an October 2006 JK Sucralose environmental impact report ("Report") for the Chinese government. Complainants assert the Report described the overall sucralose manufacturing process which included a description of the chlorination process that is [ ]<sup>391</sup> Complainants assert that JK Sucralose attempted to design around the '463 patent by [ ]

---

<sup>389</sup> See RIB 48, 51-53, 59-60, citing *Seachange Int'l, Inc. v. C-COR Inc.*, 413 F.3d 1361, 1378 (Fed. Cir. 2005) ("*Seachange*"); *PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1364-65 (Fed. Cir. 2005) ("*PC Connector*"); *Warner-Jenkinson*, 520 U.S. at 29-30.

<sup>390</sup> See Section (IV)(B)(1)(C).

<sup>391</sup> CIB 54-55 citing CFF 5.C.1439-46.

[ ] But Complainants argue that  
this [ ]<sup>392</sup> Complainants  
also assert that [ ]

] <sup>393</sup>

Complainants assert that JK Sucralose's process is described in [ ]

] <sup>394</sup>

JK Sucralose does not appear to dispute the actual steps in its chlorination process, but disputes Complainants' infringement allegations, which are set forth in more detail below.

**a. Claim 1**

**(1) Step (a)**

Complainants assert that there is no dispute that JK Sucralose [ ]

] According to

Complainants, the thionyl chloride/DMF adduct is an "acid chloride," if construed by its ordinary

---

<sup>392</sup> CIB 55 citing 5.C.1392-1398, 1434.

<sup>393</sup> CIB 55 citing CFF 5.C.1400.

<sup>394</sup> CIB 80-81 citing CFF 5.C.1389-1446.

meaning. As to the “adding” limitation, Complainants assert that JK Sucralose [

] Complainants assert that the remaining limitations of step (a) are also met by JK Sucralose for the same reasons they are met by GDFII, Changzhou Niutang, and Hebei Sukerui.<sup>395</sup>

JK Sucralose asserts that it does not meet this claim limitation because [

] <sup>396</sup> JK Sucralose also asserts that it does not meet this claim limitation because [

] <sup>397</sup>

JK Sucralose also asserts that it does not meet this claim limitation because [

]

---

<sup>395</sup> CIB 81-82; CRB 38-40.

<sup>396</sup> RIB 76-78; RRB 50.

<sup>397</sup> RIB 79-80; RRB 48-53.

[

] <sup>398</sup>

As detailed above, Staff asserts that the evidence does not show that any of the four manufacturing Respondents meet each and every limitation of step (a).<sup>399</sup> In addition, Staff agrees with Complainants that, even though JK Sucralose has [

] <sup>400</sup>

**(2) Step (b)**

Complainants assert that under its claim construction of step (b), which does not require a temperature “plateau,” there is no dispute that JK Sucralose subjects the mixture to [

] Complainants assert that this limitation of step (b) is met by JK Sucralose’s process for many of the same reasons they are met in GDFII’s, Changzhou Niutang’s, and Hebei Sukerui’s processes, namely the literature and analytical data.<sup>401</sup>

JK Sucralose asserts that Complainants have produced no evidence that JK Sucralose’s manufacturing process produces [

] According

---

<sup>398</sup> RIB 80-81.

<sup>399</sup> See Section (IV)(B)(1)(a)(1).

<sup>400</sup> SIB 77.

<sup>401</sup> CIB 82-83; CRB 40-42.

to JK Sucralose, Ciba used a “mixed standard” [

] which was provided by Complainants,

but never independently verified. JK Sucralose argues that, because a mixed standard was used, Ciba had no way of determining whether a single peak represented one, two, or several dichloro compounds. JK Sucralose asserts that other test methods, such as nuclear magnetic resonance spectroscopy, could have been used to separately test for each dichloro.<sup>402</sup> Second, JK Sucralose asserts that Complainants’ reliance on Ciba’s total ion chromatogram (“TIC”) is also unconvincing because the TIC only shows a single peak, which does not prove the presence of both dichloros.<sup>403</sup>

JK Sucralose counters Complainants’ arguments that [

404

]

---

<sup>402</sup> RIB 82-83.

<sup>403</sup> RIB 83; RRB 53-56.

<sup>404</sup> RIB 84.

]

JK Sucralose further asserts that it does not meet the limitations in this claim because [

] <sup>405</sup>

As detailed above, Staff asserts that the evidence does not show that any of the four manufacturing Respondents meet each and every limitation of step (b).<sup>406</sup> Furthermore, Staff questions Complainants' reliance on the samples obtained from JK Sucralose's plant inspection to prove the presence of [ ] for many of the same reasons the other Ciba test results were unreliable.<sup>407</sup>

**(3) Step (c)**

Complainants assert that it is undisputed that JK Sucralose's chlorination process subjects the reaction mixture to [

] Complainants assert that this limitation of step (c) is met by JK Sucralose's process for same reasons it is met in GDFII's, Changzhou Niutang's, and Hebei Sukerui's processes, namely support from the literature and analytical data based on a sample drawn from the plant inspection

---

<sup>405</sup> RIB 88-90.

<sup>406</sup> See Section (IV)(B)(1)(a)(2).

<sup>407</sup> SIB 88-89 citing Crich, Tr. 1064-67, 1106; SRB 16.

at JK Sucralose.<sup>408</sup> In further support, Complainants point to a “mass balance chart” in JK Sucralose’s process description, the testimony of a JK Sucralose witness, Mr. Jin Shan Wu, and JK Sucralose’s analytical testing using HPLC.<sup>409</sup>

JK Sucralose asserts that, based on its claim construction, it does not meet the limitations of steps (b) and (c) [ ]<sup>410</sup> JK Sucralose also asserts that, under its claim construction, it does not meet this claim limitation because [

] <sup>411</sup> As to Complainants’ reliance on JK Sucralose’s hypothetical mass balance chart, JK Sucralose argues that this chart was not accurate because it was not based on any actual measurements, and therefore, is not an accurate representation of JK Sucralose’s process.<sup>412</sup>

Staff rejects JK Sucralose’s argument that its manufacturing process does not meet the limitations in step (c). According to Staff, JK Sucralose’s own “mass balance chart” shows that the claim limitation is met. Accordingly, Staff asserts that JK Sucralose meets each and every limitation of step (c).<sup>413</sup>

---

<sup>408</sup> CIB 83-85; CRB 42-44.

<sup>409</sup> CIB 83-85 citing CFF 5.C.1515, 1577-84.

<sup>410</sup> RIB 90.

<sup>411</sup> RIB 90-93 citing RX-627C (LC-MS identification and HPLC Quantitation of Chlorination Samples) at 34.

<sup>412</sup> RIB 93 citing RX-700C (J. Wu Direct) at 9-10, 15-16; RRB 57-58.

<sup>413</sup> SIB 91 citing CX-621 (Crich Direct) at Q. 495-96.

**(4) Conclusion**

The undersigned has already ruled above that Complainants have not shown, by a preponderance of the evidence, that any of the four manufacturing Respondents meet each and every limitation of claim 1, and therefore, none of the four manufacturing Respondents infringe claim 1 of the '463 patent.<sup>414</sup>

**b. Claims 2-3 and 16-18**

Complainants assert that, because JK Sucralose uses [

415

] Respondents assert, however, that because they do not infringe claim 1 of the '463 patent, they also do not infringe any of its dependent claims.<sup>416</sup> Staff agrees.<sup>417</sup>

As the undersigned has already ruled above that independent claim 1 is not infringed, none of the dependent claims infringe as well.

---

<sup>414</sup> See Section (IV)(B)(1)(a)(4).

<sup>415</sup> CIB 85; CRB 44.

<sup>416</sup> RIB 61, 68, 76.

<sup>417</sup> SIB 91.

### **c. Doctrine of Equivalents**

Complainants assert that, to the extent any element is missing, that JK Sucralose's chlorination process infringes the '463 patent under the doctrine of equivalents for the same reasons Hebei Sukerui's process infringes under the doctrine of equivalents.<sup>418</sup>

JK Sucralose asserts that it does not infringe under the doctrine of equivalents because its process does not perform substantially the same function in substantially the same way to achieve substantially the same result.<sup>419</sup>

As detailed above, Staff asserts that the evidence does not support a finding of infringement under the doctrine of equivalents against any of the four manufacturing Respondents.<sup>420</sup>

The undersigned does not find Complainants' doctrine of equivalents arguments to be persuasive. Claim 1 explicitly requires the presence of a 1',6'-dichlorosucrose-6-ester being formed below 85°C. Complainants have not shown any of the Respondents' processes show the presence of an equivalent to meet this claim limitation. Accordingly, Complainants' doctrine of equivalents arguments are hereby rejected.

### **5. CJ America**

Complainants assert that CJ America has admitted that it infringes the asserted claims of the '463 patent.<sup>421</sup>

As there is no dispute regarding CJ America's infringement, the undersigned finds that CJ America infringes the asserted claims of the '463 patent.

---

<sup>418</sup> CIB 85-86; CRB 44.

<sup>419</sup> RIB 94-99.

<sup>420</sup> See Section (IV)(B)(1)(C).

<sup>421</sup> CIB 86 CJ America's Response to Complaint, ¶¶ 1, 205.

## 6. AIDP

Complainants assert that, because AIDP has not provided any discovery in this investigation, Complainants do not know who is the manufacturer or AIDP's sucralose. Although AIDP has sourced sucralose from China, none of the manufacturing Respondents claim to manufacture AIDP's sucralose. According to Complainants, pre-suit testing of AIDP's sucralose confirms that AIDP's sucralose infringes the asserted claims of the '463 patent.<sup>422</sup>

Respondents assert that Complainants infringement analysis for AIDP and Hebei Research are solely based on pre-suit testing samples and the testimony of Dr. Flora, which should be entitled to no weight.<sup>423</sup>

The undersigned agrees with Respondents that the evidence based on the pre-suit testing does not affirmatively show that AIDP meets each and every limitation of claim 1 for the same reasons infringement was not proven against the four participating manufacturing Respondents.

## 7. Hebei Research

Complainants assert that Hebei Research has defaulted in this investigation. Complainants also assert that they have presented evidence demonstrating that Hebei Research's sucralose infringes the asserted claims of the '463 patent.<sup>424</sup>

Respondents assert that Complainants infringement analysis for AIDP and Hebei Research are solely based on pre-suit testing samples and the testimony of Dr. Flora, which should be entitled to no weight.<sup>425</sup>

---

<sup>422</sup> CIB 86 citing CFF 5.C.1711-41.

<sup>423</sup> RRB 58.

<sup>424</sup> CIB 86-87 citing CFF 5.C.1742-71.

<sup>425</sup> RRB 58.

As Hebei Research has already defaulted in this investigation, the undersigned finds that there is no need to address whether Complainants have affirmatively proved that Hebei Research infringes the '463 patent.<sup>426</sup>

#### **8. Non-manufacturing Participating Respondents**

Complainants assert that the following Respondents have admitted that they sell for importation, import, and/or sell after importation into the United States sucralose manufactured by one or more of Changzhou Niutang, GDFII, Hebei Sukerui, and/or JK Sucralose: Forbest Chemical/Forbest Trade, Forbest USA, Garuda, [ ] and U.S. Niutang.<sup>427</sup> In addition, Complainants assert that Heartland Packaging has distributed in the United States sucralose [ ]

<sup>428</sup> Complainants assert that, because the processes used by Changzhou Niutang, GDFII, Hebei Sukerui, and/or JK Sucralose to manufacture sucralose infringe the asserted claims of the '463 patent, each of the above-named respondents also infringe the asserted claims of the '463 patent.

Because the undersigned found that Changzhou Niutang, GDFII, Hebei Sukerui, and JK Sucralose do not infringe the asserted claims of the '463 patents, the undersigned also finds that the above-named Respondents also do not infringe the asserted claims of the '463 patents.

---

<sup>426</sup> It is the undersigned's understanding that Complainants are attempting to affirmatively prove that certain non-participating Respondents are infringing the patents at issue to support their request for a general exclusion order, which the undersigned does not find to be warranted in the circumstances of this case. See Section IX(A).

<sup>427</sup> CIB 87 citing CFF 4.3-6, 4.10-14, 4.34-36, 4.39, 4.76-77, 4.88-91, 4.92-95.

<sup>428</sup> CIB 87 citing CFF 4.64-71.

## 9. Remaining Non-participating and Defaulting Respondents

Complainants assert that the following non-participating and defaulting respondents do not contest that they sell for importation, import, and/or sell after importation into the United States sucralose manufactured by at least one or more of Changzhou Niutang, GDFII, Hebei Sukerui, and/or JK Sucralose: CJ America, Fortune Bridge, Gremount, Hebei Academe, Lianyungang Natiprol, Nu-Scaan, Ruland, Shanghai Aurisco, Vivion, and Zhongjin.<sup>429</sup> Complainants assert that, because the processes used by Changzhou Niutang, GDFII, Hebei Sukerui, and JK Sucralose to manufacture sucralose infringe the asserted claims of the '463 patent, each of the above-named respondents also infringe the asserted claims of the '463 patent. Complainants also assert that, because these respondents did not participate in this investigation, they should be found in violation of section 337 with regard to infringement of the '463 patents.<sup>430</sup>

Respondents assert that, as to the non-participating or defaulting Respondents, Complainants have offered no affirmative evidence that these Respondents infringe each and every limitation of claim 1.<sup>431</sup>

Because the undersigned found that neither Changzhou Niutang, GDFII, Hebei Sukerui, nor JK Sucralose infringe the asserted claims of the '463 patents, the undersigned also finds that the above-named Respondents also do not infringe the asserted claims of the '463 patents.

---

<sup>429</sup> CIB 87 citing CFF 4.96-123, 4.132-46.

<sup>430</sup> CIB 87-88.

<sup>431</sup> RRB 58.

### **C. Domestic Industry - Technical Prong**

Complainants assert that the evidence demonstrates that the chlorination process at the McIntosh plant practices claim 1 of the '463 patent.<sup>432</sup> Respondents do not dispute Complainants' evidence regarding technical prong as to steps (a) and (c) of Claim 1, but assert that Complainants do not practice step (b).<sup>433</sup> Staff agrees with Respondents that Complainants have failed to establish that Complainants practice the '463 patent.<sup>434</sup>

#### **1. Claim 1**

##### **a. Step (a)**

Complainants assert that the evidence shows that in its chlorination process, [

] <sup>435</sup>

Respondents appear to no longer dispute that Complainants practice step (a) of claim 1.<sup>436</sup> Staff also does not dispute that Complainants practice step (a) of claim 1.<sup>437</sup>

The undersigned finds that, based on the evidence presented by Complainants, and there being no opposition, the Complainants have shown, by the preponderance of the evidence, that they

---

<sup>432</sup> CIB 88-91; CX-61C (Chlorination manufacturing process).

<sup>433</sup> RIB 100-103.

<sup>434</sup> SIB 94-95; SRB 16-17.

<sup>435</sup> CIB 88-89 citing CFF 5.D.1-16, 5.D.54-67.

<sup>436</sup> RIB 100-103.

<sup>437</sup> SIB 94.

meet the technical prong of the domestic industry requirement by practicing step (a) of claim 1 of the '463 patent.

**b. Step (b)**

Complainants assert that the evidence shows that after the chlorination reaction is complete,

[

] <sup>438</sup> In support, Complainants cite to Dr. Crich's testimony and HPLC testing data from Ciba. <sup>439</sup>

Respondents assert that Complainants' process does not practice step b) for the same reasons its own processes do not infringe step (b). Specifically, Respondents assert that Complainants' process does not use distinct phases at different temperatures. In support, Respondents cite to Dr. Walters' time vs. temperature chart in RDX-35.1C. <sup>440</sup> Respondents also assert that the Ciba test results from Complainants' plant inspection show that neither [

] and that Ciba did not even test for

---

<sup>438</sup> CIB 89 citing CFF 5.D.7-9, 5.D.82-84; CRB 45.

<sup>439</sup> CIB 89-90 citing CX-621C (Crich's Direct) at Q. 527; CFF 5.D.85-108, 5.C.1162-1238; CRB 45-46.

<sup>440</sup> RIB 100-01 citing RFF 4.1-4.35.

[ ]<sup>441</sup> According to Respondents, Complainants' reliance on Dr. Crich's testimony that the Ciba tests supports Complainants' position is not accurate because the Ciba test results indicate no dichlorosucrose 6-ester of any type at or below 85°C. In addition, Respondents assert that this was confirmed by Dr. Hand, Ciba's corporate representative.<sup>442</sup> Furthermore, Respondents assert that Dr. Hand's attempt to reinterpret the Ciba test results should be rejected because it contradicts his prior testimony and does not conclusively show the presence of [

] <sup>443</sup>

Staff disagrees with Respondents that this step requires holding the reaction mixture at any one temperature for a period of time and agrees that Complainants satisfy the heating requirements of claim 1. Staff agrees with Respondents, however, that Complainants have failed to prove that the manufacturing process at the McIntosh plant produces [

] According to Staff, Complainants rely on test results that show [ ] While Complainants rely on Dr. Crich's testimony that [

] Staff asserts that there is no evidentiary support confirming this theory.<sup>444</sup> Staff cites to the testimony of Dr. Hutton, Complainants' employee, who stated that he didn't know whether

---

<sup>441</sup> RIB 101-03 citing RX-198C; RFF 3.710, 3.724-3.729, 4.10-4.20, 4.36-4.62.

<sup>442</sup> RIB 102 citing RFF 4.66-4.69; RRB 59.

<sup>443</sup> RRB 60.

<sup>444</sup> SIB 95 citing CX-621C (Crich Direct) at Q. 527; SRB 17.

[ ] in the '463 patent were present in the samples taken from their chlorination process.<sup>445</sup>

Complainants counter Respondents' arguments for the same reasons that Complainants assert that Respondents infringement defenses are incorrect. According to Complainants, under the proper claim construction for step (b), no temperature plateau or hold time is required, and therefore, Complainants chlorination process meets each and every limitation of step (b).<sup>446</sup> As to Respondents' argument on the Ciba test results, Complainants assert that Respondents ignore the total ion chromatograms (TIC), which identifies [

] <sup>447</sup>

The undersigned construed step (b) in the claim construction section above as not requiring a discrete heating step that is separate and distinct from the heating in step (c).<sup>448</sup> Therefore, there is no dispute that, when step (b) is construed this way, that Complainants practice the heating step in step (b) of claim 1. As to whether Complainants have adequately shown that they meet the other limitation of step (b), the undersigned finds Respondents' and Staff's arguments to be persuasive. Based on the evidence presented, the undersigned finds that Complainants have not met their burden in showing that the manufacturing process at the McIntosh plant produces [

] The test results provided by Complainants from Ciba are not definitive because the test results only show [

] An inference that the distribution of reaction products in

---

<sup>445</sup> SRB 17 citing RX-284C (Hutton email).

<sup>446</sup> CRB 45-46.

<sup>447</sup> CRB 46 citing CX-13C (Ciba qualitative analysis); CFF 5.D.100-105.

<sup>448</sup> See Section (IV)(A)(2)(a)(2)(a).

[  
] is not sufficient. Such an inference would not have been permissible for purposes of proving infringement, and likewise, is not permissible for purposes of proving technical prong.

Accordingly, the undersigned finds that, based on the evidence presented by Complainants, Complainants have not shown, by the preponderance of the evidence, that they practice step (b) of claim 1 of the '463 patent because Complainants have not shown that [

]

**c. Step (c)**

Complainants assert that the evidence shows that once the [

] <sup>449</sup> In support, Complainants cite to HPLC testing data from Ciba. <sup>450</sup>

Respondents do not dispute that Complainants practice step (c) of claim 1. <sup>451</sup> Staff also does not dispute that Complainants practice step (c) of claim 1. <sup>452</sup>

The undersigned finds that, based on the evidence presented by Complainants, and there being no opposition, the Complainants have shown, by the preponderance of the evidence, that they

---

<sup>449</sup> CIB 90 citing CFF 5.D.10-11, 5.D.134-50.

<sup>450</sup> CIB 90 citing CFF 5.D.138-50.

<sup>451</sup> RIB 100-103.

<sup>452</sup> SIB 94-95.

meet the technical prong of the domestic industry requirement by practicing step (c) of claim 1 of the '463 patent.

## **2. Conclusion**

The undersigned finds that, based on the evidence presented by Complainants, Complainants have not satisfied the technical prong of the domestic industry requirement for the '463 patent because they have not shown, by a preponderance of the evidence, that they practice step (b) of claim 1 of the '463 patent.

### **D. Validity**

#### **1. Ordinary Skill in the Art**

Complainants assert that one of ordinary skill in the art is a person with a master's degree in chemistry and 2-5 years of experience in the field.<sup>453</sup> Respondents assert that one of ordinary skill in the art is a person with a Master's degree in organic chemistry or similar field and 2-5 years of experience in preparative organic synthesis or a Ph.D. in synthetic organic chemistry.<sup>454</sup> Staff asserts that one of ordinary skill in the art is a person with a Masters degree in organic chemistry with about 2-5 years of experience.<sup>455</sup> The undersigned finds the parties generally in agreement and that a person of ordinary skill in the art to which the '463 pertains would, in 1989, have a Master's degree in organic chemistry or similar field and 2-5 years of experience in preparative organic synthesis.

---

<sup>453</sup> CX-621C (Crich Direct) at Q. 65.

<sup>454</sup> RIB 112 citing RFF 5.2.

<sup>455</sup> SIB 96.

## 2. Anticipation and/or Obviousness

### a. The Prior Art References

#### (1) The Jenner '869 Patent

Respondents assert that U.S. Patent No. 4,362,869 (“the Jenner ‘869 patent”)<sup>456</sup> is prior art to the ‘463 patent, as the application for the Jenner ‘869 patent was submitted in 1980, which is before the filing date for the ‘463 patent. Respondents assert that the Jenner ‘869 patent teaches chlorinating sucrose to make sucralose via a penta-ester route whereby a sucrose-penta-ester is reacted with an acid chloride and tertiary amide and that the Vilsmeier salt can be generated “in situ,” or in the presence of the sucrose-penta-ester.<sup>457</sup>

Complainants assert that the Jenner ‘869 patent was considered by the examiner during the prosecution of the ‘463 patent, and therefore, Respondents bear a heavier burden in showing that this reference anticipates the asserted claims of the ‘463 patent.<sup>458</sup> Furthermore, Complainants assert that the Jenner ‘869 patent is very different than the ‘463 patent because the Jenner ‘869 patent uses a penta-ester route which protects every hydroxyl group not intended to be chlorinated, whereas the ‘463 patent has seven exposed hydroxyl groups, four of which are not desired to be chlorinated.<sup>459</sup> Staff agrees that the examiner considered the Jenner ‘869 patent during prosecution, and therefore Respondents bear an “especially difficult” burden in establishing that the ‘463 patent is invalid over the prior art based on this reference.<sup>460</sup>

---

<sup>456</sup> JX-34 (the Jenner ‘869 patent).

<sup>457</sup> RIB 114.

<sup>458</sup> CIB 92.

<sup>459</sup> CIB 92-93.

<sup>460</sup> SIB 101 citing *Glaxo Group Ltd. v. Apotex, Inc.*, 376 F.3d 1339, 1348 (Fed. Cir. 2004) (“*Glaxo Group*”).

## (2) The Mufti '476 patent

Respondents assert that U.S. Patent No. 4,380,476 ("the Mufti '476 patent")<sup>461</sup> is prior art to the '463 patent, as the application for the Mufti '476 patent was submitted in 1981, which is before the filing date for the '463 patent. Respondents assert that the Mufti '476 patent teaches a process for chlorinating sucrose-6-esters at the 1', 4 and 6' positions using an acid chloride and tertiary amide, that the reagents used to form a Vilsmeier salt can be mixed in the presence of the sucrose-6-acetate, and that the Vilsmeier salt can be prepared, isolated and then used to chlorinate the sucrose-6-ester, or, can be prepared by mixing the reactants "in situ," in the presence of the sucrose-6-acetate.<sup>462</sup>

Complainants assert that the Mufti '476 patent is cited on the face of the '463 patent and that the examiner cited the Mufti '476 patent during the prosecution of the '463 patent, and therefore, Respondents bear a heavier burden in showing that this reference anticipates the asserted claims of the '463 patent.<sup>463</sup> According to Complainants, the Mufti '476 patent's reference to "in situ" differentiates the preferred method of isolating the Vilsmeier reagent in advance from the non-preferred method of forming the solid Vilsmeier salt in the chlorination vessel prior to the addition of the sucrose-6-ester, but without first isolating it from DMF.<sup>464</sup> Staff agrees that the examiner considered the Mufti '476 patent during prosecution, and therefore Respondents bear an "especially difficult" burden in establishing that the '463 patent is invalid over the prior art based on this reference.<sup>465</sup>

---

<sup>461</sup> JX-32 (the Mufti '476 patent).

<sup>462</sup> RIB 113.

<sup>463</sup> CIB 93.

<sup>464</sup> CIB 93-94 citing CFF 5.E.57-63.

<sup>465</sup> SIB 101 citing *Glaxo Group, supra*.

### (3) The Rathbone '269 patent

Respondents assert that U.S. Patent No. 4,617,269 (“the Rathbone ‘269 patent”)<sup>466</sup> is prior art to the ‘463 patent, as the application for the Rathbone ‘269 patent was submitted in 1984, which is before the filing date for the ‘463 patent. Respondents assert that the Rathbone ‘269 patent discloses a chlorination process similar that the one disclosed in the Mufti ‘476 patent and specifically teaches the use of discrete heating steps at different temperatures for chlorination.<sup>467</sup>

Complainants assert that the Rathbone ‘269 patent is cited on the face of the ‘463 patent and that the examiner cited the Rathbone ‘269 patent during the prosecution of the ‘463 patent, and therefore, Respondents bear a heavier burden in showing that this reference anticipates the asserted claims of the ‘463 patent.<sup>468</sup> Staff agrees that the examiner considered the Rathbone ‘269 patent during prosecution, and therefore Respondents bear an “especially difficult” burden in establishing that the ‘463 patent is invalid over the prior art based on this reference.<sup>469</sup>

### (4) The Ballard Reference

Respondents assert that the Ballard reference<sup>470</sup> is prior art to the ‘463 patent, as it was published in 1973, which is before the filing date for the ‘463 patent. Respondents assert that the Ballard reference teaches about the advantages of using discrete heating steps.<sup>471</sup>

---

<sup>466</sup> JX-33 (the Rathbone ‘269 patent).

<sup>467</sup> RIB 114.

<sup>468</sup> CIB 95.

<sup>469</sup> SIB 101 citing *Glaxo Group, supra*.

<sup>470</sup> RX-589 (the Ballard reference).

<sup>471</sup> RIB 117-18.

**b. The Mufti '476 patent in Combination with the Jenner '869 Patent, the Rathbone '269 patent, and/or the Ballard Reference**

Respondents assert that the Mufti '476 patent, in combination with the Jenner '869 patent, the Rathbone '269 patent, and/or the Ballard reference along with the knowledge and experience of one of ordinary skill in the art, render the '463 patent anticipated and/or obvious. Respondents assert that one of ordinary skill in the art would be motivated to combine these references with some reasonable expectation of success because they concern the same area of technology and address the same issues.<sup>472</sup> Respondents acknowledge that the Mufti '476 patent was before the examiner during prosecution, but assert that under the case law, it can still be found to anticipate the '463 patent.<sup>473</sup>

Complainants assert that the deficiencies in the Mufti '476 patent and the Rathbone '269 patent cannot be cured when combining them with the Jenner '869 patent because it would have not have been obvious to one of ordinary skill in the art to add an acid chloride directly to a mixture of sucrose-6-ester and DMF to eliminate the need for a solid, pre-formed Vilsmeier salt. Complainants assert that Respondents' arguments is a classic case of hindsight.<sup>474</sup>

Staff agrees with Complainants that the evidence does not support a finding that the asserted claims of the '463 patent are invalid as either anticipated or obvious in view of any of the cited prior art.<sup>475</sup> According to Staff, none of the cited prior art teaches the formation of 1',6'-dichlorosucrose-6-ester at below 85°C, there is no evidence that 1',6'-dichlorosucrose-6-ester is inherently produced,

---

<sup>472</sup> RIB 115.

<sup>473</sup> RIB 114 citing *IPXL Holdings LLC v. Amazon.com Inc.*, 430 F.3d 1377, 1381 (Fed. Cir. 1990) ("*IPXL*"); *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360 (Fed. Cir. 1984) ("*American Hoist*"); RRB 62-63.

<sup>474</sup> CIB 98-100 citing *Grain Processing Corp. v. Am. Maize-Products Corp.*, 840 F.2d 902 (Fed. Cir. 1988) ("*Grain Processing*").

<sup>475</sup> SIB 101.

and there is no evidence that 1',6'-dichlorosucrose-6-ester has ever been isolated and characterized in any peer-reviewed publication before the filing date of the '463 patent.<sup>476</sup>

**(1) Claim 1**

Respondents assert that the Mufti '476 patent discloses the preparation of a sucrose-6-acetate followed by chlorination of that sucrose-6-acetate using a chlorinating agent prepared from an acid chloride and a tertiary amide, which describes the chlorinating agent as a Vilsmeier type. Respondents also assert that the Mufti '476 patent teaches the use of at least seven molar equivalents of acid chloride relative to the amount of sucrose-6-ester.<sup>477</sup>

Respondents assert that, during the prosecution of the '463 patent, the inventors argued that Mufti's use of the phrase "formed in situ" did not clearly suggest the claimed feature of "reacting the acid chloride and the tertiary amide in the presence of the sucrose-6-ester, since the term 'in situ' is ambiguous in the context used."<sup>478</sup> Respondents assert, however, that the meaning of "in situ" would have been clear to one of ordinary skill in the art, as seen in the Jenner '869 patent. According to Respondents, Example 7 of the Jenner '869 patent teaches the in situ formation of a Vilsmeier reagent by adding an acid chloride to a reaction mixture that consists of a protected sucrose compound in a DMF solution so that the Vilsmeier reagent is formed in the presence of the protected sugar molecule. Respondents assert that the only difference between this reaction and the reaction of step (a) in claim 1 of the '463 patent is that the protected sucrose in the Jenner '869 patent is a 2,3,6,3',4'-penta-O-acetylsucrose, rather than a sucrose monoacetate. Respondents assert

---

<sup>476</sup> SRB 17.

<sup>477</sup> RIB 115.

<sup>478</sup> RIB 116 citing RFF 2.49a.

that the difference is insignificant because the sucrose-penta-acetate in the Jenner '869 patent has an acetate group in the 6 position just like the sucrose-6-acetate used in the '463 patent.<sup>479</sup>

In addition, Respondents acknowledge that the Mufti '476 patent does not expressly disclose the formation of chloroformiminium chloride salt when acid chloride is added to a reaction mixture containing a sucrose-6-ester and a tertiary amide, or that the chloroformiminium salt from an O-alkylformiminium chloride adduct with the hydroxyl groups of the sucrose-6-ester.<sup>480</sup>

Respondents assert that if the undersigned construes step (b) as not requiring discrete heating steps, that both the Mufti '476 and Rathbone '269 patents disclose the heating profile claimed in the '463 patent. Respondents acknowledge that the Mufti '476 patent does not expressly disclose the existence of a mixture consisting of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester at below 85 °C, but asserts that if Complainants' claim construction that the mixtures of intermediates is inherently formed is adopted, then both the Mufti '476 and Rathbone '269 patents satisfy this claim limitation.<sup>481</sup>

Respondents assert that the Mufti '476 patent satisfies the limitations in step (c) because it produces a chlorinated product comprising 1',4,6'-trichlorosucrose-6-esters in a good yield of about 65%.<sup>482</sup>

Complainants assert that "in situ" simply means "in the pot" or "in the vessel" and that nothing about the term "in situ" implies that a reaction occurs in the presence of certain reagents.<sup>483</sup>

Complainants assert that the Jenner '869 patent teaches an entirely different approach to

---

<sup>479</sup> RIB 116.

<sup>480</sup> RIB 117 citing RFF 5.64-65.

<sup>481</sup> RIB 118.

<sup>482</sup> RIB 118.

<sup>483</sup> CIB 96 citing CFF 5.E.233, 244, 250; CRB 46-47.

trichlorinating sucrose because all of the hydroxyl groups not desired to be chlorinated are protected by ester groups. Because of this, Complainants assert that the Jenner '869 patent actually teaches away from the method in the '463 patent because the positions are not blocked.<sup>484</sup> Furthermore, it is argued, because the Jenner '869 patent used a penta-ester method, one of ordinary skill in the art would have expected the same approach to work in a mono-ester route.<sup>485</sup>

Staff asserts that of the cited prior art references, only the Mufti '476 and Rathbone '269 patents disclose the chlorination of sucrose-6-ester, but that neither of those references teaches the formation of the chloroformiminium chloride salt in the presence of the sucrose-6-ester or the formation of a mixture of chlorinated sucrose-6-ester products consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester at below 85°C. Staff argues that the reference in the Mufti '476 patent to "in situ" does not disclose that the Vilsmeier reagent may be formed in the presence of sucrose-6-ester because it may refer to the fact that the Vilsmeier reagent may be formed in the reaction vessel prior to the introduction of any sucrose-6-ester.<sup>486</sup> Furthermore Staff asserts that the examiner specifically considered the Mufti '476 patent's reference to in situ and withdrew a rejection based on obviousness.<sup>487</sup> As to the Jenner '869 patent's disclosure of "in situ," Staff asserts that it does not necessarily imply that sucrose-6-ester must be present in the reaction mixture of the Mufti '476 patent when the Vilsmeier reagent is formed. And Staff asserts that the evidence does not show that one of ordinary skill in the art would

---

<sup>484</sup> CIB 100 citing CFF 5.E.9-17, 284-89, 295, 300-04, 318-20; CRB 47-48.

<sup>485</sup> CIB 100-01 citing CFF 5.E.324-28, 605; CX-621CR (Crich Direct Redacted) at Q. 118.

<sup>486</sup> SIB 101-02 citing CX-621C (Crich Direct) at Q. 117; CRX-56C (Crich Rebuttal) at Q. 36-41.

<sup>487</sup> SIB 102 citing JX-6 (the '463 prosecution history) at 6/12/90 Office Action Response at 4-5.

have been motivated by the Jenner '869 patent to form a Vilsmeier reagent in the presence of sucrose-6-ester.<sup>488</sup>

Staff asserts that the evidence does not show that the three specific chlorinated sucrose-6-ester products are inherently found at temperatures below 85°C in any of the cited prior art chlorination processes.<sup>489</sup>

Respondents counter Complainants' argument. Respondents assert that, during prosecution, the inventors argued that the Mufti '476 patent did not teach the reaction of an acid chloride with a tertiary amide in the presence of a sucrose-6-ester and that the "in situ" language was ambiguous in the context used.<sup>490</sup> Respondents assert that Complainants' argument that "in situ" was used to clearly describe the situation where an acid chloride and DMF are combined in a vessel to form a solid Vilsmeier salt, and then sucrose-6-acetate is subsequently added is contrary to what was argued during prosecution.<sup>491</sup> While Respondents do not dispute that "in situ" means "in the pot," Respondents argue that "in situ" in the Mufti '476 patent was used the same way it was used in Example 7 of the Jenner '869 patent.<sup>492</sup>

Respondents also counter Complainants' argument that one of ordinary skill in the art would not have been motivated to combine the Mufti '476 patent, which used a sucrose mono-acetate, with the Jenner '869 patent, which used a sucrose penta-acetate, because both patents relate to the chlorination of the same 6', 4, and 1'-positions of sucrose to make sucralose. According to Respondents, the order of reactivity of the hydroxyl groups of sucrose when the 6-position is block

---

<sup>488</sup> SIB 103 citing CRX-56C (Crich Rebuttal) at Q. 53.

<sup>489</sup> SIB 103 citing Hanessian, Tr. 1637-38, Baker, Tr. 1690-91, Fraser-Reid, Tr. 1993.

<sup>490</sup> RRB 63 citing JX-6 (the '463 prosecution history) at 320.

<sup>491</sup> RRB 63-64 citing CRX-56C (Crich Rebuttal) at 10.

<sup>492</sup> RRB 64.

is 6' > 4 > 1', so the order of reaction in both the Mufti '476 patent and the Jenner '869 patent would be the same.<sup>493</sup>

## (2) Dependent Claims

Respondents assert that the Mufti '476 patent discloses the elements of the dependent claims of the '463 patent. For example, claim 2 requires that the tertiary amide of claim 1 contain an N-formyl group, while claim 3 requires that the tertiary amide be N, N-dimethylformamide, which the Mufti '476 patent discloses. As to claims 16-18, which require the sucrose-6-ester of claims 1-3 be a sucrose-6-benzoate or a sucrose-6-acetate, the Mufti '476 patent discloses both of those as well.<sup>494</sup> Neither Complainants nor Staff address the dependent claims at issue.

## (3) Conclusion

The undersigned agrees with Complainants and Staff that Respondents bear a heavier burden in showing that the three cited prior art references, *i.e.* the Jenner '869 patent, the Mufti '476 patent, and the Rathbone '269 patent, anticipate and/or render obvious the '463 patent because they were cited on the face of the '463 patent and considered by the examiner. The undersigned finds that Respondents have failed to meet their burden to show, by clear and convincing evidence, that any of these prior art references anticipate and/or render obvious the '463 patent.

With respect to anticipation, while Respondents continue to assert that some of these cited prior art references anticipate the '463 patent, Respondents did not show that either one of these prior references show each and every limitation of independent claim 1. Specifically, with respect to the Mufti '476 patent and the Rathbone '269 patent, neither of these references disclose the formation

---

<sup>493</sup> RRB 65 citing RFF 5.58, 5.107, 5.110.

<sup>494</sup> RIB 119.

of the chloroformiminium chloride salt in the presence of the sucrose-6-ester or the formation of a mixture of chlorinated sucrose-6-ester products consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester at below 85°C.<sup>495</sup> With respect to obviousness, none of the additional prior art references cure the defect above because the additional prior art references do not disclose the formation of a mixture of chlorinated sucrose-6-ester products consisting essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1',6'-dichlorosucrose-6-ester at below 85°C.

According, the undersigned finds that independent claim 1 of the '463 patent is not invalid based on anticipation or obviousness. Because the undersigned has not found independent claim 1 to be invalid, dependent claims 2-3 and 16-18 are also not found to be invalid.

**c. Secondary Considerations**

Complainants assert that if the undersigned finds the '463 patent invalid based on obviousness, that the objective evidence overwhelmingly demonstrates non-obviousness.<sup>496</sup> Complainants assert that after the discovery of sucralose in 1975, an intensive research effort ensued to find a commercially feasible manufacturing process for producing sucralose on a large scale. Complainants assert that in 1987, [

] According to  
Complainants, this first-generation sucralose process was considered unsuitable for large-scale production because it was complex and required expensive and difficult to recycle chemical reagents,

---

<sup>495</sup> CRX-56C (Crich Rebuttal) at Q. 31, 47-49.

<sup>496</sup> CIB 101-05; CRB 48-49.

but was the best available method at the time until the second-generation process was developed at the McIntosh plant in 1992.<sup>497</sup> According to Complainants the failed first-generation process shows the long-felt need and failure of others.

As to commercial success, Complainants assert that its second-generation process has had tremendous commercial success. Complainants argue that because its chlorination process practices claim 1 of the '463 patent there is a *prima facie* nexus between Complainants' commercial success and the '463 patent.<sup>498</sup> Complainants assert that industry praise also supports a finding of non-obviousness, as some of the Respondents in this investigation have praised the manufacturing process in the '463 patent as "simple and easy."<sup>499</sup> And Complainants assert that evidence of copying, by at least three of the manufacturing Respondents in this investigation, also supports a finding of non-obviousness.<sup>500</sup>

Respondents assert that there is no *prima facie* nexus between Complainants' commercial success and the '463 patent because Complainants rely on the sale of sucralose, while the patent covers a process for making sucralose-6-ester. Respondents also assert that there are many factors that contribute to the success of sucralose, including the functionality of the product, the fact that it is low in calories, the performance of sucralose compared to other sweeteners, the ability to formulate products that consumers want, and Complainants' reputation.<sup>501</sup>

---

<sup>497</sup> CIB 102.

<sup>498</sup> CIB 103-04 citing *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006) ("*Ormco*").

<sup>499</sup> CIB 104 citing CFF 5.E.438-441; CRB 48-49.

<sup>500</sup> CIB 105 citing CFF 5.C.608-32, 926-36, 1439-46.

<sup>501</sup> RRB 66 citing RFF 5.117-19, 5.125-30.

Respondents assert that Complainants' long-felt need and failure by others arguments are misleading. First, Respondents assert that the fact that two of the Respondents in this investigation proceeded with a different process in 2005 than the one taught in the Jenner '869 patent is irrelevant. Second, Respondents assert that the only long-felt need between 1975 and 1989 that Complainants' point to was within Tate & Lyle, and that the only failures were Complainants' own. Third, Respondents assert that there was no incentive for anyone to commercialize sucralose before 2001 because the compound was patented by Complainants, which did not expire until 2001. Finally, Respondents assert that sucralose was not approved by the FDA until 1998.<sup>502</sup>

Respondents counter Complainants' praise and copying arguments as well. According to Respondents, Complainants' citation to Respondent Niutang's patent application and Sukerui's feasibility study do not "praise" the claims in the '463 patent. Furthermore, as to copying, Respondents assert that such an allegations remain to be proven.<sup>503</sup>

Staff agrees with Complainants that secondary considerations support a finding that the '463 patent is not obvious. While other prior art processes for the chlorination of sucrose through sucrose-6-ester and sucrose-penta-ester were known for years before the filing of the '463 patent, Complainants only achieved commercial success after developing the "second generation" process that is currently used to manufacture sucralose.<sup>504</sup>

Respondents counter Staff's arguments regarding Complainants' second-generation process. According to Respondents, [

] which

---

<sup>502</sup> RRB 67.

<sup>503</sup> RRB 67-68.

<sup>504</sup> SIB 104 citing CX-614C (Maguire Direct) at Q. 17-18.

was 10 years after the '463 patent was issued. Therefore, Respondents assert that the commercial success of sucralose is attributable to FDA approval, not the way it is made.<sup>505</sup>

The undersigned finds it unnecessary to determine whether there are secondary considerations of non-obviousness, as the undersigned did not find that the '463 patent is obvious above.

### 3. Section 112

#### a. Lack of Enablement

Respondents assert that the examples in the '463 patent do not teach one of ordinary skill in the art how to form 1'6'-dichlorosucrose-6-ester at below 85°C. In support, Respondents cite to the testimony of Drs. Baker, Hanessian, and Fraser-Reid who all testified that 1'6'-dichlorosucrose-6-ester cannot form below 85°C.<sup>506</sup> Respondents argue that Complainants have not provided any evidence that shows that 1'6'-dichlorosucrose-6-ester can form below 85°C, and therefore, it is impossible to perform step (b) of claim 1, which makes it invalid for lack of enablement.<sup>507</sup> Respondents also argue that even if 1'6'-dichlorosucrose-6-ester can form below 85°C, the specification does not teach one of ordinary skill in the art how to analytically determine its presence because the specification does not differentiate among the various dichlorinated sucrose-6-esters that can be formed.<sup>508</sup> According to Respondents, in 1989, analytical techniques such as HPLC, mass

---

<sup>505</sup> RRB 66.

<sup>506</sup> RIB 104 citing RFF 5.21, 5.30-32, 5.35.

<sup>507</sup> RIB 104-05 citing *Raytheon Co. v. Roper Corp.* 724 F.2d 951, 956 (Fed. Cir. 1983) ("*Raytheon*"); *EMI Group N. Am., Inc. v. Cypress Semiconductor Corp.*, 268 F.3d 1342, 1348 (Fed. Cir. 2001) ("*EMP*"); *Process Control Corp. v. Hydrex Corp.*, 190 F.3d 1350, 1359 (Fed. Cir. 1999) ("*Process Control*"); *Linde Air Prods. Co. v. Graver Tank & Mfg. Co.*, 336 U.S. 271, 277-79 (1949) ("*Graver Tank*").

<sup>508</sup> RIB 105 citing RFF 5.22.

spectroscopy and NMR would have been available to test for the presence of 1'6'-dichlorosucrose-6-ester, but that there was not a known test method for doing so and that significant experimentation would have been necessary to formulate a workable test, especially because a reliable reference standard was not available<sup>509</sup>.

Respondents also assert that the patent is not enabled because the specification does not describe any method or procedure that teaches one of ordinary skill in the art how to determine whether an O-alkylformiminium chloride adduct forms with a hydroxyl groups of the sucrose-6-ester and how many. According to Respondents' expert, an analytical test method for making such a determination was generally not known in the art in 1989. Respondents also cite to [

] <sup>510</sup>

Finally, Respondents assert that the patent is not enabled because the specification does not provide sufficient information to practice the patent as it relates to sucrose-6-acetate.<sup>511</sup>

Staff agrees with Respondents that the '463 patent is invalid for lack of enablement.<sup>512</sup> According to Staff, the evidence shows that one of ordinary skill in the art would not be able to practice the invention claimed in the '463 patent without undue experimentation. In support, Staff argues the neither Respondents nor Complainants utilize a chlorination process in which a 1'6'-dichlorosucrose-6-ester can form below 85°C.<sup>513</sup> Furthermore, Staff asserts that there is no evidence that the inventors ever developed a chlorination process in which 1'6'-dichlorosucrose-6-ester is

---

<sup>509</sup> RIB 105 citing RFF 5.24-26, 5.30-32.

<sup>510</sup> RIB 106-07 citing RFF 5.9-13, 3.145.

<sup>511</sup> RIB 107.

<sup>512</sup> SIB 104; SRB 17-20.

<sup>513</sup> SIB 105.

produced as an intermediate, which is evidenced in the patent by the statement that reliable reference standards are not available for chlorinated derivatives.<sup>514</sup> Staff counters Complainants' reliance on the lab notebooks. According to Staff, the lab notebooks do not support [

]<sup>515</sup> While Staff agrees that the '463 patent is not enabled for the reasons set forth above, Staff does not agree with Respondents' other two enablement arguments (*i.e.* O-alkylformiminium chloride adducts, and sucrose-6-acetates).<sup>516</sup>

Complainants assert that Respondents' enablement argument should be rejected because the case law states that in order to practice the claimed invention, one need only perform the examples in the patent. According to Complainants, Respondents were clearly able to perform Examples 7 and/or 13 without undue experimentation.<sup>517</sup> Complainants assert that it is basic chemistry that if any dichlorinated sucrose-6-ester species form below 85°C, then all of the species will form according to their relative rates of reactivity, as dictated by the Boltzmann distribution.<sup>518</sup> Therefore, Complainants assert that it was not necessary to include such generally accepted reaction mechanisms in the '463 patent.<sup>519</sup> Furthermore, Complainants assert that the inventors possessed test methods suitable for detecting [ ]

---

<sup>514</sup> SIB 106 citing JX-1 (the '463 patent) at col.11:27-34.

<sup>515</sup> SRB 19.

<sup>516</sup> SRB 19-20.

<sup>517</sup> CIB 108 citing *Engel Indus., Inc. v. Lockformer Co.*, 946 F.2d 1528, 1533 (Fed. Cir. 1991) ("*Engel*"); CRB 49 citing Hanessian, Tr. 1601.

<sup>518</sup> CRB 50 citing CFF 5.E.458-64, 473-81.

<sup>519</sup> CRB 50 citing *Hybritech*, 802 F.2d at 1384.

As to Respondents' argument that other intermediates, such as chloroformiminium chloride salt and O-alkylformiminium chloride adducts could not have been ascertained, Complainants assert that the prior art literature confirms that one of ordinary skill in the art in 1989 would have recognized the presence of both chloroformiminium chloride salt and O-alkylformiminium chloride adducts.<sup>522</sup>

Respondents counter Complainants' statement as to what is required to satisfy the enablement requirement. According to Respondents, it is not sufficient to practice the examples in the patent because one must be able to practice the claims.<sup>523</sup> Respondents argue that one may well be able to practice the examples in the '463 patent, not all the examples cover claim 1, nor do those examples teach what is defined in the claims, namely 1'6'-dichlorosucrose-6-ester and O-alkylformiminium chloride adducts.<sup>524</sup>

The undersigned finds Respondents' and Staff's arguments to be persuasive. There is no direct evidence that the inventors ever confirmed [

] as it appears that the inventors merely speculated that such a product would be produced. The working examples of the '463 patent make no mention which dichlorosucrose-6-esters were detected below 85°C and the only time 1'6'-dichlorosucrose-6-ester is mentioned, other than in the

---

<sup>520</sup> CRB 50-51 citing CFF 5.E.560; Baker, Tr. 1488-89.

<sup>521</sup> CRB 51 citing CFF 5.E.482-547.

<sup>522</sup> CRB 52 citing CFF 5.C.147, 163, 213-18, 150-52.

<sup>523</sup> RRB 60-61 citing *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1469-70 (Fed. Cir. 1993) ("*Morton*"); *In re Wright*, 999 F.2d 1557, 1562-63 (Fed. Cir. 1993) ("*Wright*").

<sup>524</sup> RRB 61.

claim itself, is in the “brief summary of the invention” where the inventors state that they merely “believed” the mixture consisted essentially of monochlorosucrose-6-ester, 4,6'-dichlorosucrose-6-ester, and 1'6'-dichlorosucrose-6-ester.<sup>525</sup> Complainants’ arguments as to the “literature,” and theories of “basic chemistry,” and “kinetics” were already rejected above in the infringement and technical prong analysis, and are similarly unconvincing here. If it were truly a matter of basic chemistry and kinetics, the undersigned finds that it should have been rather simple to prove that the mixture consisted of 1'6'-dichlorosucrose-6-ester, but no such test was ever disclosed in the patent, nor have Complainants shown that a test was readily available to those of ordinary skill in the art. Accordingly, the undersigned finds that the '463 patent is invalid for lack of enablement.

**b. Lack of Written Description**

Respondents assert that the '463 patent is invalid because there is no evidence in the specification or the underlying lab notebooks that the inventors of the '463 patent ever formed and identified 1'6'-dichlorosucrose-6-ester at below 85°C or confirmed that adducts were formed and with how many hydroxyl groups of the sucrose-6-ester. According to Respondents, because the inventors never possessed what they claimed to have invented, claim 1 is invalid for lack of written description.<sup>526</sup>

Complainants assert that there is no basis to Respondents’ written description argument because it is a basic principle of chemistry that if any dichlorinated sucrose-6-ester species form below 85°C, then all of the species will form according to their relative rates of reactivity, as dictated

---

<sup>525</sup> JX-1 (the '463 patent) at col. 2:45.

<sup>526</sup> RIB 108.

by the Boltzmann distribution.<sup>527</sup> According to Complainants, this was well known to one of ordinary skill in the art in 1989, which is why the '463 patent refers to "DI's" in Fig. 4, conveying that multiple dichlorinated species will exist at the same time.<sup>528</sup>

Furthermore, Complainants assert that there is no legal requirement to disclose a test method for every limitation in the claims, especially since Complainants assert that one of ordinary skill in the art would have understood that, based on the theory of reaction kinetics, that the disclosed examples would inherently result in the claimed mixture of mono- and di- chlorinated species below 85 °C.<sup>529</sup> Nevertheless, Complainants assert that the inventors [

] <sup>530</sup>

As to Respondents' argument that other intermediates, such as chloroformiminium chloride salt and O-alkylformiminium chloride adducts could not have been ascertained, Complainants assert that there is evidence that shows that organic chemists routinely rely on peer-reviewed literature to determine the existence of chemical intermediates, including the intermediates in the '463 patent.<sup>531</sup>

Staff agrees with Complainants that the written description requirement is satisfied because the aspects of the claimed invention were presented in the application when it was filed. Staff argues that the case law only requires patent applicants to adequately describe what they invented in the

---

<sup>527</sup> CIB 106 citing CFF 5.E.458-64, 473-81.

<sup>528</sup> CIB 106 citing CFF 5.E.465-72.

<sup>529</sup> CIB 106 citing CFF 5.E.458-64, 473-81.

<sup>530</sup> CIB 106-07 citing CFF 5.E.482-514, 532-34, 560, 564-66, 572-74; Baker, Tr. 1488-89.

<sup>531</sup> CIB 107 citing CFF 5.C.151-54, 864, 5.E.575-81.

application that they filed and that it is undisputed that the originally filed application for the '463 patent contained all the limitation recited in claim 1.<sup>532</sup>

Respondents counter Complainants' arguments and assert that the general reference to "DI's" in the specification provides further support that the inventors did not know whether 1'6'-dichlorosucrose-6-ester formed at below 85°C. Respondents assert that, if it was "basic chemistry" that 1'6'-dichlorosucrose-6-ester is formed at below 85°C, then it would have been relatively easy to provide actual evidence that it was formed.<sup>533</sup> Respondents also assert that, if the inventors had a test method, then the method should have been disclosed, or even used in this investigation, which it wasn't. Respondents argue that a standard for 1'6'-dichlorosucrose is irrelevant because the standard in question is for a 1'6'-dichlorosucrose-6-ester.<sup>534</sup>

The undersigned agrees with Complainants and Staff that the written description requirement is satisfied. There is no dispute between the parties as to what 1'6'-dichlorosucrose-6-ester is. While the written description and enablement arguments are somewhat similar, the undersigned finds that, for purposes of the written description requirement, the requirement is satisfied because it is clear what 1'6'-dichlorosucrose-6-ester is, whereas, with the enablement requirement, there was no direct evidence that 1'6'-dichlorosucrose-6-ester was formed, or could be detected, below 85°C. Accordingly, the undersigned finds that the '463 patent is not invalid based on the written description requirement.

---

<sup>532</sup> SRB 20 citing *Enzo, supra*. Staff notes however, that there is no evidence from the lab notebooks that the inventors actually confirmed the formation of 1'6'-dichlorosucrose-6-ester.

<sup>533</sup> RRB 61-62.

<sup>534</sup> RRB 62.

**c. Indefiniteness**

Respondents assert that the '463 patent is indefinite because one of ordinary skill in the art would not be able to determine whether a particular process falls within or outside claim 1.<sup>535</sup>

Complainants assert that Respondents' indefiniteness argument should also be rejected for the same reasons that their enablement and written description arguments should be rejected. According to Complainants, when reading the claims of the '463 patent in light of the specification and the generally accepted knowledge in the field, persons of ordinary skill in the art would understand that 1'6'-dichlorosucrose-6-ester will form along with other dichlorinated species under conditions similar to those set forth in the specification of the '463 patent. Furthermore, Complainants assert that one of ordinary skill in the art could use known analytical techniques, such as HPLC tests, to identify the presence of dichlorinated sucrose-6-ester, including 1'6'-dichlorosucrose-6-ester.<sup>536</sup>

The undersigned does not find Respondents' arguments to be persuasive, as the undersigned was able to construe all of the disputed claim limitations above. Accordingly, the undersigned finds that the '463 patent is not invalid for indefiniteness.

---

<sup>535</sup> RIB 109 citing *Novo*, 350 F.3d at 1358.

<sup>536</sup> CRB 53 citing CFF 5.E.458-64; RFF 5.30.

## V. The Tin Patents - the '969 Patent and the '551 Patent

### A. Jurisdiction

As discussed above in the jurisdiction section,<sup>537</sup> the undersigned found that the Commission does not have subject matter jurisdiction over the '551 patent. In the event that the Commission disagrees with the undersigned's jurisdictional analysis, the undersigned has undertaken the analysis of claim construction, infringement, domestic industry, and validity of the '551 patent in this section.

### B. Claim Construction

#### 1. The '969 Patent

##### a. Asserted Claims

The asserted claims read as follows (with the first instance of the disputed terms highlighted in *italics*):

20. A process which comprises:

(1) preparing a solution of sucrose and a 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane in a *polar aprotic solvent* to form a first reaction mixture; and

(2) adding a carboxylic acid anhydride to said first reaction mixture to form a second reaction mixture and *maintaining said second reaction mixture at a temperature and for a period of time sufficient to produce a sucrose-6-ester.*

21. The process of claim 20 wherein the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetra-(alkyl)distannoxane selected from the group consisting of 1,3-diacetoxy-1,1,3,3-tetra(alkyl)distannoxane and 1,3-dibenzoyloxy-1,1,3,3-tetra(alkyl)distannoxane.

22. The process of claim 21 wherein the 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane is 1,3-diacetoxy-1,1,3,3-tetrabutyl)distannoxane, 1,3-diacetoxy-1,1,3,3-tetraoctyl)distannoxane, 1,3-dibenzoyloxy-1,1,3,3-tetrabutyl)distannoxane or 1,3-dibenzoyloxy-1,1,3,3-tetraoctyl)distannoxane.

---

<sup>537</sup> See Section (II)(A)(3).

23. The process of claim 22 wherein the 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane is 1,3-diacetoxy-1,1,3,3-tetrabutyl-distannoxane.
24. The process of claim 23 wherein the polar aprotic solvent is N,N-dimethylformamide.
25. The process of claim 24 wherein the carboxylic acid anhydride is acetic anhydride.
26. The process of claim 23 wherein the carboxylic acid anhydride is acetic anhydride.
28. The process of claim 20 wherein the polar aprotic solvent is N,N-dimethylformamide.
29. The process of claim 20 wherein the carboxylic acid anhydride is acetic anhydride.

**b. Disputed Claim Terms**

**(1) "polar aprotic solvent"**

Respondents assert that this claim term should be construed as solvents, such as DMF, DMO, DMA and HMPA, and other aprotic solvents which would be suitable for dissolving sucrose.<sup>538</sup> Complainants and Staff do not provide any claim construction for this claim term. Accordingly, the term "polar aprotic solvent" is construed as "a solvent which includes a polar aprotic media, such as DMF, DMSO, DMA, and HMPA, as well as other polar aprotic solvents in which sucrose is soluble."

**(2) "maintaining said second reaction mixture at a temperature and for period of time sufficient to produce a sucrose-6-ester"**

Complainants assert that this claim term requires a combination of time and temperature conditions sufficient to produce a sucrose-6-ester. According to Complainants, the claim limitation

---

<sup>538</sup> RIB 141.

can be satisfied by a single temperature plateau, a combination of temperature plateaus or steps, or a temperature ramp or gradient, so long a sucrose-6-ester is produced.<sup>539</sup>

Respondents assert that this claim term should be construed to mean that the second reaction mixture is kept at one temperature for a period of time sufficient to produce a sucrose-6-ester after the carboxylic acid anhydride is added to the first reaction mixture to form a second reaction mixture. Respondents also assert that DSDA is a subclass of DSDE, which is not the same as butyltins. According to Respondents, there are some forms of DSDE that do not contain butyltins and that butyltins can be found in organic tin compounds other than DSDE.<sup>540</sup>

Staff agrees with Complainants that the claim does not require holding the reaction mixture at one particular temperature because the examples in the specification do not require that the reaction mixture be kept at only one temperature. Furthermore, Staff asserts that the reference to “a temperature” in the claim language is properly construed as “one or more.”<sup>541</sup>

Complainants counter Respondents’ claim construction and argue that Respondents’ interpretation unduly restricts the claim and disregards the examples in the specification. Specifically, Complainants assert that Respondents’ claim construction excludes examples 2-6, 10, and 17 from the scope of the claim and that a claim construction that excludes the preferred embodiment “is rarely, if ever, correct.”<sup>542</sup>

As to Respondents’ argument regarding DSDE, DSDA, and butyltins, Complainants assert that Respondents fail to cite to Dr. Sands’ testimony that the DSDA compound exemplified and

---

<sup>539</sup> CIB 109; CRB 54.

<sup>540</sup> RIB 141 citing RFF 7.40-7.42; Sands, Tr. 1169-71.

<sup>541</sup> SIB 108.

<sup>542</sup> CIB 109-110; CRB 54, citing *Vitronics*, 90 F.3d at 1583.

claimed in the '969 and '551 patents contains butyltin as part of its structure. According to Complainants, DSDA is short for 1,3-diacetoxy-1,1,3,3-tetrabutyl-distannoxane, which clearly contains butyltin.<sup>543</sup>

In their reply briefs, both Respondents and Staff assert that none of the issues relating to infringement and validity appear to turn on either party's claim construction of the disputed claim terms.<sup>544</sup>

The undersigned finds Complainants' and Staff's arguments to be persuasive. A plain reading of the claim term does not require the temperature of the second reaction be kept at one temperature. The examples in the specification support this claim interpretation. Accordingly, the term "maintaining said second reaction mixture at a temperature and for period of time sufficient to produce a sucrose-6-ester" is construed as not limited the temperature of the second reaction mixture to be kept at one temperature for a period of time sufficient to produce a sucrose-6-ester.

## 2. The '551 Patent

### a. Asserted Claims

The asserted claims reads as follows (with the first instance of the disputed terms highlighted in *italics*):

1. A process which comprises extracting 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane from a mixture containing 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane, a sucrose-6-ester, and *polar aprotic solvent*, which process comprises the steps of:
  - (a) contacting said mixture, in the presence of *a small amount of water*, with an *organic solvent* that is substantially immiscible with water to form thereby an extraction mixture, wherein the amount of water employed is sufficient to cause efficient partitioning of said 1,3-

---

<sup>543</sup> CRB 55 citing CFF 6.586, 6.25; CX-617 CR (Sands Direct Redacted) at Q. 215; Sands, Tr. 1169-70.

<sup>544</sup> RRB 68; SRB 21.

diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane from a first phase comprising said polar aprotic solvent into second phase comprising said organic solvent;

(b) agitating the extraction mixture for a period of time and at a temperature sufficient to form thereby a two-phase mixture wherein the preponderance of the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane in the extraction mixture is contained in said second phase and essentially all of the sucrose-6-ester in the extraction mixture is contained in said first phase; and

(c) separating said first phase from said second phase.

2. Process of claim 1 wherein the polar aprotic solvent is N,N-dimethylformamide.
3. Process of claim 1 wherein said organic solvent is a member of the group consisting of hydrocarbons, ethers, chlorinated hydrocarbons, ketones, and esters.
4. Process of claim 2 wherein said organic solvent is a member of the group consisting of hydrocarbons, ethers, chlorinated hydrocarbons, ketones, and esters.
11. Process of claim 1 wherein the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane.
12. Process of claim 2 wherein the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane.
13. Process of claim 5 wherein the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane.
14. Process of claim 6 wherein the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane.
15. Process of claim 7 wherein the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane.
16. Process of claim 8 wherein the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane.
17. Process of claim 11 wherein the 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetrabutyl)distannoxane.
18. Process of claim 12 wherein the 1,3-diacyloxy-1,1,3,3-tetra(alkyl)distannoxane is a 1,3-diacyloxy-1,1,3,3-tetrabutyl)distannoxane.

19. Process of claim 1 wherein the acyloxy groups in the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane are acetoxy or benzoyloxy groups.
20. Process of claim 2 wherein the acyloxy groups in the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane are acetoxy or benzoyloxy groups.
21. Process of claim 15 wherein the acyloxy groups in the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane are acetoxy or benzoyloxy groups.
22. Process of claim 16 wherein the acyl groups in the 1,3-diacyloxy-1,1,3,3-tetra(hydrocarbyl)distannoxane are acetoxy or benzoyloxy groups.

**b. Disputed Claim Terms**

**(1) "a small amount of water"**

Complainants assert that this claim term should be construed to include, at the lower end, about two moles of water per mole of DSDE present in the extraction mixture, and at the upper end, an amount of water that would enhance partitioning of the two extraction phases without employing an amount of water that is unduly costly to remove. Specifically, Complainants assert that the '551 patent discloses that a 1.80 H<sub>2</sub>O/DSDE molar ratio is the minimum ratio to achieve efficient partitioning and that two moles of water to one mole of DSDE encompasses this amount. Complainants also assert that the specification discloses that the preferred ratio ranges from about three moles of water to about twenty moles of water per mode DSDE present in the extraction mixture.<sup>545</sup> But Complainants assert that the claim language is not limited to this numerical range.<sup>546</sup>

Respondents assert that this claim term should mean that the amount of water needed is not significantly more than necessary to facilitate the partitioning process, that is, obtaining two layers.<sup>547</sup>

---

<sup>545</sup> CIB 110; CRB 55, citing JX-2 (the '551 patent) at col. 6, table; 6:43-45.

<sup>546</sup> CIB 110; CRB 55-56, citing *Modine Mfg. Co. v. U.S. Int'l Trade Comm'n*, 75 F.3d 1545, 1551 (Fed. Cir. 1996) ("*Modine*").

<sup>547</sup> RIB 140 citing RFF 7.8; RX-561C (Fraser-Reid Direct) at Q. 48.

Staff “agrees with Complainants that the claim language does not require any minimum or maximum amount of water, and does not interpret Respondents’ proposed construction as requiring any specific amount.”<sup>548</sup>

Complainants counter Respondents’ argument and assert that Respondents’ claim construction only encompasses the minimum ratio to achieve efficient partitioning and does not even encompass the preferred range from the specification.<sup>549</sup>

In their reply briefs, both Respondents and Staff assert that none of the issues relating to infringement and validity appear to turn on either party’s claim construction of the disputed claim terms.<sup>550</sup>

The undersigned finds Complainants’ and Staff’s arguments to be persuasive. There is nothing in the claim language that restricts the amount of water to the minimum ratio in achieving an efficient partitioning. The undersigned agrees that that anything within the numerical range proposed by Complainants would fall into meaning of the claim term, but the undersigned does not limit the claim term to a numerical range.

**(2) “polar aprotic solvent”**

Respondents assert that this claim term should mean a solvent which includes a polar aprotic media, such as DMF, DMSO, DMA, and HMPA, as well as other polar aprotic solvents in which sucrose is soluble.<sup>551</sup> Complainants and Staff do not provide any claim construction for this claim term. Accordingly, the term “polar aprotic solvent” is construed as “a solvent which includes a polar

---

<sup>548</sup> SIB 109.

<sup>549</sup> CIB 111; CRB 56.

<sup>550</sup> RRB 68; SRB 21.

<sup>551</sup> RIB 140 citing RFF 7.9; RX-561C (Fraser-Reid Direct) at Q. 49.

aprotic media, such as DMF, DMSO, DMA, and HMPA, as well as other polar aprotic solvents in which sucrose is soluble.”

(3) “organic solvent”

Complainants assert that this claim term should be construed according to its ordinary meaning, which includes aliphatic and aromatic hydrocarbons, ethers, chlorinated hydrocarbons, ketones, and esters which show low cross-solubility to water.<sup>552</sup>

Respondents assert that this claim term should include, but not be limited to, aliphatic and aromatic hydrocarbons, ethers, chlorinated hydrocarbons, ketones, and ester which show low cross-solubility with water.<sup>553</sup>

Staff agrees with both parties that the organic solvent is one which shows “low cross-solubility with water,” which in turn means that “the extraction solvent dissolves less than about one weight per cent water, and water dissolves less than about one weight per cent of the extraction solvent, both solubilities being determined at temperatures below about 20 °C).”<sup>554</sup>

Complainants counter Respondents’ argument and assert that the claim term should not include the open-ended term “not be limited to.”<sup>555</sup> According to Complainants, the fact that a substance exhibits low cross-solubility with water does not make it an organic solvent.<sup>556</sup>

The undersigned finds that there is not much dispute among the parties as to the meaning of an “organic solvent.” Accordingly, the term “organic solvent” is construed as “aliphatic and

---

<sup>552</sup> CIB 111.

<sup>553</sup> RIB 140 citing RFF 7.10; RX-561C (Fraser-Reid Direct) at Q. 50.

<sup>554</sup> SIB 109 citing JX-2 (the ‘551 patent) at col. 4:64-5:5.

<sup>555</sup> CIB 111.

<sup>556</sup> CRB 56.

aromatic hydrocarbons, ethers, chlorinated hydrocarbons, ketones, and esters which show low cross-solubility to water.”

**C. Infringement of the ‘969 and ‘551 Patents**

**1. Changzhou Niutang & GDFII**

**a. In General**

Complainants assert that both Changzhou Niutang and GDFII infringe claim 20 of the ‘969 patent because the evidence shows that the pre-filing samples indicated the use of organic butyltin compounds during sucralose processing, and that the plant inspection samples collected from the [ ] areas also contained tin.<sup>557</sup> Specifically, with respect to element (1) of claim 20, Complainants assert that both Changzhou Niutang and GDFII [

] According to Complainants, DSDE is inferred from the presence of tin and butyltin in powder sucralose samples and plant inspection samples.<sup>558</sup> With respect to element (2) of claim 20, Complainants assert that both Changzhou Niutang and GDFII [

]<sup>559</sup> And Complainants assert that both Changzhou Niutang and GDFII maintain reaction conditions long enough to make sucrose-6-ester (specifically [ ]).<sup>560</sup>

According to Complainants, while Changzhou Niutang and GDFII [

], Complainants assert that DSDE can be used in conjunction with

---

<sup>557</sup> CIB 112.

<sup>558</sup> CIB 112 citing CFF 6.564, 6.571-6.577, 6.672, 6.694-6.695, 6.757, 6.771.

<sup>559</sup> CIB 112 citing CFF 6.2039.

<sup>560</sup> CIB 112 citing CFF 6.2040.

[ ] during sucrose-6-ester synthesis.<sup>561</sup> Complainants assert that the testing on Changzhou Niutang and GDFII's bulk pre-suit samples and plant inspection samples show that organic butyltins exist, and that Respondents' explanations for the presence of tin in their sucralose, *i.e.* the use of [ ] and various environmental factors; is not persuasive.<sup>562</sup>

Complainants go into detail as to how they obtained samples of Changzhou Niutang's and GDFII's imported sucralose and waste water samples from their manufacturing facilities [ ]<sup>563</sup> After obtaining the samples, Complainants had the bulk sucralose samples tested at the Center for Trace Analysis of the University of Southern Mississippi ("USM"), which Complainants assert showed the presence of tin in the bulk sucralose.<sup>564</sup> Complainants sent the waste water samples to Ciba, which Complainants assert showed the presence of tin.<sup>565</sup> Subsequently, Complainants sent bulk sucralose samples to the Virginia Institute of Marine Sciences ("VIMS"), which Complainants assert showed the presence of organic butyltin compounds.<sup>566</sup> Complainants assert that these tests confirm the presence of organic butyltin compounds and that Respondents have not produced any test results to the contrary.<sup>567</sup>

---

<sup>561</sup> CIB 113 citing CFF 6.965.

<sup>562</sup> CIB 114.

<sup>563</sup> CIB 114.

<sup>564</sup> CIB 115 citing CX-20C (USM Report), CX-21C (USM Report); CX-22 (LIMS numbers); CX-23C (spreadsheet with USM testing).

<sup>565</sup> CIB 115 citing CX-24C (Ciba Report); CX-25C (LIMS numbers).

<sup>566</sup> CIB 115-16 citing CX-26C (VIMS Report); CX-22 (LIMS numbers); CX-25C (LIMS numbers).

<sup>567</sup> CRB 63.

Complainants then go into detail on the samples taken from the plant inspections and the tests performed on them. First, Complainants inspected Changzhou Niutang's manufacturing plant in October 2007. According to Complainants, Changzhou Niutang claims that when this investigation was instituted, [

] Complainants collected chemical residues in, on, and around Changzhou Niutang's [ ] equipment and from a puddle at the bottom of an [ ] reactor that was not operational. Complainants had these samples tested at Ciba, which Complainants assert, showed the presence of tin.<sup>568</sup> Complainants point to sample N22, from Changzhou Niutang's [ ] reactor no. 18, in particular.<sup>569</sup>

Complainants state that they inspected Changzhou Niutang's manufacturing plant again in November 2007. A second plant inspection was necessary, it is asserted, because Changzhou Niutang modified its [ ] processes for making sucralose. They state that Changzhou Niutang also changed its equipment, repainted its workshop equipment and floor, and brought its new process up to commercial production. Complainants collected additional sample and had the samples tested by Ciba, which also showed the presence of tin in the samples.<sup>570</sup>

Complainants state that they inspected GDFII's manufacturing plant in October 2007. Complainants assert that they collected powder residues from workshop surface areas near

---

<sup>568</sup> CIB 117 citing CX-802C (Ciba Report); JX-49C (Niutang sample log); JX-48C (Niutang annotated plant layout); CX-32C (Niutang plant layout with translation).

<sup>569</sup> CIB 117-18; CRB 58-60.

<sup>570</sup> CIB 118-19 citing CX-802C (Ciba Report); CX-10C (Niutang sample log); JX-48C (Niutang annotated plant layout); CX-32C (Niutang plant layout with translation).

[ ] vessels and the bottom surfaces of [ ] equipment. Complainants state that they had these samples tested at Ciba, which Complainants assert, showed the presence of tin.<sup>571</sup>

Complainants assert that none of Respondents' explanations for the presence of tin is credible. As to the water pollution argument, Complainants assert that if environmental pollution is that widespread in China, then Complainants would have found tin residues in all of the Respondents' samples and that little to none was found in Hebei Sukerui or JK Sucralose's samples.<sup>572</sup> As to the paint argument, Complainants assert that if paint was the cause of the presence of tin, then tests of samples from all over Changzhou Niutang's and GDFII's plants would show the presence of tin, which they did not.<sup>573</sup> As to the raw materials argument, Complainants assert that if these raw materials were contaminated, Complainants would have detected these compounds uniformly across all samples points, which they did not.<sup>574</sup> As to the PVC pipe argument, Complainants assert that if the use of PVC piping to transmit water was the cause of the presence of tin, then the tests would have detected these compounds uniformly across all of the samples, which they did not.<sup>575</sup> Finally, Complainants counter Respondents' dusting argument.<sup>576</sup>

Changzhou Niutang asserts that it does not utilize DSDE to make sucrose-6-esters, as required by the '969 patent, in either its old or new process. Changzhou Niutang also asserts that neither its old or new process includes a process for extraction of DSDE, as required by the '551

---

<sup>571</sup> CIB 119 citing CX-803C (Updated ICP Results); CX-15C (GDFII sample log); CX-11C (GDFII annotated plant layout).

<sup>572</sup> CIB 121-22; CRB 57.

<sup>573</sup> CIB 122.

<sup>574</sup> CIB 123.

<sup>575</sup> CIB 123-24.

<sup>576</sup> CRB 62.

patent.<sup>577</sup> Rather, Changzhou Niutang uses [ ]<sup>578</sup>

According to Changzhou Niutang, Complainants' expert, Dr. Sands, observed Changzhou Niutang's processes and confirmed that he did not observe the use of any organic tin compounds during any portion of the inspection.<sup>579</sup> Changzhou Niutang asserts that its old process does not infringe either the '969 or '551 patents because it used [

] <sup>580</sup> Changzhou Niutang asserts that its new process does not infringe either the '969 or '551 patents because [

] <sup>581</sup> Furthermore, Changzhou Niutang asserts that it does not infringe the '551 patent because neither its old nor new process uses [ ] <sup>582</sup> As to Ciba's test results, Changzhou Niutang asserts that the revised results support a finding of non-infringement because when the liquid sample was extracted with cyclohexane, no tin was detected.<sup>583</sup>

GDFII asserts that it does not utilize DSDE to make sucrose-6-esters, as required by the '969 patent.<sup>584</sup> GDFII also asserts that its process does not include a process for extraction of DSDE, as required by the '551 patent.<sup>585</sup> Rather, GDFII uses [

] <sup>586</sup> According to GDFII, Complainants expert, Dr. Sands, observed GDFII's process and

---

<sup>577</sup> RIB 142.

<sup>578</sup> RIB 143; RRB 69.

<sup>579</sup> RIB 143 citing RFF 7.35.

<sup>580</sup> RIB 143 citing RFF 7.74, 7.51-7.52.

<sup>581</sup> RIB 144 citing RFF 7.72.

<sup>582</sup> RIB 144.

<sup>583</sup> RIB 144-45 citing RFF 7.143-7.144.

<sup>584</sup> RIB 145.

<sup>585</sup> RIB 145-46.

<sup>586</sup> RIB 145; RRB 69.

confirmed that he did not observe the use of any organic tin compounds during any portion of the inspection.<sup>587</sup> GDFII asserts that its process does not infringe either the '969 or '551 patents because it does not use any organic tin compounds in its sucralose manufacturing process.<sup>588</sup> Furthermore, GDFII asserts that it does not infringe the '551 patent because its process does not form a two-phase mixture in order to extract DSDE.<sup>589</sup>

Respondents assert that the mere presence of tin in trace quantities in bulk sucralose, waste water samples, and swab samples from the plant inspections, does not prove infringement. According to Respondents, Complainants' "inference" that DSDE is being used during the sucralose manufacturing process is "speculative" and "not definitive" to show infringement.<sup>590</sup> Furthermore, Respondents assert that the presence of tin can be explained by many factors, including environmental pollution and contamination, as well as [

] <sup>591</sup>

As to the test results relied upon by Complainants, Respondents assert that such test results should be given little to no weight because Dr. Sands had no first-hand knowledge regarding any of the tests and that no knowledgeable witnesses testified with regard to the tests.<sup>592</sup> Likewise, Respondents assert that Dr. Flora's reliance of tests by USM and VIMS should also be given little to no weight because he did not have any first-hand knowledge regarding any of the tests as well.<sup>593</sup>

Respondents go on to argue that even if the tests were reliable, the tests performed by Ciba and USM

---

<sup>587</sup> RIB 145 citing RFF 7.190.

<sup>588</sup> RIB 145 citing RFF 1.89, 7.191.

<sup>589</sup> RIB 145-46 citing RFF 7.304, 7.320, 7.777.

<sup>590</sup> RIB 146 citing RFF 7.19-7.23.

<sup>591</sup> RIB 147-48; 151-53; RRB 75-77.

<sup>592</sup> RIB 148 citing RFF 7.201; RRB 71.

<sup>593</sup> RIB 148 citing RFF 7.257-7.261, 7.284-7.298.

do not identify the type of tin detected, *i.e.* organic vs. inorganic.<sup>594</sup> As for the VIMS testing, Respondents assert that such testing was performed on pre-suit samples and that such test results should be looked at with caution based on how the pre-suit samples were obtained and because the source of the samples could not be verified directly, nor was there any verification that the samples were free from contamination.<sup>595</sup> Respondents assert that the results were qualitative, rather than quantitative because the tests could only measure the presence of butyl tins, rather than the amount of butyl tins.<sup>596</sup> As for sample N22, Respondents assert that [

] Respondents also assert that [

] and therefore [ ] could easily have entered the inside of vessel no. 18 through powders in the air, workers' gloves, or other means.<sup>597</sup> As to Complainants' argument that no tin was detected in samples from Hebei Sukerui or JK Sucralose, Respondents counter that Complainants did not submit any evidence that those samples were sent to VIMS for testing, which can detect butyl tins in the range of parts per trillion.<sup>598</sup>

Furthermore, Respondents assert that butyl tins are not the same as DSDE, which is claimed in the '969 and '551 patents.<sup>599</sup> Finally, Respondents assert that Complainants have the capability

---

<sup>594</sup> RIB 149 citing RFF 7.175.

<sup>595</sup> RIB 149-150 citing RFF 1.178-1.204.

<sup>596</sup> RIB 150-51 citing RFF 7.160-7.163, 7.182, 7.309, 7.607-7.611.

<sup>597</sup> RRB 74 citing JX-19C (Cai Dep) at 164, Cai, Tr. 2052-53; RFF 7.374.

<sup>598</sup> RRB 75.

<sup>599</sup> RIB 150-51 citing RFF 7.157-7.159; RRB 70-71.

to test for DSDA directly, but failed to provide any testing results on Changzhou Niutang or GDFII's samples.<sup>600</sup>

Staff asserts that Complainants' expert, Dr. Sands, acknowledged that the processes he observed when visiting both Changzhou Niutang and GDFII's manufacturing plants did not utilize the DSDE catalyst that is claimed in both the '969 and '551 patents.<sup>601</sup> As for the test results, Staff asserts that Respondents have provided sufficient explanations as to why tin would be present in the bulk sucralose and the plant inspection samples. Furthermore, Staff is skeptical about the accuracy of the test results and tin detected, as there are discrepancies in test results between the pre-suit and plant inspection water effluent samples.<sup>602</sup> Staff also asserts that Complainants admit that they have developed a method to detect the presence of the specific organic tin catalyst, DSDA, that is claimed in the '969 and '551 patent, but that Complainants have not presented any test results showing the presence of DSDA in Changzhou Niutang or GDFII's samples.<sup>603</sup>

The undersigned agrees with Respondents and Staff that the evidence shows that neither Changzhou Niutang nor GDFII utilize the DSDE catalyst that is claimed in both the '969 and '551 patents. Rather, the evidence shows that Changzhou Niutang and GDFII utilize [

] This was confirmed by Complainants' expert, Dr. Sands, when he visited both Changzhou Niutang and GDFII's manufacturing plants.<sup>604</sup>

---

<sup>600</sup> RIB 151 citing RFF 7.584-7.591.

<sup>601</sup> SIB 110 citing CX-617C (Sands Direct).

<sup>602</sup> SRB 22-23.

<sup>603</sup> SIB 113 citing Flora, Tr. 609-21; RX-301C (Analytical Results dated 11/30/07) at p. 7.

<sup>604</sup> CX-617C (Sands Direct) at Q. 70, 75-76, 85-86; Sands, Tr. 1168-69.

Complainants continue to assert infringement, however, based on the allegation that the presence of tin in Changzhou Niutang and GDFII's bulk sucralose and plant inspection samples indicates that the manufacturing processes used by Changzhou Niutang and GDFII's were not accurately reflected in the plant inspection. In support, Complainants have relied upon a number of tests conducted by Ciba, USM, and VIMS. The undersigned agrees with Respondents and Staff that the results from these tests are not enough to prove infringement.

First, Complainants failed to present testimony from anyone at Ciba, USM, or VIMS regarding the tests so there is no way to test the methodology used or reliability of the results. Second, even if the testimony had been presented and the test results were reliable, the results from Ciba and USM only measure total tin content, rather than the type of tin, *i.e.* organic vs. inorganic, while the test results from VIMS only measures the presence of organic tin, rather than the quantity.<sup>605</sup> Respondents have provided more than one reasonable explanation as to why tin may have been detected in some of the pre-suit and plant inspection samples, including environmental pollution and contamination derived from PVC pipes, plastic gloves, paints, and polyurethanes.<sup>606</sup> The other, more plausible explanation from Respondents is their use of [

] in their sucralose manufacturing process.<sup>607</sup> Therefore, the undersigned finds that the presence of tin in Changzhou Niutang's and GDFII's bulk sucralose and plant inspection samples can be explained by other factors other than the use of the processes disclosed in the '969 and '551 patent.

---

<sup>605</sup> RX-828C (Fraser-Reid Rebuttal) at Q. 96-97, 108; RX-829C (Walters Rebuttal) at Q. 72-74, 101-102; CX-617C (Sands Direct) at Q. 224, 236-239; Walters, Tr. 2103.

<sup>606</sup> See RX-320C (Yan Report); RX-828C (Fraser-Reid Rebuttal) at Q. 78, 102, 105-06; RX-830C (Li Chunrong Rebuttal) at Q.51-52.

<sup>607</sup> See RX-828C (Fraser-Reid Rebuttal) at Q. 94-95; RX-829C (Walters Rebuttal) at Q. 96.

While Complainants may have suspicions that Changzhou Niutang and GDFII changed their manufacturing process or have the ability to easily reconfigure the equipment in their facilities to run different processes, there is no evidence that they ran different processes, other than those disclosed, or have reconfigured their manufacturing equipment. In the absence of more than just speculation and inferences, the undersigned finds that Complainants have failed to show, by a preponderance of the evidence, that either Changzhou Niutang or GDFII infringe the '969 and '551 patents.

Accordingly, based on the above, the undersigned finds that Complainants have failed to meet their burden of proving that Changzhou Niutang or GDFII infringe either the '969 or '551 patents.

**b. Presumption**

Complainants moved for a presumption, under 35 U.S.C. § 295 that Changzhou Niutang and GDFII infringe the asserted claims of the '969 and '551 patents, which was denied by Order No. 52. Complainants re-assert that a presumption of infringement is justified.<sup>608</sup> Respondents assert that the undersigned has already ruled that a presumption is not warranted, and therefore it is inappropriate for Complainants to continue arguing for a presumption.<sup>609</sup> Staff agrees with Respondents that Complainants' motion for a presumption has already been denied, and that Complainants have not presented any additional evidence to establish that Respondents have concealed their use of the DSDE catalyst in this investigation.<sup>610</sup>

The undersigned does not find Complainants' argument any more persuasive now than when it was rejected in Order No. 52 as there is no evidence that Respondents failed to participate in

---

<sup>608</sup> CIB 125-32.

<sup>609</sup> RRB 68-69.

<sup>610</sup> SRB 21.

discovery or hindered Complainants from being able to make a reasonable effort to determine their manufacturing processes. Accordingly, the undersigned does not find that a presumption of infringement is warranted under 35 U.S.C. § 295.

## **2. AIDP**

Complainants assert that, because AIDP has not provided any discovery in this investigation, Complainants do not know who the manufacturer of AIDP's sucralose is. Complainants state that, although AIDP has sourced sucralose from China, none of the manufacturing Respondents claim to manufacture AIDP's sucralose. According to Complainants, pre-suit testing of AIDP's sucralose confirms that AIDP's sucralose infringes the asserted claims of the '969 and '551 patents.<sup>611</sup>

Respondents assert that there is no credible evidence that AIDP or Hebei Research infringe the tin patents. According to Respondents, the mere presence of tin does not prove infringement.<sup>612</sup>

The undersigned agrees with Respondents that the evidence based on the pre-suit testing does not affirmatively show that AIDP infringes either the '969 or '551 patents for the same reasons infringement was not proven against Changzhou Niutang or GDFII, namely because the presence of organic butyl tin was not confirmed in AIDP's pre-suit sample.

## **3. CJ America**

Complainants assert that CJ America has admitted that it infringes the asserted claims of the '969 and '551 patents.<sup>613</sup>

As there is no dispute regarding CJ America's infringement, the undersigned finds that CJ America infringes the asserted claims of the '969 and '551 patents.

---

<sup>611</sup> CIB 132 citing CFF 6.1583-6.1634.

<sup>612</sup> RRB 58-59.

<sup>613</sup> CIB 132 citing CJ America's Response to Complaint, ¶¶ 1, 197, 199.

#### 4. Non-manufacturing Participating Respondents

Complainants assert that the following Respondents have admitted that they sell for importation, import, and/or sell after importation into the United States sucralose manufactured by one or more of Changzhou Niutang and GDFII: Garuda, [ ] [ ]

] and U.S. Niutang. In addition, Complainants assert that Heartland Packaging has distributed in the United States sucralose [ ]<sup>614</sup>

Complainants assert that, because the processes used by Changzhou Niutang and GDFII to manufacture sucralose infringe the asserted claims of the '969 and '551 patents, each of the above-named respondents also infringe the asserted claims of the '969 and '551 patents.<sup>615</sup>

Because the undersigned found that neither Changzhou Niutang nor GDFII infringe the asserted claims of the '969 and '551 patents, the undersigned also finds that the above-named Respondents also do not infringe the asserted claims of the '969 and '551 patents.

#### 5. The Remaining Non-Participating and Defaulted Respondents

Complainants assert that the following non-participating and defaulting respondents do not contest that they sell for importation, import, and/or sell after importation into the United States sucralose manufactured by at least one or more of Changzhou Niutang and/or GDFII: Nu-Scaan, Shanghai Aurisco, and Zhongjin.<sup>616</sup> Complainants assert that, because the processes used by Changzhou Niutang and GDFII to manufacture sucralose infringe the asserted claims of the '969 and '551 patents, each of the above-named respondents also infringe the asserted claims of the '969 and

---

<sup>614</sup> CIB 133 citing CFF 4.36, 4.39, 4.68-4.70, 4.76, 4.90.

<sup>615</sup> CIB 133.

<sup>616</sup> CIB 133 citing CFF 4.116-4.123, 4.136-4.139, 4.144-4.146.

'551 patents.<sup>617</sup> Complainants also assert that, because these respondents did not participate in this investigation, they should be found in violation of section 337 with regard to infringement of the '969 and '551 patents.<sup>618</sup>

Because the undersigned found that neither Changzhou Niutang nor GDFII infringe the asserted claims of the '969 and '551 patents, the undersigned also finds that the above-named Respondents also do not infringe the asserted claims of the '969 and '551 patents.

**D. Domestic Industry - Technical Prong**

**1. The '969 Patent**

Complainants assert that none of the parties in this investigation contest Complainants domestic industry practice of the '969 patent. Complainants also assert that the evidence demonstrates that the sucralose manufacturing process at the McIntosh plant practices claim 20 of the '969 patent.<sup>619</sup> Respondents do not dispute Complainants' evidence regarding technical prong. Staff agrees that the testimony of James Wiley is sufficient to establish that Complainants practice the '969 patent.<sup>620</sup>

**a. Claim 20**

**(1) Step (1)**

Complainants assert that the evidence shows that the acetylation process at the McIntosh plant involves [ ]

---

<sup>617</sup> CIB 133.

<sup>618</sup> CIB 133.

<sup>619</sup> CIB 134 citing CFF 6.1641-6.1687.

<sup>620</sup> SIB 114 citing CX-619C (Wiley Direct).

] <sup>621</sup>

**(2) Step (2)**

Complainants assert that the evidence shows that the acetylation process at the McIntosh plant involves [

] <sup>622</sup>

**a. Conclusion**

The undersigned finds that, based on the evidence presented by Complainants, and there being no opposition, the Complainants have satisfied the technical prong of the domestic industry requirement for the '969 patent.

**2. The '551 Patent**

Complainants assert that none of the parties in this investigation contest Complainants domestic industry practice of the '551 patent. Complainants also assert that the evidence demonstrates that the sucralose manufacturing process at the McIntosh plant practices claim 1 of the '551 patent.<sup>623</sup> Respondents do not dispute Complainants' evidence regarding technical prong. Staff agrees that the testimony of James Wiley is sufficient to establish that Complainants practice the '551 patent.<sup>624</sup>

---

<sup>621</sup> CIB 134 citing CFF 6.1651-6.1654.

<sup>622</sup> CIB 134 citing CFF 6.1655-6.1681.

<sup>623</sup> CIB 134-45 citing CFF 6.1688-6.1714.

<sup>624</sup> SIB 114 citing CX-619C (Wiley Direct).

**a. Claim 1**

**(1) Step (a)**

Complainants assert that the evidence shows that the [

] <sup>625</sup>

**(2) Step (b)**

Complainants assert that the evidence shows that the [

] <sup>626</sup>

**(3) Step (c)**

Complainants assert that the evidence shows that the [

] <sup>627</sup>

---

<sup>625</sup> CIB 134-35 citing CFF 6.1698-6.1714.

<sup>626</sup> CIB 135 citing CFF 6.1700-6.1714.

<sup>627</sup> CIB 135 citing CFF 6.1712-6.1714.

**a. Conclusion**

The undersigned finds that, based on the evidence presented by Complainants, and there being no opposition, the Complainants have satisfied the technical prong of the domestic industry requirement for the '551 patent.

**E. Validity**

**1. The '969 Patent**

**a. Ordinary Skill in the Art**

Complainants assert that one of ordinary skill in the art is a person with a Masters degree in organic chemistry or in a similar field and at least 2 years of experience, as of the date Application Serial No. 07/572,816 ("the '816 application") was filed on August 27, 1990.<sup>628</sup> Respondents assert that one of ordinary skill in the art is a person with at least a Master's degree in organic chemistry or similar field and 2-5 years of experience in preparative organic synthesis at the time the application for the '969 patent was filed, on May 2, 1994.<sup>629</sup> Respondents note that Complainants have taken the position that the '969 patent claims are entitled to an earlier filing date of August 21, 1990, but that this does not change the validity analysis in any way.<sup>630</sup> Staff agrees with Respondents.<sup>631</sup>

The undersigned agrees with the parties that a person of ordinary skill in the art to which the '969 pertains would have a Masters degree in organic chemistry or in a similar field and at least 2

---

<sup>628</sup> CRB 66 citing CFF 6.1723, 6.1734-6.1735.

<sup>629</sup> RIB 159.

<sup>630</sup> RIB 159 citing RFF 7.904-7.905.

<sup>631</sup> See Staff's Objections and Rebuttals Findings to Respondents' Findings of Fact at RFF 7.904-7.905 (no objection) and Staff's Objections and Rebuttals Findings to Complainants' Findings of Fact at 6.1724-6.1726.

years of experience. As to the proper priority date, the undersigned finds that, as Respondents and Staff make no objection to Complainants' argument for an earlier priority date, that the earlier priority date prevails.

**b. Prior Art References**

**(1) The Navia '746 Patent**

Respondents assert that U.S. Patent No. 4,950,746 ("the Navia '746 patent")<sup>632</sup> is prior art to the '969 patent. According to Respondents, the Navia '746 patent teaches the use of distannoxane tin catalysts to control the formation of sucrose-6-esters.<sup>633</sup>

Complainants assert that the Navia '746 patent was considered by the PTO Examiner, which is cited on the face of the '969 patent, and also identified in the background section of the patent. Therefore, Complainants assert that Respondents bear a heavier burden in showing that this reference invalidates the asserted claims of the '969 patent.<sup>634</sup> According to Complainants, the Navia '746 patent discloses a prior art acylation technique that is very different than the '969 patent because it uses different reagents and reaction sequences.<sup>635</sup>

---

<sup>632</sup> RX-168 (the Navia '746 patent).

<sup>633</sup> RIB 160-61 citing RX-168 (the Navia '746 patent) at col. 7:39-60; RFF 7.919-7.920, 7.924.

<sup>634</sup> CIB 137 citing *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323-24 (Fed. Cir. 1999) ("*Al-Site*"); *American Hoist*, 725 F.2d at 1359.

<sup>635</sup> CRB 66.

## (2) The Otera Reference

Respondents assert that the Otera reference<sup>636</sup> is prior art to the '969 patent. According to Respondents, the Otera reference teaches the advantages of using distannoxane intermediates for carrying out acylations of alcohols.<sup>637</sup>

Complainants assert that the Otera reference was considered by the PTO Examiner, and therefore, Respondents bear a heavier burden in showing that this reference invalidates the asserted claims of the '969 patent.<sup>638</sup> According to Complainants, the Otera reference describes how solvent polarity affects 1,3-diisothiocyanato-1,1,3,3-tetrabutyl-distannoxane catalyzed transesterification reactions involving substrates such as benzyl alcohol and methyl butyrate.<sup>639</sup>

## (3) The Wagner Reference

Although Respondents assert that the Wagner reference<sup>640</sup> is prior art to the '969 patent, they do not make any specific arguments in their brief regarding the Wagner reference.<sup>641</sup>

Complainants assert that the Wagner reference was considered by the PTO Examiner, and therefore, Respondents bear a heavier burden in showing that this reference invalidates the asserted claims of the '969 patent.<sup>642</sup>

---

<sup>636</sup> Otera *et al.*, "Distannoxane as Reverse Micelle-Type Catalyst: Novel Solvent Effect on Reaction Rate of Transesterification," *J. Org. Chem.* 54:4013-14 (1989), RX-396 (the Otera reference).

<sup>637</sup> RIB 161 citing RX-396; RFF 7.921.

<sup>638</sup> CIB 137 citing *Al-Site*, 174 F.3d at 1323-24; *American Hoist*, 725 F.2d at 1359.

<sup>639</sup> CRB 67 citing CFF 6.1847, 6.1857.

<sup>640</sup> RX-397 (the Wagner reference).

<sup>641</sup> See RIB 159-65; CRB 67.

<sup>642</sup> CIB 137 citing *Al-Site*, 174 F.3d at 1323-24; *American Hoist*, 725 F.2d at 1359.

#### (4) The David Reference

Respondents assert that the David reference<sup>643</sup> is prior art to the '969 patent. According to Respondents, the David reference is a review article that discloses several examples of regioselective acylation of polyhydroxylic carbohydrate derivatives.<sup>644</sup>

Complainants assert that the David reference was considered by the PTO Examiner, and therefore, Respondents bear a heavier burden in showing that this reference invalidates the asserted claims of the '969 patent.<sup>645</sup> According to Complainants, the David reference contains examples of bis(tributyltin) oxide reacting with various carbohydrates, including sucrose, followed by acylation to produce mixtures of esters having varying degrees of substitution, and that such reactions are not regioselective in the sense of acylating just one specific site in these carbohydrates.<sup>646</sup>

#### (5) The '551 Patent

Respondents assert that the '551 patent is prior art to the '969 patent. Respondents argue that the '551 patent discloses that various distannoxanes and other organic tin catalysts can be used with different solvents to obtain the intermediate shown in Fig. 2 of the Navia '746 patent, namely 1, 3-di-(6-O-sucrose)-1,1,3,3-tetra(hydrocarbyl)distannoxane.<sup>647</sup> Furthermore, Respondents assert that the '551 patent discloses that DSDE is a byproduct of these processes.<sup>648</sup>

Complainants assert that the '551 patent was considered by the PTO Examiner, and therefore, Respondents bear a heavier burden in showing that this reference invalidates the asserted claims of

---

<sup>643</sup> David *et al.*, "Regioselective Manipulation of Hydroxyl Groups via Organotin Derivatives," *Tetrahedron* Vol. 41(4), pp. 643-663 (1985), RX-110 (the David reference).

<sup>644</sup> RIB 159-160 citing RX-110; RFF 7.918, 7.923, 7.929-7.931.

<sup>645</sup> CIB 137 citing *Al-Site*, 174 F.3d at 1323-24; *American Hoist*, 725 F.2d at 1359.

<sup>646</sup> CRB 67-68 citing CFF 6.1873.

<sup>647</sup> RIB 162 citing JX-2 (the '551 patent) at col. 1:43-2:41.

<sup>648</sup> RIB 162 citing JX-2 (the '551 patent) at col. 2:43-49.

the '969 patent.<sup>649</sup> According to Complainants, the '551 patent briefly describes the Navia '746 patent and two other Noramco applications.<sup>650</sup>

**c. Anticipation**

It appears that Respondents no longer contend that the Navia '746 patent anticipates the asserted claims of the '969 patent, as Respondents did not present a *separate* anticipation argument in its post-trial brief. Accordingly, the undersigned makes no findings as to anticipation of the '969 patent.

**d. Obviousness: The Navia '746 Patent in Combination with the Otera Reference, the Wagner Reference, the David Reference, and/or the '551 Patent**

Respondents assert that the Navia '746 patent teaches each of the asserted elements of claim 20 of the '969 patent. According to Respondents, the Navia '746 patent discloses a distannoxane catalyst that can be used for regioselective acylation of sucrose that is very similar to the distannoxane catalyst claimed in the '969 patent.<sup>651</sup> Furthermore, Respondents assert that carboxylic acid anhydrides can be used to make sucrose-6-esters and that the Navia '746 patent provides heating temperatures and times in Examples 3-6.<sup>652</sup>

With regard to claims 21-23 of the '969 patent, Respondents assert that the more specific forms of DSDE are not unique or novel and that the Navia '746 patent discloses similar variations.<sup>653</sup>

Furthermore, with respect to claim 24, Respondents assert that DMF is disclosed in the Navia '746

---

<sup>649</sup> CIB 137 citing *Al-Site*, 174 F.3d at 1323-24; *American Hoist*, 725 F.2d at 1359.

<sup>650</sup> CRB 68 citing CFF 6.1849.

<sup>651</sup> RIB 162 citing RX-168 (the Navia '746 patent) at col. 4:3-13.

<sup>652</sup> RIB 162 citing RFF 7.924-7.928, 7.932.

<sup>653</sup> RIB 162 citing RX-168 (the Navia '746 patent) at claims 1, 5-7.

patent.<sup>654</sup> With regard to claims 25-26 and 28-29 of the '969 patent, Respondents assert that the Navia '746 patent discloses the use of a variety of carboxylic acid anhydrides in Examples 3-6.<sup>655</sup>

While Respondents concede that the distannoxane catalyst in the Navia '746 patent is not exactly the same as the catalyst used in the '969 patent, they are similar in structure and function. Therefore, Respondents argue that one would be motivated by the disclosure in the '746 patent that the catalyst be recycled, and the disclosure in the '551 patent that DSDE is a by-product of the reaction, to consider DSDE as the catalyst.<sup>656</sup>

Respondents go on to argue that, the combined teachings of the Navia '746 patent, along with the Otera references, the Wagner reference, the David reference, and/or the '551 patent, as well as the knowledge and experience of one of ordinary skill in the art, render the claims of the '969 patent obvious. According to Respondents, one of ordinary skill in the art would have been motivated to combine these references because they "deal with the same area of technology and address the same issues."<sup>657</sup>

According to Complainants, the Navia '746 patent discloses a prior art acylation technique that is very different from the '969 patent because it uses different reagents and reaction sequences. Complainants cite to Dr. Fraser-Reid's testimony that the tin catalyst in the Navia '746 patent is "very similar to" but "not exactly the same as" the tin catalyst in the '969 patent.<sup>658</sup> Therefore, Complainants assert that the Navia '746 patent does not disclose each and every limitation of claim

---

<sup>654</sup> RIB 162 citing RX-168 (the Navia '746 patent) at col. 7:26-37; col. 8:41-59.

<sup>655</sup> RIB 162 citing RX-168 (the Navia '746 patent) at Example 4.

<sup>656</sup> RIB 162-63 citing RFF 7.917; RRB 82-83.

<sup>657</sup> RIB 163-64 citing RF 7.933.

<sup>658</sup> CIB 136 citing CFF 6.1750; RX-561C (Fraser-Reid Direct) at Q. 43.

20 of the '969 patent.<sup>659</sup> Complainants further assert that Respondents cannot meet their heavy burden on obviousness because Respondents failed to articulate any specific combination of references that render the asserted claims of the '969 patent obvious. Specifically, Complainants assert that none of the combination of references disclose a process using DSDE for acylation, and that the '969 patent requires performing a sucrose-6-ester acylation process using DSDE for acylation.<sup>660</sup>

Specifically, Complainants assert that Respondents ignore the testimony of the inventors, namely Juan Navia and George Sankey, who both testified that the acetylation processes in their respective patents proceed through different intermediates and work in different ways. According to Complainants, there is no support for Dr. Fraser-Reid's testimony that the two processes would proceed similarly.<sup>661</sup>

Staff agrees with Complainants that Respondents have not established the invalidity of the '969 and/or the '551 patents by clear and convincing evidence. While Staff concedes that the Navia '746 patent teaches the use of an organic tin catalyst ("DBDS") that is very similar to DSDE, the catalyst used in the '969 and '551 patents, that the PTO examiner specifically considered the Navia '746 patent and withdrew pending rejections after the applicants explained the difference between the two catalysts.<sup>662</sup>

Respondents counter that the evidence shows that the applicants misrepresented the Navia '746 patent to the examiner because, in fact, the same intermediate is formed in both processes of

---

<sup>659</sup> CIB 136.

<sup>660</sup> CIB 137 citing 6.1851, 6.1854.

<sup>661</sup> CRB 69-71.

<sup>662</sup> SIB 114-15 citing JX-8 (the '969 prosecution history), 11/30/93 Office Action Response at 4-5.

the Navia '746 patent and the '969 patent.<sup>663</sup> Therefore, Respondents assert that the fact that the Patent Office granted the '969 patent in view of the Navia '746 patent should not be entitled to any extra weight.<sup>664</sup>

The undersigned agrees with Complainants and Staff that Respondents bear a heavier burden in showing that the above prior art references render the '969 patent obvious because they were considered by the PTO examiner during the prosecution of the '969 patent. The undersigned does not find Respondents' argument persuasive that the applicants misrepresented the Navia '746 patent to the examiner. Based on a review of the arguments presented, the undersigned finds that Respondents have failed to meet their burden to show, by clear and convincing evidence, that these prior art references render the '969 patent obvious. First, Respondents only made general arguments that a certain combination of references render the '969 patent obvious without arguing any specific combinations. Second, even taking these references in combination, the references do not disclose the specific process using DSDE for acylation, as required by the '969 patent. Accordingly, the undersigned finds that the '969 patent is not invalid based on obviousness.

## **2. The '551 Patent**

### **a. Ordinary Skill in the Art**

Complainants assert that one of ordinary skill in the art is a person with a Masters degree in organic chemistry or in a similar field and at least two years of experience.<sup>665</sup> Respondents assert that one of ordinary skill in the art is a person with at least a Master's degree in organic chemistry or similar field and 2-5 years of experience in preparative organic synthesis, at the time the

---

<sup>663</sup> RRB 82-83 citing RFF 7.926.

<sup>664</sup> RRB 83.

<sup>665</sup> CRB 72.

application for the '551 patent was filed, which was April 23, 1990.<sup>666</sup> Staff agrees with Respondents.<sup>667</sup>

The undersigned agrees with the parties that a person of ordinary skill in the art to which the '551 pertains would, in 1990, have a Masters degree in organic chemistry or in a similar field and at least two years of experience.

**b. The Prior Art References**

**(1) The Navia '746 Patent**

Respondents assert that the Navia '746 patent is prior art to the '551 patent, as the application for the Navia '746 patent was submitted on July 18, 1988, which is before the filing date for the '551 patent.<sup>668</sup> According to Respondents, the Navia '746 patent teaches the use of tin catalysts to control the formation of sucrose-6-esters.<sup>669</sup>

Complainants assert that the Navia '746 patent is cited on the face of the '551 patent and that the PTO Examiner cited the Navia '746 patent during the prosecution of the '551 patent, and therefore, Respondents bear a heavier burden in showing that this reference anticipates the asserted claims of the '551 patent.<sup>670</sup> According to Complainants, the Navia '746 patent discloses reacting sucrose with a form of organotin, namely DBTO, to then form DBSS, which can then be reacted with an acylating agent to form a sucrose-6-ester.<sup>671</sup>

---

<sup>666</sup> RIB 154 citing RFF 7.434-7.435.

<sup>667</sup> See Staff's Objections and Rebuttals Findings to Respondents' Findings of Fact at RFF 7.434-7.435 (no objection).

<sup>668</sup> RIB 154.

<sup>669</sup> RIB 154.

<sup>670</sup> CIB 140 citing *Al-Site, supra*.

<sup>671</sup> CRB 72 citing CFF 6.1909-1.1911.

## (2) The Moore Reference

Respondents assert that the Moore reference<sup>672</sup> is prior art to the '551 patent. According to Respondents, the Moore reference discloses the use of liquid/liquid partition to extract substances that are soluble to a different extent in two liquid layers.<sup>673</sup>

Complainants assert that the Moore reference was considered by the PTO Examiner, and therefore, Respondents bear a heavier burden in showing that this reference invalidates the asserted claims of the '551 patent. According to Complainants, the Moore reference is a textbook that describes liquid/liquid extractions in a very general way.<sup>674</sup>

## (3) The Wagner Reference

Respondents assert that the Wagner reference<sup>675</sup> is prior art to the '551 patent. According to Respondents, the Wagner reference teaches that the selective acylation of one of several hydroxyl groups in polyhydroxylic substrates can be achieved by the use of dibutyltin oxide in dimethylformamide.<sup>676</sup>

Complainants assert that the Wagner reference was considered by the PTO Examiner, and therefore, Respondents bear a heavier burden in showing that this reference invalidates the asserted claims of the '551 patent. According to Complainants, in the Wagner reference, the solvent is

---

<sup>672</sup> "Experimental Methods in Organic Chemistry," 3<sup>rd</sup> Ed., Chapter 4 (1982), RX-396 (the Moore reference).

<sup>673</sup> RIB 155-158 citing RFF 7.438-7.439.

<sup>674</sup> CRB 73 citing CFF 6.1917-6.1918.

<sup>675</sup> "Preparation and Synthetic Utility of Some Organotin Derivatives of Nucleosides," *J. Org. Chem.* 39(1) pp. 24-30 (1974), RX-397 (the Wagner reference).

<sup>676</sup> RIB 155-158 citing RFF 7.438-7.439.

evaporated from the reaction mixture and the dry residue is treated with water and chloroform to separate the product from the organotin compound.<sup>677</sup>

**c. Anticipation - The Navia '746 Patent**

Respondents argue that the Navia '746 patent teaches each of the asserted claims of the '551 patent because the Navia '746 patent describes the recovery of a tin catalyst for recycling using procedures that are analogous to recovery procedures that are known in the art.<sup>678</sup> Furthermore, Respondents argue that the Navia '746 patent also discloses contacting a mixture of DSDE, a sucrose-6-ester, and DMF with an organic solvent such as methylene chloride that is substantially immiscible with water.<sup>679</sup>

Specifically, Respondents argue that claim 1 is anticipated by the Navia '746 patent to the extent that the patent incorporates other known techniques. With regard to claim 2, Respondents assert that the Navia '746 patent discloses the use of dimethylformamide.<sup>680</sup> With regard to claims 3 and 4, Respondent assert that the Navia '746 patent discloses methylene chloride, which is a chlorinated hydrocarbon that is used as an organic solvent.<sup>681</sup> With regard to claims 11-22, Respondents assert that one of ordinary skill in the art would know that the same extraction techniques could be used for the different forms of DSDE.<sup>682</sup>

According to Complainants, the Navia '746 patent fails to disclose any extraction process, which is disclosed in the '551 patent. Furthermore, Complainants assert that crystallization and

---

<sup>677</sup> CRB 73 citing CFF 6.1959.

<sup>678</sup> RIB 155 citing RX-168 (the Navia '746 patent), col. 5:47-49.

<sup>679</sup> RIB 156 citing RX-168 (the Navia '746 patent) at col. 5:66-68.

<sup>680</sup> RIB 158 citing RX-168 (the Navia '746 patent) at col. 5:35.

<sup>681</sup> RIB 158 citing RX-168 (the Navia '746 patent) at col. 5:54.

<sup>682</sup> RIB 158 citing RFF 7.459.

filtering techniques, which are disclosed in the Navia '746 patent, are not extraction processes.<sup>683</sup>

In support, Complainants cite to Dr. Fraser-Reid's testimony that liquid/solid filtration is different than liquid/liquid extraction.<sup>684</sup>

Staff agrees with Complainants that Respondents have not established invalidity of the '969 and/or the '551 patents by clear and convincing evidence. While Staff concedes that the Navia '746 patent teaches the use of an organic tin catalyst ("DBDS") that is very similar to DSDE, the catalyst used in the '969 and '551 patents, that the PTO examiner specifically considered the Navia '746 patent and withdrew pending rejections after the applicants explained the difference between the two catalysts.<sup>685</sup>

Respondents counter that while the Navia '746 patent fails to disclose a "liquid/liquid extraction" technique, that the patent clearly incorporates by references "procedures that are known in the art" for recovering sucrose-6-ester products from a reaction mixture and that liquid/liquid extraction techniques were well known at the time of the Navia '746 patent.<sup>686</sup>

The undersigned agrees with Complainants and Staff that Respondents bear a heavier burden in showing that the Navia '746 patent anticipates the '551 patent because it was cited on the face of the '551 patent. The undersigned finds that Respondents have failed to meet their burden to show, by clear and convincing evidence, that the Navia '746 patent anticipates the '551 patent because the Navia '746 patent fails to disclose the extraction process in the '551 patent. Accordingly, the undersigned finds that the Navia '746 patent does not anticipate the '551 patent.

---

<sup>683</sup> CIB 140 citing CFF 6.1907-6.1916, 6.1919-6.1929.

<sup>684</sup> CRB 73 citing CFF 6.1910; Fraser-Reid, Tr. 1931.

<sup>685</sup> SIB 114-15 citing JX-8 (the '969 prosecution history), 11/30/93 Office Action Response at 4-5.

<sup>686</sup> RRB 81 citing RFF 7.436-7.445.

**d. Obviousness - The Navia '746 Patent in Combination with the Moore Reference, and/or the Wagner Reference**

Respondents assert that the standard extraction techniques described in the Moore reference are the recovery procedures that were known in the art at the time of the '551 patent application, and that one of ordinary skill in the art would be motivated to combine these two references.<sup>687</sup> As to the '551 patent's disclosure of a "small amount of water," Respondents assert that this concept is not new.<sup>688</sup>

Complainants assert that the Navia '746 patent, in combination with the Moore reference, and/or the Wagner reference, does not invalidate the asserted claims in the '551 patent. According to Complainants, the Navia '746 patent does not disclose any extraction process and, while Respondents attempt to overcome this deficiency by relying on the Moore reference, Complainants assert that the inventors of the '551 patent do not claim to have invented the concept of liquid/liquid extraction, but that they merely invented a novel way to use it during the processing of sucralose. Furthermore, Complainants assert that the Navia '746 patent teaches away from using a liquid/liquid extraction and therefore, a person of ordinary skill in the art would not have been motivated to combine these two references.<sup>689</sup>

Complainants also assert that the Moore reference does not disclose adding a small amount of water to a two-phase organic mixture during extraction.<sup>690</sup> Complainants cite to Dr. Sands'

---

<sup>687</sup> RIB 156 citing RFF 7.455-7.457.

<sup>688</sup> RIB 156-57 citing RFF 7.32, 7.11, 7.443.

<sup>689</sup> CRB 74-75.

<sup>690</sup> CIB 141 citing CFF 6.1958.

testimony that in reactions of this type using DMF, you would typically dump your reaction mixture into a large volume of water, which differs from the approach disclosed in the '551 patent.<sup>691</sup>

Staff agrees with Complainants that Respondents have failed to show that the '551 patent is invalid.<sup>692</sup>

Respondents argue that Complainants concede that all of the elements of the asserted claims of the '551 patent were well-known with the exception of adding a "small amount of water." According to Respondents, the evidence shows that using a "small amount of water" was a well known and standard technique to facilitate the extraction process.<sup>693</sup>

The undersigned agrees with Complainants and Staff that Respondents bear a heavier burden in showing that the above prior art references render the '551 patent obvious because they were considered by the PTO examiner during the prosecution of the '551 patent. Based on a review of the arguments presented, the undersigned finds that Respondents have failed to meet their burden to show, by clear and convincing evidence, that these prior art references render the '551 patent obvious because the references do not show a liquid/liquid extraction, or the use of a small amount of water. Accordingly, the undersigned finds that the '551 patent is not invalid based on obviousness.

---

<sup>691</sup> CRB 75 citing Sands, Tr. 1235.

<sup>692</sup> SIB 114-15.

<sup>693</sup> RRB 81-82 citing RFF 1.109-1,110, 1.165-1.169, 7.5, 7.443, 7.458.

## **VI. The '709 Patent**

### **A. Claim Construction**

#### **1. Asserted Claims**

The asserted claims read as follows (with the first instance of the disputed terms highlighted in *italics*):

8. A process for producing sucralose from a feed mixture of (a) 6-O-acyl-4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose, (b) salt including alkali metal or alkaline earth metal chloride, (c) water, and (d) other chlorinated sucrose by-products, in a reaction medium comprising a tertiary amide, wherein said process comprises:
  - (i) removing said tertiary amide to produce an aqueous solution of (a), (b) and (d) from which a major proportion of the tertiary amide in said feed mixture has been removed;
  - (ii) deacylating the 6-O-acyl-4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose by raising the pH of the aqueous solution product of step (i) to a pH of at least about 11 (+/-) at a temperature and for a period of time sufficient to effect said deacylation, to produce an aqueous solution comprising sucralose, salt including alkali metal or alkaline earth metal chloride, and other chlorinated sucrose by-products; and
  - (iii) recovering sucralose from the product of step (ii).
9. The process of claim 8 wherein the 6-O-acyl-4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose is 6-O-acetyl-4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose or 6-O-benzoyl-4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose.
13. The process of claim 9 wherein the tertiary amide is N,N-dimethylformamide.

#### **2. Disputed Claim Terms**

There are no disputed claim terms. Accordingly, all claims will be construed by their ordinary meaning.

## **B. Infringement**

### **1. AIDP**

Complainants assert that AIDP failed to respond to any of its discovery requests, but that Complainants presented evidence that the pre-suit testing samples confirms that AIDP infringes the asserted claims of the '709 patent.<sup>694</sup>

Respondents assert that there is no credible evidence that AIDP or Hebei Research infringe the '709 patent because Complainants rely on the same analysis with respect to Respondents Hebei Sukerui, GDFII, and Changzhou Niutang, which were abandoned.<sup>695</sup>

Staff asserts that the evidence relied upon by Complainants to prove infringement against AIDP and Hebei Research, namely the testimony of Dr. Ware Flora, is insufficient. According to Staff, Dr. Flora is an analytical chemist at Tate & Lyle and was not qualified as an expert witness in this investigation. Furthermore, Staff asserts that Dr. Flora did not personally conduct or oversee any of the testing on the AIDP or Hebei Research samples in his witness statement.<sup>696</sup> As to Dr. Flora's actual testimony, Staff asserts that evidence that sucralose, sucralose-6-acetate, and DMF, as well as sodium chloride, and chlorinated sucrose by-products, were detected in AIDP's and Hebei Research's sucralose sample does not indicate that AIDP or Hebei Research necessarily used the deacylation process disclosed in the '709 patent because the presence of these components merely implies that the components were used in the feed mixture of AIDP and Hebei Research's deacylation process.<sup>697</sup>

---

<sup>694</sup> CIB 143-44 citing CFF 7.0-7.30; CX-616CR (Flora Direct Redacted) at Q. 93, 105-106.

<sup>695</sup> RRB 58-59.

<sup>696</sup> SIB 116 citing CX-616C (Flora Direct); Flora, Tr. 583-589.

<sup>697</sup> SIB 117 citing CX-616C (Flora Direct) at q. 106, 114; Flora, Tr. 700-02.

Complainants argue that, while Staff asserts that the *prima facie* case for infringement against AIDP and Hebei Research, based on the testimony of Dr. Flora, is insufficient for the purposes of a general exclusion order, Staff agrees that there should be a finding of violation against AIDP and Hebei Research. Complainants counter Staff's concerns, noting that AIDP did not provide any discovery from which to assess infringement and therefore, reliance on pre-suit samples was appropriate.<sup>698</sup>

The undersigned agrees with Staff that the testimony of Dr. Flora is insufficient to affirmatively prove that AIDP infringes the asserted claims of the '709 patent. Dr. Flora did not perform or oversee any of the tests regarding AIDP.<sup>699</sup> In addition, no one who conducted the tests was called to testify regarding the methodology used or the reliability of the results. Even if the tests were reliable, however, the tests which show the mere presence of detected impurities is not conclusive that AIDP infringes the deacylation process disclosed in the '709 patent.<sup>700</sup>

Accordingly, the undersigned finds that the evidence does not affirmatively show that AIDP infringes the asserted claims of the '709 patent.

## 2. CJ America

Complainants assert that CJ America has admitted that it infringes the asserted claims of the '709 patent.<sup>701</sup>

As there is no dispute regarding CJ America's infringement, the undersigned finds that CJ America infringes the asserted claims of the '709 patent.

---

<sup>698</sup> CRB 76.

<sup>699</sup> Flora, Tr. 583-89.

<sup>700</sup> Flora, Tr. 700-02.

<sup>701</sup> CIB 142 citing CJ America's Response to Complaint, ¶ 203.

### 3. Fortune Bridge

Complainants assert that Fortune Bridge failed to participate in this investigation and has not responded to any discovery requests. Complainants assert that Commission Rule 210.17 authorizes the undersigned and the Commission to draw adverse inferences and to issue findings of fact, conclusions of law, and determinations for failures to act and that Fortune Bridge should be found in violation of section 337 by infringement of the '709 patent.<sup>702</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>703</sup>

As there is no dispute regarding Fortune Bridge's infringement, the undersigned finds that Fortune Bridge infringes the asserted claims of the '709 patent.

### 4. Gremount

Complainants assert that Gremount has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Gremount should be found to infringe the asserted claims of the '709 patent.<sup>704</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>705</sup>

---

<sup>702</sup> CIB 145-46 citing *Certain Electrical Connectors and Products Containing Same*, Inv. No. 337-TA-375, Order No. 24 at 3-4 (September 8, 1994) ("*Electrical Connectors*").

<sup>703</sup> SIB 116.

<sup>704</sup> CIB 146.

<sup>705</sup> SIB 116.

As there is no dispute regarding Gremount's infringement, the undersigned finds that Gremount infringes the asserted claims of the '709 patent.

#### **5. Hebei Academe**

Complainants assert that Hebei Academe has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Hebei Academe should be found to infringe the asserted claims of the '709 patent.<sup>706</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>707</sup>

As there is no dispute regarding Hebei Academe's infringement, the undersigned finds that Hebei Academe infringes the asserted claims of the '709 patent.

#### **6. Hebei Research**

Complainants assert that Hebei Research defaulted in this investigation and failed to respond to any discovery requests, but that Complainants presented evidence that the testing of Hebei Research's sucralose samples confirms that Hebei Research infringes the asserted claims of the '709 patent.<sup>708</sup>

Respondents assert that there is no credible evidence that AIDP or Hebei Research infringe the '709 patent because Complainants rely on the same analysis with respect to Respondents Hebei Sukerui, GDFII, and Changzhou Niutang, which were abandoned.<sup>709</sup>

---

<sup>706</sup> CIB 146.

<sup>707</sup> SIB 116.

<sup>708</sup> CIB 144-45 citing CFF 7.31-7.60; CX-616CR (Flora Direct Redacted) at Q. 107, 113-14.

<sup>709</sup> RRB 58-59.

As noted above, Staff asserts that the evidence relied upon by Complainants to prove infringement against Hebei Research is insufficient.<sup>710</sup>

As Hebei Research has already defaulted in this investigation, the undersigned finds that there is no need to address whether Complainants have affirmatively proved that Hebei Research infringes the '709 patent.<sup>711</sup>

#### **7. Lianyungang Natiprol**

Complainants assert that Lianyungang Natiprol has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Lianyungang Natiprol should be found to infringe the asserted claims of the '709 patent.<sup>712</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>713</sup>

As there is no dispute regarding Lianyungang Natiprol's infringement, the undersigned finds that Lianyungang Natiprol infringes the asserted claims of the '709 patent.

---

<sup>710</sup> SIB 116 citing CX-616C (Flora Direct); Flora, Tr. 583-589.

<sup>711</sup> It is the undersigned's understanding that Complainants are attempting to affirmatively prove that certain non-participating Respondents are infringing the patents at issue to support their request for a general exclusion order, which the undersigned does not find to be warranted in the circumstances of this case. See Section IX(A).

<sup>712</sup> CIB 146.

<sup>713</sup> SIB 116.

## 8. Nu-Scaan

Complainants assert that Nu-Scaan failed to participate in this investigation and has not responded to any discovery requests. Complainants assert that Commission Rule 210.17 authorizes the undersigned and the Commission to draw adverse inferences and to issue findings of fact, conclusions of law, and determinations for failures to act and that Nu-Scaan should be found in violation of section 337 by infringement of the '709 patent.<sup>714</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>715</sup>

As there is no dispute regarding Nu-Scaan's infringement, the undersigned finds that NuScaan infringes the asserted claims of the '709 patent.

## 9. Ruland

Complainants assert that Ruland has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Ruland should be found to infringe the asserted claims of the '709 patent.<sup>716</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>717</sup>

---

<sup>714</sup> CIB 145-46 citing *Electrical Connectors, supra*.

<sup>715</sup> SIB 116.

<sup>716</sup> CIB 146.

<sup>717</sup> SIB 116.

As there is no dispute regarding Ruland's infringement, the undersigned finds that Ruland infringes the asserted claims of the '709 patent.

#### **10. Shanghai Aurisco**

Complainants assert that Shanghai Aurisco has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Shanghai Aurisco should be found to infringe the asserted claims of the '709 patent.<sup>718</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>719</sup>

As there is no dispute regarding Shanghai Aurisco's infringement, the undersigned finds that Shanghai Aurisco infringes the asserted claims of the '709 patent.

#### **11. Vivion**

Complainants assert that Vivion failed to participate in this investigation and has not responded to any discovery requests. Complainants assert that Commission Rule 210.17 authorizes the undersigned and the Commission to draw adverse inferences and to issue findings of fact, conclusions of law, and determinations for failures to act and that Vivion should be found in violation of section 337 by infringement of the '709 patent.<sup>720</sup>

---

<sup>718</sup> CIB 146.

<sup>719</sup> SIB 116.

<sup>720</sup> CIB 145-46 citing *Electrical Connectors, supra*.

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>721</sup>

As there is no dispute regarding Vivion's infringement, the undersigned finds that Vivion infringes the asserted claims of the '709 patent.

## **12. Zhongjin**

Complainants assert that Zhongjin has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Zhongjin should be found to infringe the asserted claims of the '709 patent.<sup>722</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>723</sup>

As there is no dispute regarding Zhongjin's infringement, the undersigned finds that Zhongjin infringes the asserted claims of the '709 patent.

### **C. Domestic Industry - Technical Prong**

Complainants assert that none of the parties in this investigation contest Complainants' domestic industry practice of the '709 patent.<sup>724</sup> Respondents do not dispute Complainants' evidence

---

<sup>721</sup> SIB 116.

<sup>722</sup> CIB 146.

<sup>723</sup> SIB 116.

<sup>724</sup> CIB 146.

regarding technical prong. Staff agrees that the testimony of James Wiley is sufficient to establish that Complainants practice the '709 patent.<sup>725</sup>

Complainants also assert that they presented evidence that they practice both claims 1<sup>726</sup> and 8 of the '709 patent.<sup>727</sup> Complainants assert that, [

728

] <sup>729</sup>

---

<sup>725</sup> SIB 119.

<sup>726</sup> Claim 1 of the '709 patent reads as follows:

A process for producing sucralose from a feed mixture of (a) 6-O-acyl-4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose, (b) salt including alkali metal or alkaline earth metal chloride, (c) water, and (d) other chlorinated sucrose by-products, in a reaction medium comprising a tertiary amide, wherein said process comprises:

- (i) deacylating the 6-O-acyl-4,1',6'-trichloro-4,1',6'-trideoxygalactosucrose by raising the pH of the aqueous solution of (a), (b), (c) and (d) to about 11 (+-.1) at a temperature and for a period of time sufficient to effect said deacylation, to produce an aqueous solution comprising sucralose, salt including alkali metal or alkaline earth metal chloride, and other chlorinated sucrose by-products, in a reaction medium comprising a tertiary amide;
- (ii) removing said tertiary amide; and
- (iii) recovering sucralose from the product of step (ii). ]

<sup>727</sup> CIB 146 citing CFF 7.65-7.92.

<sup>728</sup> CIB 146-47 citing CFF 7.69-7.70.

<sup>729</sup> CIB 147 citing CFF. 7.78-7.92.

**1. Claim 1**

**a. Step (i)**

Complainants assert that the [

] <sup>730</sup>

**b. Step (ii)**

Complainants assert that [

] <sup>731</sup>

**c. Step (iii)**

Complainants assert that [

] <sup>732</sup>

**2. Claim 8**

**a. Step (i)**

Complainants assert that the [

] <sup>733</sup>

---

<sup>730</sup> CIB 147-48 citing CFF 7.81-7.89.

<sup>731</sup> CIB 148 citing CFF 7.90-7.92.

<sup>732</sup> CIB 148 citing CFF 7.90-7.92.

<sup>733</sup> CIB 147 citing CFF 7.70-7.71.

**b. Step (ii)**

Complainants assert that [

] <sup>734</sup>

**c. Step (iii)**

Complainants assert that the evidence shows that the [

] <sup>735</sup>

**3. Conclusion**

The undersigned finds that, based on the evidence presented by Complainants, and there being no opposition, the Complainants have satisfied the technical prong of the domestic industry requirement for the '709 patent.

**D. Validity**

There is no dispute as to the validity of the '709 patent which is presumed to be valid. <sup>736</sup>

---

<sup>734</sup> CIB 147 citing CFF 7.72-7.75.

<sup>735</sup> CIB 147 citing CFF 7.72-7.76.

<sup>736</sup> 35 U.S.C. § 282.

## VII. The '435 Patent

### A. Claim Construction

#### 1. Asserted Claim

The asserted claim reads as follows (with the first instance of the disputed terms highlighted in *italics*):

1. A method for removing impurities from a starting composition including sucralose; first and second impurities, each of said first and second impurities comprising one or more related halogenated sucrose derivatives; and a first solvent; the method comprising the steps of: (a) extracting the starting composition with a second solvent at least partially immiscible with the first solvent to transfer the first impurities into said second solvent, thereby converting the starting composition to a partially purified composition comprising the sucralose, the second impurities, and the first solvent; (b) extracting the partially purified composition with a third solvent at least partially immiscible with the first solvent to transfer the sucralose into said third solvent while retaining the second impurities in said first solvent; and (c) recovering said sucralose from the third solvent via crystallizing said sucralose; wherein the first impurities comprise tetrachlorosucrose, and wherein in step (a) at least half of the tetrachlorosucrose is transferred to the second solvent while at least half of the sucralose is retained in the first solvent.

#### 2. Disputed Claim Terms

There are no disputed claim terms. Accordingly, all claims will be construed by their ordinary meaning.

### B. Infringement

#### 1. CJ America

Complainants assert that CJ America has admitted that it infringes the asserted claims of the '435 patent.<sup>737</sup>

As there is no dispute regarding CJ America's infringement, the undersigned finds that CJ America infringes the asserted claims of the '435 patent.

---

<sup>737</sup> CIB 149 citing CJ America's Response to Complaint, ¶ 205.

## 2. Fortune Bridge

Complainants assert that Fortune Bridge failed to participate in this investigation and that under Commission Rule 210.17, the undersigned and the Commission are authorized to draw adverse inferences against Fortune Bridge and that Fortune Bridge should be found in violation of section 337 by infringement of the '435 patent.<sup>738</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>739</sup>

As there is no dispute regarding Fortune Bridge's infringement, the undersigned finds that Fortune Bridge infringes the asserted claims of the '435 patent.

## 3. Gremount

Complainants assert that Gremount has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Gremount should be found to infringe the asserted claims of the '435 patent.<sup>740</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>741</sup>

As there is no dispute regarding Gremount's infringement, the undersigned finds that Gremount infringes the asserted claims of the '435 patent.

---

<sup>738</sup> CIB 151 citing *Electrical Connectors, supra*.

<sup>739</sup> SIB 116.

<sup>740</sup> CIB 151.

<sup>741</sup> SIB 116.

#### **4. Hebei Academe**

Complainants assert that Hebei Academe has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Hebei Academe should be found to infringe the asserted claims of the '435 patent.<sup>742</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>743</sup>

As there is no dispute regarding Hebei Academe's infringement, the undersigned finds that Hebei Academe infringes the asserted claims of the '435 patent.

#### **5. Hebei Research**

Complainants assert that Hebei Research defaulted in this investigation and failed to respond to any discovery requests, but that Complainants presented evidence that the testing of Hebei Research's sucralose samples confirms that Hebei Research infringes the asserted claims of the '435 patent.<sup>744</sup>

Respondents assert that there is no credible evidence that AIDP or Hebei Research infringe the '435 patent because Complainants rely on the same analysis with respect to Respondents Hebei Sukerui, which was abandoned.<sup>745</sup>

Staff asserts that the evidence relied upon by Complainants to prove infringement against Hebei Research, namely the testimony of Dr. Ware Flora, is insufficient for the same reasons they

---

<sup>742</sup> CIB 151.

<sup>743</sup> SIB 116.

<sup>744</sup> CIB 149-151 citing CFF 8.0-8.39.

<sup>745</sup> RRB 58-59.

were not sufficient to prove infringement of the '709 patent. As to Dr. Flora's actual testimony, Staff asserts that the mere presence of impurities and DMF in the Hebei Research sample does not support a finding of infringement because there is no evidence that the process claimed in the '435 patent is the only commercially viable method for purifying sucralose that utilizes MF, 1-butanol, or ethyl acetate.<sup>746</sup>

Complainants argues that Dr. Flora's unrebutted testimony is sufficient to prove a prima facie case of infringement with respect to Hebei Research and the '435 patent for the same reasons it is sufficient to prove infringement with respect to AIDP and the '709 patent.<sup>747</sup>

As Hebei Research has already defaulted in this investigation, the undersigned finds that there is no need to address whether Complainants have affirmatively proved that Hebei Research infringes the '435 patent.<sup>748</sup>

## **6. Lianyungang Natiprol**

Complainants assert that Lianyungang Natiprol has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Lianyungang Natiprol should be found to infringe the asserted claims of the '435 patent.<sup>749</sup>

---

<sup>746</sup> SIB 118-19 citing CX-616C (Flora Direct) at Q. 116.

<sup>747</sup> CRB 78.

<sup>748</sup> It is the undersigned's understanding that Complainants are attempting to affirmatively prove that certain non-participating Respondents are infringing the patents at issue to support their request for a general exclusion order, which the undersigned does not find to be warranted in the circumstances of this case. See Section IX(A).

<sup>749</sup> CIB 151.

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>750</sup>

As there is no dispute regarding Lianyungang Natiprol's infringement, the undersigned finds that Lianyungang Natiprol infringes the asserted claims of the '435 patent.

#### **7. Ruland**

Complainants assert that Ruland has defaulted in this investigation and failed to respond to any discovery requests. Complainants assert that under Commission Rule 210.16, Ruland should be found to infringe the asserted claims of the '435 patent.<sup>751</sup>

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>752</sup>

As there is no dispute regarding Ruland's infringement, the undersigned finds that Ruland infringes the asserted claims of the '435 patent.

#### **8. Vivion**

Complainants assert that Vivion failed to participate in this investigation and that under Commission Rule 210.17, the undersigned and the Commission are authorized to draw adverse inferences against Vivion and that Vivion should be found in violation of section 337 by infringement of the '435 patent.<sup>753</sup>

---

<sup>750</sup> SIB 116.

<sup>751</sup> CIB 151.

<sup>752</sup> SIB 116.

<sup>753</sup> CIB 151 citing *Electrical Connectors, supra*.

Staff agrees that, with respect to non-participating respondents, those respondents should be found in default under Commission Rule 210.16, but that this finding of default is insufficient to support Complainants' request for the issuance of a general exclusion order.<sup>754</sup>

As there is no dispute regarding Vivion's infringement, the undersigned finds that Vivion infringes the asserted claims of the '435 patent.

**C. Domestic Industry - Technical Prong**

Complainants assert that none of the parties in this investigation contest Complainants' domestic industry practice of the '435 patent.<sup>755</sup> Respondents do not dispute Complainants' evidence regarding technical prong. Staff agrees that the testimony of James Wiley is sufficient to establish that Complainants practice the '435 patent.<sup>756</sup>

Complainants also assert that they presented evidence that they practice claims 1 of the '435 patent.<sup>757</sup>

**1. Claim 1**

**a. Step (a)**

Complainants assert that the evidence shows that the [

]

---

<sup>754</sup> SIB 116.

<sup>755</sup> CIB 151.

<sup>756</sup> SIB 119.

<sup>757</sup> CIB 151-52 citing CFF 8.44-8.64.

]758

**b. Step (b)**

Complainants assert that the evidence shows that the [

]759

**c. Step (c)**

Complainants assert that the evidence shows that the [

]760

---

<sup>758</sup> CIB 152 citing CFF 8.48-8.55.

<sup>759</sup> CIB 152 citing CFF 8.56-8.62.

<sup>760</sup> CIB 152 citing CFF 8.63, 8.47, 8.53-8.54.

## **1. Conclusion**

The undersigned finds that, based on the evidence presented by Complainants, and there being no opposition, the Complainants have satisfied the technical prong of the domestic industry requirement for the '435 patent.

### **D. Validity**

There is no dispute as to the validity of the '435 patent which is presumed to be valid.<sup>761</sup>

## **VIII. Domestic Industry - Economic Prong**

Complainants assert that there is no question that they satisfy the economic prong of the domestic industry requirement as this is one of the few instances where Complainants actually manufacture the product in issue in the United States. Complainants assert that the evidence shows that Complainants manufacture substantial commercial quantities of sucralose that is made or produced under, or by means of, a process covered by each of the asserted patents. According to Complainants, they satisfy all three prongs of the domestic industry requirement.<sup>762</sup>

Furthermore, Complainants assert that, to the extent Respondents argue that Complainants must allocate their investments among the various sub-processes described in the asserts patents, Respondents arguments are wrong. According to Complainants, there is no need to allocate Complainants' investments among the different sub-processes because each sub-process is dedicated solely to the production of sucralose and that the economic prong analysis should therefore proceed on the basis of a single industry, which is the manufacture of sucralose.<sup>763</sup> Regardless, Complainants

---

<sup>761</sup> 35 U.S.C. § 282.

<sup>762</sup> CIB 153.

<sup>763</sup> CIB 157.

assert that they have demonstrated that they have made significant investments in plant and equipment dedicated to each of the sub-processes in the asserted patents.<sup>764</sup>

Respondents assert that the identity of the articles protected by the asserted patents is at issue and that if the undersigned agrees with Respondents that the “article” protected under the ‘463 patent is the intermediate product “sucralose-6-acetate,” rather than sucralose itself, Complainants do not satisfy the domestic industry requirement because they have failed to set forth any evidence with respect to sucralose-6-acetate.<sup>765</sup> Likewise, Respondents assert that, with respect to the ‘551 patent, Complainants do not satisfy the domestic industry requirement because they have not shown any investments in the extraction of DSDE.<sup>766</sup> As to the ‘969 patent, Respondents assert that Complainants do not satisfy the domestic industry requirement because they have not shown any investments in the use of the tin catalyst.<sup>767</sup>

Staff asserts that the investments made by Complainants in connection with their sucralose manufacturing plant are more than sufficient to satisfy the economic prong of the domestic industry requirement. According to Staff, there is no genuine dispute that Complainants manufacture sucralose in commercial quantities at the McIntosh plant.<sup>768</sup> Furthermore, Staff agrees that Complainants have made significant investments in labor and capital.<sup>769</sup> Staff takes no position regarding Complainants’ research and development expenses.

---

<sup>764</sup> CIB 158 citing CFF 9.64-9.115.

<sup>765</sup> RIB 166-67.

<sup>766</sup> RIB 168.

<sup>767</sup> RIB 168.

<sup>768</sup> SIB 121 citing CX-614C (Maguire Direct).

<sup>769</sup> SIB 122.

As to Respondents' argument regarding the issue as to the relevant article, Staff assert that Respondents' arguments are not convincing because there is no dispute that each of the processes covered by the claims of the asserted patents are practiced in the United States. Furthermore, with regard to Respondents' argument that Complainants have not allocated their expenses for each of the asserted patents, Staff asserts that given the overall size of the investment, it is likely that the portion allocable to each individual process would also be significant.<sup>770</sup>

Complainants counter Respondents' arguments and assert that they have provided substantial evidence related to each of the sub-processes disclosed in the asserted patents.<sup>771</sup>

The undersigned agrees with Complainants and Staff that, given the large amount of the overall investment shown by Complainants, that the investments allocable to each asserted patent satisfy the domestic industry requirement.<sup>772</sup>

**A. Significant Investment in Plant and Equipment**

Complainants assert that they make sucralose at its sucralose manufacturing plant in McIntosh, Alabama and that they have expended significant sums in the United States for the manufacture of sucralose. According to Complainants, [

] <sup>773</sup> Complainants assert that the operating costs of the McIntosh plant are significant.

---

<sup>770</sup> SIB 122-23.

<sup>771</sup> CRB 80 citing CFF 9.64-9.115.

<sup>772</sup> See *Certain Unified Communication Systems, Products Used with such Systems, and Components Thereof*, Inv. No. 227-TA-598, Order No. 9 at 7-8 (September 5, 2007) ("*Unified Communication Systems*").

<sup>773</sup> CIB 154 citing CFF 9.30-9.34, 9.51; CX-511C (Financial Statements) at T&L0234040; CX-512C (Capital Summary) at T&L0173752; CX-614CR (Maguire Direct Redacted) at Q. 23, 27-29; CX-619C (Wiley Direct) at Q. 15-16; CX-622C (Hayenga Direct) at Q. 47.

According to Complainants, operating expenses in 2007 [

] <sup>774</sup> Based on the above, Complainants assert that this constitutes significant investments in plant and equipment under 19 U.S.C. § 1337(a)(3)(A). <sup>775</sup>

The undersigned agrees, that based on the above, Complainants have shown significant investments in plant and equipment under 19 U.S.C. § 1337(a)(3)(A).

**B. Significant Investment in the Employment of Labor and Capital**

Complainants assert that they have made significant investments in the employment of labor in the United States by employing approximately [ ] to the manufacture of sucralose at the McIntosh plant. <sup>776</sup> Specifically, Complainants assert that in 2006, they expended over [ ] dedicated solely to the manufacture of sucralose, [ ] dedicated solely to the manufacture of sucralose, and over [ ] dedicated solely to the manufacture of sucralose. <sup>777</sup> In 2007, Complainants assert that they expended over [ ] dedicated solely to the manufacture of sucralose, [ ] dedicated solely to the manufacture of sucralose, and over [ ]

---

<sup>774</sup> CIB 154-55 citing CFF 9.36-9.38; CX-513C (Manufacturing Costs) at T&L0173750; CX-514C (Actual Costs) at T&L0231362; CX-622C R (Hayenga Direct Redacted) at Q. 47.

<sup>775</sup> CIB 155.

<sup>776</sup> CIB 155 citing CFF 9.39-9.40; CX-515C (Organization Chart) at T&L0218746; CX-614CR (Maguire Direct Redacted) at Q. 30; CX-622CR (Hayenga Direct Redacted) at Q. 47.

<sup>777</sup> CIB 155 citing CFF 9.41-9.43; CX513C (Manufacturing Costs) at T&L0173750; CX-515C (Organization Chart) at T&L0218746; CX-614CR (Maguire Direct Redacted) at Q. 31.

[ ] solely to the manufacture of sucralose.<sup>778</sup> Based on the above, Complainants assert that this constitutes significant investments in labor and capital under 19 U.S.C. § 1337(a)(3)(B).<sup>779</sup>

The undersigned agrees, that based on the above, Complainants have shown that significant investments in labor and capital under 19 U.S.C. § 1337(a)(3)(B).

**C. Significant Investments in Research and Development**

Complainants assert that they have made significant investments in research and development related to sucralose manufactured at the McIntosh plant by employing [

] <sup>780</sup> Specifically, Complainants assert that in 2006 and 2007 they invested [ ] in sucralose manufacturing related research and development in the United States.<sup>781</sup> Based on the above, Complainants assert that this constitutes significant investments in research and development under 19 U.S.C. § 1337(a)(3)(C).<sup>782</sup>

The undersigned agrees, that based on the above, Complainants have shown substantial investments in research and development under 19 U.S.C. § 1337(a)(3)(C).

---

<sup>778</sup> CIB 155-56 citing CFF 9.44-9.46; CX-514C (Actual Costs) at T&L0231362; CX-515C (Organization Chart) at T&L0218746.

<sup>779</sup> CIB 156.

<sup>780</sup> CIB 156 citing CFF 9.47-9.48; CX-622CR (Hayenga Direct Rebuttal) at Q. 32, 47.

<sup>781</sup> CIB 156 citing CFF 9.50; CX-622CR (Hayenga Direct Rebuttal) at Q. 47.

<sup>782</sup> CIB 156-57.

## CONCLUSIONS OF LAW

1. The Commission has subject matter jurisdiction in this investigation over U.S. Patent Nos. 4,980,463; 5,470,969; 5,498,709; and 7,049,435.
2. The Commission does not have subject matter jurisdiction in this investigation over U.S. Patent No. 5,034,551.
3. The Commission has personal jurisdiction over all the Respondents<sup>783</sup> in this investigation.
4. Respondent CJ America, Inc.'s accused products infringe claims 1-3 and 16-18 of U.S. Patent No. 4,980,463 in violation of 35 U.S.C. § 271(a). None of the other Respondents

---

<sup>783</sup> The Respondents in this investigation are:  
Changzhou Niutang Chemical Plant Co.  
Guangdong Food Industry Institute  
Hebei Sukerui Science and Technology Co., Ltd.  
JK Sucralose, Inc.  
Beijing Forbest Chemical Co, Ltd.  
Beijing Forbest Trade Co., Ltd.  
Forbest International USA, LLC  
U.S. Niutang Chemical, Inc.  
Garuda International, Inc.  
Heartland Packaging Corporation  
Heartland Sweeteners, LLC  
MTC Industries, Inc.  
Nantong Molecular Technology Co., Ltd.  
AIDP, Inc.  
CJ America, Inc.  
Fortune Bridge Co., Inc.  
Nu-Scaan Nutraceuticals, Ltd.  
ProFood International, Inc.  
Vivion, Inc.  
Gremount International Co., Ltd.  
Hebei Province Chemical Industry Academe  
Hebei Research Institute of Chemical Industry  
Lianyungang Natiprol (Int'l) Co., Ltd.  
Ruland Chemistry Co., Ltd.  
Shanghai Aurisco International  
Zhongjin Pharmaceutical (Hong Kong) Co., Ltd.

accused products, however, infringe claims 1-3 and 16-18 of U.S. Patent No. 4,980,463 in violation of 35 U.S.C. § 271(a).

5. Respondent CJ America, Inc.'s accused products infringe claims 20-26, 28, and 29 of U.S. Patent No. 5,470,969 in violation of 35 U.S.C. § 271(a). None of the other Respondents accused products, however, infringe claims 20-26, 28, and 29 of U.S. Patent No. 5,470,969 in violation of 35 U.S.C. § 271(a).
6. The following Respondents' accused products infringe claims 8, 9, and 13 of U.S. Patent No. 5,498,709 in violation of 35 U.S.C. § 271(a): CJ America, Inc.; Fortune Bridge Co., Inc.; Gremount International Co., Ltd.; Hebei Province Chemical Industry Academe; Hebei Research Institute of Chemical Industry; Lianyungang Natiprol (Int'l) Co., Ltd.; Nu-Scaan Nutraceuticals, Ltd.; Ruland Chemistry Co., Ltd.; Shanghai Aurisco International; Vivion, Inc.; and Zhongjin Pharmaceutical (Hong Kong) Co., Ltd. None of the other Respondents accused products, however, infringe claims 8, 9, and 13 of U.S. Patent No. 5,498,709 in violation of 35 U.S.C. § 271(a).
7. The following Respondents' accused products infringe claim 1 of U.S. Patent No. 7,049,435 in violation of 35 U.S.C. § 271(a): CJ America, Inc.; Fortune Bridge Co., Inc.; Gremount International Co., Ltd.; Hebei Province Chemical Industry Academe; Hebei Research Institute of Chemical Industry; Lianyungang Natiprol (Int'l) Co., Ltd.; Ruland Chemistry Co., Ltd.; and Vivion, Inc. None of the other Respondents accused products, however, infringe claim 1 of U.S. Patent No. 7,049,435 in violation of 35 U.S.C. § 271(a).

8. An industry in the United States exists with respect to Tate & Lyle's products that is protected by U.S. Patent Nos. 5,470,969; 5,498,709; and 7,049,435, as required by 19 U.S.C. § 1337(a)(2) and (3).
9. An industry in the United States does not exist with respect to Tate & Lyle's products that is protected by U.S. Patent Nos. 4,980,463 as required by 19 U.S.C. § 1337(a)(2) and (3).
10. Claims 1-3 and 16-18 of U.S. Patent No. 4,980,463 are not invalid under 35 U.S.C. § 102 and § 103 for anticipation and/or obviousness based on U.S. Patent No. U.S. Patent No. 4,380,476 in combination with U.S. Patent No. 4,617,269; U.S. Patent No. 4,362,869; and/or the Ballard reference.
11. Claims 1-3 and 16-18 of U.S. Patent No. 4,980,463 are invalid under 35 U.S.C. § 112 for lack of enablement.
12. Claims 1-3 and 16-18 of U.S. Patent No. 4,980,463 are not invalid under 35 U.S.C. § 112 for lack of written description.
13. Claims 1-3 and 16-18 of U.S. Patent No. 4,980,463 are not invalid under 35 U.S.C. § 112 based on indefiniteness.
14. Claims 20-26, 28, and 29 of U.S. Patent No. 5,470,969 are not invalid under 35 U.S.C. § 102 for anticipation based on the prior art reference U.S. Patent No. 4,980,746.
15. Claims 20-26, 28, and 29 of U.S. Patent No. 5,470,969 are not invalid under 35 U.S.C. § 103 for obviousness based on U.S. Patent No. 4,980,746 in combination with the Otera reference, the Wagner reference, the David reference, and/or U.S. Patent No. 5,034,551.

## INITIAL DETERMINATION

Based on the foregoing opinion, findings of fact, conclusions of law, the evidence, and the record as a whole, and having considered all pleadings and arguments, including the proposed findings of fact and conclusions of law, it is the undersigned's initial determination that, with the exception of certain non-participating and defaulted Respondents, a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain sucralose, sweeteners containing sucralose, and related intermediate compounds thereof, in connection with claims 1-3 and 16-18 of U.S. Patent No. 4,980,463; claims 20-26, 28, and 29 of U.S. Patent No. 5,470,969; claims 8, 9, and 13 of U.S. Patent No. 5,498,709; and claim 1 of U.S. Patent No. 7,049,435. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States exists that practices U.S. Patent Nos. 5,470,969; 5,498,709; and 7,049,435, and does not exist that practices U.S. Patent No. 4,980,463. The undersigned also makes a determination that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain sucralose, sweeteners containing sucralose, and related intermediate compounds thereof, in connection with claims 1-4 and 11-22 of U.S. Patent No. 5,034,551 because the Commission has no jurisdiction over the subject matter of this patent.

The Administrative Law Judge hereby CERTIFIES to the Commission this Initial Determination, together with the record of the hearing in this investigation consisting of the following: the transcript of the evidentiary hearing, with appropriate corrections as may hereafter be

ordered by the Administrative Law Judge; and further the exhibits accepted into evidence in this investigation as listed in the attached exhibit lists.

Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

## RECOMMENDED DETERMINATION ON REMEDY AND BOND

Pursuant to Commission Rules 210.36(a) and 210.42(a)(1)(ii), the Administrative Law Judge is to consider evidence and argument on the issues of remedy and bonding and issue a recommended determination thereon.

### IX. Remedy and Bonding

#### A. General Exclusion Order

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order instructs the U.S. Customs Service to exclude from entry all articles that are covered by the patent at issue and that originate from a named respondent in the investigation. A general exclusion order instructs the U.S. Customs Service to exclude from entry all articles that are covered by the patent at issue, without regard to source. Complainants request that a general exclusion order be issued that prohibits the importation of all sucralose, sweeteners containing sucralose, and related intermediate compounds thereof that infringe the asserted patents.<sup>784</sup> In addition, Complainants request that the general exclusion order include a certification provision where the importer certifies that the imported sucralose is non-infringing and certifies the original source of the non-infringing sucralose. According to Complainants, absent such an exclusion order, they would obtain little, if any relief.<sup>785</sup>

Respondents assert that no exclusion order is necessary because there has been no showing of an unfair act. In the alternative, Respondents assert that, if there is a showing of a violation, the scope and form of remedy should be limited and not restrict legitimate commerce. Specifically,

---

<sup>784</sup> CIB 158.

<sup>785</sup> CIB 173.

Respondents assert that the appropriate remedy would be a limited exclusion order directed solely at imported 1',4,6'-trichlorosucrose-6-ester, *i.e.*, sucralose-6-acetate, the product of the claims of the '463 patent, or the intermediates or tin catalysts that are the subject of the '969 and '551 patents.<sup>786</sup>

Respondents also assert that, contrary to Complainants' contention that compliance with a certification provision would be simple, a certification provision would impose excessive burdens on Respondents and third parties, as well as Customs.<sup>787</sup>

Staff agrees with Respondents that, because Complainants have not established that any of the asserted patents have been infringed by the participating or non-participating respondents, that the remedy be limited to the issuance of a limited exclusion order against the defaulted Respondents and the issuance of a cease and desist order against the domestic Respondents who are found in default.<sup>788</sup> In the alternative, Staff asserts that, if there is a showing of a violation, the remedy should be in the form a limited exclusion order directed to the Respondent found to be in violation, as well as the issuance of a cease and desist order against a domestic Respondent found to be in violation and possessing a substantial domestic inventory of sucralose.<sup>789</sup>

#### **1. Circumvention of an Exclusion Order**

Complainants assert that the evidence demonstrates that Respondents can easily evade a limited exclusion order because there is a clear pattern of foreign sucralose manufacturers deploying their own independent trading companies to access the U.S. market. According to Complainants, this allows companies to hide a product's point of origin, making it impossible to identify the source

---

<sup>786</sup> RIB 169; RRB 83-85.

<sup>787</sup> RRB 84-85.

<sup>788</sup> SIB 123.

<sup>789</sup> SIB 124.

of infringing products. In addition, Complainants assert that the names of manufacturers and distributors are constantly changing, making it difficult to monitor their activity for infringing products.<sup>790</sup>

Specifically, Complainants assert that the evidence shows that some companies alter their certificate of analysis (“COA”) for their sucralose batches, do not include COAs with their products, have third parties provide COAs, or create their own COAs by merely copying the information, all of which disguises the true source of the sucralose.<sup>791</sup> Complainants also assert that sucralose manufacturers rarely identify themselves on their product packaging, making it impossible for Customs to determine the source of manufacture.<sup>792</sup> In addition, Complainants go into great detail, asserting that complex distribution systems disguise the source of sucralose.<sup>793</sup>

## **2. Widespread Pattern of Violation of Section 337**

Complainants assert that a general exclusion order is warranted because the evidence shows that there is a widespread pattern of violation of section 337. According to Complainants, the business conditions are such that there is a history of unauthorized use of the accused products, there is established demand for the accused products in the United States, there are economic incentives for foreign manufacturers to target the United States market, there are additional foreign

---

<sup>790</sup> CIB 160 citing CFF 10.24-10.26; CX-622CR (Hayenga Direct Redacted) at Q. 36, 38, 43.

<sup>791</sup> CIB 160-161 citing CFF 10.108-10.111, 10.113-10.115; CX-512 (Capital Summary) at T&L0171383; CX-614CR (Maguire Direct Redacted) at Q. 56-57; CX-622CR (Hayenga Direct Redacted) at Q. 42; JX-13C (Levine Dep) at 108-09; JX-14C (L. Wang Dep) at 17-19, 77-78.

<sup>792</sup> CIB 161 citing CFF 10.116-10.117; JX-14C (L. Wang Dep) at 164-65; JX-58C (Ye Dep) at 30-31.

<sup>793</sup> CIB 161-67.

manufacturers capable of importing accused products, and there are low barriers to entry into the United States of new foreign manufacturers of accused products.<sup>794</sup>

Respondents assert that Complainants have not shown that there is a widespread pattern of infringement because Complainants have not proven that there are any companies manufacturing sucralose other than the named respondents.<sup>795</sup> Specifically, Respondents assert that Ware Flora<sup>796</sup> should not be allowed to testify as an expert as to the infringement analysis regarding non-participating respondents because he was not identified as an expert witness within the deadline set forth in the procedural schedule and that there is no proper foundation for his opinions.<sup>797</sup> Respondents also assert that, if Complainants intend to rely on Dr. Flora's testimony as a lay opinion witness, that such reliance is improper under Federal Rule of Evidence 701 because the opinion of lay witnesses should result from the process of everyday reasoning and not any reasoning that results from specialized training.<sup>798</sup>

Staff asserts that, in the event a violation of section 337 is found, there is insufficient evidence to establish a widespread pattern of infringement to warrant issuance of a general exclusion order under the *Spray Pumps* factors.<sup>799</sup> Specifically, Staff asserts that Complainants have failed to meet two out of the three *Spray Pumps* factors, namely that there is evidence concerning the pendency of foreign infringement suits based upon foreign patents which correspond to the domestic

---

<sup>794</sup> CIB 167.

<sup>795</sup> RIB 169-72.

<sup>796</sup> See CX-616CR (Flora Direct Redacted) at pp. 15-29.

<sup>797</sup> RIB 170-71.

<sup>798</sup> RIB 171.

<sup>799</sup> *Certain Airless Paint Spray Pumps and Components Thereof*, Inv. No. 337-TA-90, USITC Pub. No. 1199, Commission Opinion, 216 U.S.P.Q. 465 (U.S.I.T.C., November 1981) ("*Spray Pumps*"); SIB 126; SRB 25-26.

patents at issue, or any other evidence which demonstrates a history of unauthorized use of the patented invention.<sup>800</sup> Staff asserts, however, that if a violation is found against all four participating manufacturing Respondents as to the '463 patent, that Complainants have satisfied the *Spray Pumps* factor that there are certain business conditions from which one might reasonably infer that foreign manufacturers other than respondents to the investigation may attempt to enter the U.S. market with infringing articles.<sup>801</sup> Therefore, Staff recommends that, if a violation is found, a limited exclusion order should be directed to the Respondents found to be in violation. Staff disagrees with Respondents that the limited exclusion order be directed solely at the imported 1',4,6'-trichlorosucrose-6-ester, *i.e.*, sucralose-6-acetate, the product of the claims of the '463 patent, or the intermediates or tin catalysts that are the subject of the '969 and '551 patents.<sup>802</sup> Alternatively, in the event a general exclusion order is deemed appropriate, Staff asserts that a certification procedure is proper.<sup>803</sup>

Complainants counter Respondents' arguments. As to the testimony of Dr. Flora, Complainants assert that Respondents' argument as to Dr. Flora not being a proper expert were already rejected by the undersigned.<sup>804</sup> As to Respondents FRE 701 objections, Complainants assert that Dr. Flora's testimony should be given full weight given that his testimony is based upon his specialized knowledge gained through his vocation, study, practice, and experience.<sup>805</sup>

---

<sup>800</sup> SIB 125 citing *Certain Lens Fitted Film Packages*, Inv. No. 337-TA-406, Commission Opinion at 9-10 (June 9, 1999) ("*Lens Fitted Film Packages*").

<sup>801</sup> SRB 26-27.

<sup>802</sup> SRB 28.

<sup>803</sup> SRB 27.

<sup>804</sup> CRB 81-82 citing Bullock, Tr. 571-72.

<sup>805</sup> CRB 82 citing *Certain Agricultural Vehicles and Components Thereof*, Inv. No. 337-TA-487, Final Initial and Recommended Determination at 50-52 (January 13, 2004) ("*Agricultural* (continued...)

Regarding Dr. Flora's testimony, consistent with the undersigned's ruling above, the undersigned finds that Dr. Flora's testimony is insufficient to affirmatively prove that the patents are infringed.

The undersigned agrees with Respondents and Staff that Complainants have failed to meet the *Spray Pumps* factors because Complainants have failed to prove affirmative infringement of the asserted patents by any of the Respondents in this investigation, as well as any other non-named respondents.<sup>806</sup> Therefore a general exclusion order is not warranted in this investigation.<sup>807</sup>

#### **B. Cease and Desist Order**

Under Section 337(f)(1), the Commission may issue a cease and desist order in addition to, or instead of, an exclusion order. Cease and desist orders are warranted primarily when the respondent maintains a commercially significant inventory of the accused products in the United States.<sup>808</sup>

Complainants request a cease and desist order against JK Sucralose, Garuda, U.S. Niutang, Heartland Sweeteners, Forbest USA, and MTC Industries, as well as to each of the non-participating Respondents, because these Respondents maintain commercially significant inventories of accused

---

<sup>805</sup>(...continued)  
*Vehicles*”).

<sup>806</sup> Of course, certain Respondents were found to have infringed based upon non-participation in this proceeding or by default determinations.

<sup>807</sup> By letter dated September 17, 2008, Complainants submitted a letter to the undersigned regarding a June 26, 2008 U.S. District Court decision regarding Heartland. Heartland responded by letter dated September 18, 2008. A review of this untimely-submitted letter and response thereto indicates that no modification to this Initial Determination is warranted based upon these submissions.

<sup>808</sup> *Crystalline*, 15 U.S.P.Q.2d at 1277-79.

products in the United States.<sup>809</sup> Respondents assert that Complainants have not demonstrated that significant inventories of 1',4,6'-trichlorosucrose-6-ester are in the United States and, therefore, Complainants are not entitled to issuance of a cease and desist order.<sup>810</sup> Respondents also assert that Complainants have not shown that the domestic Respondents have substantial inventories of the accused product.<sup>811</sup> Staff asserts that in the event a violation of section 337 is found, a cease and desist order is appropriate towards a domestic Respondent that is found to be in violation and to possess a substantial domestic inventory.<sup>812</sup> According to Staff, there is un rebutted evidence that JK Sucralose, Garuda, U.S. Niutang, Heartland Sweeteners, Forbest USA, and MTC Industries each maintain commercial quantities of sucralose within the United States.<sup>813</sup>

The undersigned finds that, in the event the Commission finds a violation by any of the domestic Respondents, Complainants have shown that the domestic Respondents maintain significant inventories of accused products in the United States and that a cease and desist order is warranted against them.<sup>814</sup>

### **C. Bond During Presidential Review Period**

If the Commission enters an exclusion order or cease and desist order, parties may continue to import and sell their products during the pendency of the Presidential review under a bond in an amount determined by the Commission to be "sufficient to protect the Complainants from any

---

<sup>809</sup> CIB 158-59, 174.

<sup>810</sup> RIB 169.

<sup>811</sup> RRB 85 citing RRF 258-59.

<sup>812</sup> SIB 126.

<sup>813</sup> SRB 28.

<sup>814</sup> See CFF 10.274-10.313.

injury.”<sup>815</sup> Complainants request a bond in the amount of 100% of the entered value of accused sucralose because they do not license the asserted patents to any entity other than its partner, McNeilLabs, which makes it impossible to determine a reasonable royalty rate, and that it is also difficult and impossible to calculate a bond based on price differentials.<sup>816</sup> Staff agrees with Complainants.<sup>817</sup> Respondents assert that a bond of 100% is grossly excessive and request a bond of 50% based on price differentials.<sup>818</sup>

The Commission frequently sets the bond by attempting to eliminate the difference in sales prices between the patented domestic product and the infringing product.<sup>819</sup> In the absence of reliable price information, the Commission has used other methods to determine an appropriate bond. For example, where a price comparison is unworkable, the Commission has determined that a bond of 100% is appropriate.<sup>820</sup> In other instances where a direct comparison between an inventor’s product and the accused product was not possible, the Commission has set the bond at a reasonable royalty rate.<sup>821</sup>

In this case, the parties did not introduce sufficient evidence regarding pricing information that would permit the undersigned to determine a price differential. The parties also did not provide

---

<sup>815</sup> 19 U.S.C. § 1337(e); 19 C.F.R. § 210.50(a)(3).

<sup>816</sup> CIB 174-75; CRB 85.

<sup>817</sup> SIB 128; SRB 28.

<sup>818</sup> RRB 85 citing RRF 252-256; Maguire, Tr. 446; CX-196C (Invoice) at NUIT057578; CX-197C (Invoice) at NIUT057692; CX-232C (transaction information) at GDFII005395-96.

<sup>819</sup> See *Certain Microsphere Adhesives*, Commission Opinion at 24.

<sup>820</sup> See, e.g., *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, U.S.I.T.C. Pub. No. 3003, Comm’n Op. at 27-28 and 40 (U.S.I.T.C., September 23, 1996) (“*Wind Turbines*”).

<sup>821</sup> See, e.g., *Certain Digital Satellite System (DSS) Receivers and Components Thereof*, Inv. No. 337-TA-392, U.S.I.T.C. Pub. No. 3418, Initial and Recommended Determinations at 245, *vacated on other grounds*, Comm’n Determination (May 13, 1999), 2001 WL 535427 (U.S.I.T.C., October 20, 1997) (“*DSS Receivers*”).

any evidence of a reasonable royalty rate. Accordingly, the undersigned recommends a bond in the amount of 100% of the entered value of the infringing imported products.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office a copy of this document with red brackets indicating any portion asserted to contain confidential business information. The parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**

  
Charles E. Bullock  
Administrative Law Judge

## **APPENDIX OF EXHIBIT LISTS**

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 357-TA-609

**FINAL JOINT EXHIBIT LIST**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
JX-1	U.S. Patent 4,980,463 (Walkup et al.) dated 12/25/1990	Crich, D.	Infringement; Validity/Enforceability	Admitted
JX-2	U.S. Patent 5,034,551 (Vernon et al.) dated 07/23/1991	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-3	U.S. Patent 5,470,969 (Sankey et al.) dated 11/28/1995	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-4	U.S. Patent 5,498,709 (Navia et al.) dated 03/12/1996	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-5	U.S. Patent 7,049,435 (Catani et al.) dated 05/23/2006	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-6	U.S. Patent Application 07/382,147 filed 07/18/1989 for U.S. Patent No. 4,980,463	Crich, D.	Infringement; Validity/Enforceability	Admitted
JX-7	U.S. Patent Application 07/512,690 filed 04/23/1990 for U.S. Patent No. 5,034,551	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-8	U.S. Patent Application 08/237,947 filed 05/02/1994 for U.S. Patent No. 5,470,969	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-9	U.S. Patent Application 07/870,190 filed 04/13/1992 for U.S. Patent No. 5,470,969	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-10	U.S. Patent Application 08/448,710 filed 05/24/1995 for U.S. Patent No. 5,498,709	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-11	U.S. Patent Application 10/092,715 filed 03/08/2002 for U.S. Patent No. 7,049,435	Sands, J.	Infringement; Validity/Enforceability	Admitted
JX-12C	J. Wang deposition designations dated 08/28/2007	Wang, J.	Infringement; Remedy	Admitted
JX-13C	N. Levine deposition designations dated 08/29/2007	Levine, N.	Infringement; Remedy	Admitted
JX-14C	L. Wang deposition designations dated 08/30/2007	Wang, L.	Infringement; Remedy	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 137-TA-604

**FINAL JOINT EXHIBIT LIST**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
JX-15C	T. Gelov deposition designations dated 08/30/2007	Gelov, T.	Infringement; Remedy	Admitted
JX-16C	Junjing Wu deposition designations dated 09/03/2007, 09/04/2007, 09/05/2007	Wu, J.	Infringement; Remedy	Admitted
JX-17C	G. Wu deposition designations dated 09/06/2007, 09/07/2007	Wu, G.	Infringement; Remedy	Admitted
JX-18C	M. Wang deposition designations dated 09/07/2007	Wang, M.	Infringement; Remedy	Admitted
JX-19C	Y. Cai deposition designations dated 09/07/2007, 09/08/2007, 09/10/2007	Cai, Y.	Infringement; Remedy	Admitted
JX-20C	G. Ling deposition designations dated 09/11/2007, 9/12/2007	Ling, G.	Infringement; Remedy	Admitted
JX-21C	J. Lin deposition designations dated 09/12/2007, 9/13/2007	Lin, J.	Infringement; Remedy	Admitted
JX-22C	S. Wang deposition designations dated 09/17/2007, 9/18/2007, 9/19/2007, 09/20/2007	Wang, S.	Infringement; Remedy	Admitted
JX-23C	H. Zhang Forbest USA deposition designations dated 09/20/2007	Zhang, H.	Infringement; Remedy	Admitted
JX-24C	F. Ye Forbest USA deposition designations dated 09/21/2007	Ye, F.	Infringement; Remedy	Admitted
JX-25C	C. Li deposition designations dated 09/21/2007, 09/22/2007	Li, C.	Infringement; Remedy	Admitted
JX-26C	J. Xu deposition designations dated 09/24/2007.	Xu, J.	Infringement; Remedy	Admitted
JX-27C	J. Matkin deposition designations dated 09/27/2007	Matkin, J.	Infringement; Remedy	Admitted
JX-28C	L. An Beijing Forbest Chemical deposition designations dated 10/15/2007	An, L.	Infringement; Remedy	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF ENV. NO. 137-TA-604

**FINAL JOINT EXHIBIT LIST**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
JX-29C	J. S. Wu deposition designations dated 10/16/2007, 10/17/2007	Wu, J. S.	Infringement; Remedy	Admitted
JX-30C	G. Zhu deposition designations dated 10/17/2007	Zhu, G.	Infringement; Remedy	Admitted
JX-31C	Z. Ding deposition designations dated 10/17/2007	Ding, Z.	Infringement; Remedy	Admitted
JX-32	U.S. Patent 4,380,476 (Mufti et al.) dated 04/19/1983	Crich, D.	Infringement; Validity/Enforceability	Admitted
JX-33	U.S. Patent 4,617,269 (Rathbone et al.) dated 10/14/1986	Crich, D.	Infringement; Validity/Enforceability	Admitted
JX-34	U.S. Patent 4,362,869 (Jenner et al.) dated 12/07/1982	Crich, D.	Infringement; Validity/Enforceability	Admitted
JX-35	Selective Substitution of Hydroxyl Groups in Sucrose" by L. Hough dated 1976"	Fraser-Reid, B.;Crich, D.	Infringement	Admitted
JX-36	The Preparation of 4,6-Dichloro-4,6-Dideoxy-a-d-Galactopyranosyl 6-Chloro-6-Deoxy-b-d-Fructofuranoside and the Conversion of Chlorinated Derivatives into Anhydrides" by L. Hough et al. dated 05/21/1975"	Crich, D.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
JX-37	Conversion of Aromatic and a,b-Unsaturated Aldehydes to Dichlorides by Thionyl Chloride and Dimethylformamide" by M. Newman and P.K. Sujeeth dated 05/02/1978"	Fraser-Reid, B.;Crich, D.	Infringement; Validity/Enforceability	Admitted
JX-38	Reactions of Carbohydrates with (Halomethylene)dimethyliminium Halides and Related Reagents. Synthesis of Some Chlorodeoxy Sugars" by S. Hanessian and N. Plessas dated 11/15/1968 (T&L 0231819 - T&L 0231826)"	Crich, D.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
JX-39	Chlorodeoxy Sugars via (Chloromethylene)-dimethyliminium Chloride Reactions" by S. Hanessian dated 1972 (GDFII 006097 - GDFII 006100 and NIUT 060374 - NIUT 060377)"	Crich, D.	Infringement; Validity/Enforceability	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. No. 337-TA-604

**FINAL JOINT EXHIBIT LIST**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
JX-40C	Flow chart of L&P sucralose and Process for the preparation of L&P Sucralose (GDFII 001370 - GDFII 001373)	Sands, J.; Wang, S.	Infringement	Admitted
JX-41C	Changzhou Niutang List of Process Equipment, Layout Plan, and Process Flow Chart in Chinese (NIUT 039402 - NIUT 039418)	Cai, Y.	Infringement	Admitted
JX-42C	Schematics in Chinese (NIUT 039410 - NIUT 039418)	Cai, Y.	Infringement	Admitted
JX-43C	Sucralose facility equipment list for L&P in Chinese (GDFII 002945 - GDFII 002950)	Wang, S.	Infringement	Admitted
JX-44C	Sucralose workshop equipment layout drawing (GDFII 002951 - GDFII 002956)	Wang, S.	Infringement	Admitted
JX-45C	Polynucleotides. I. Formation of Internucleotidic Linkage by Means of Dimethylformamide-Thionyl Chloride Complex" by M. Ikehara and H. Uno dated 03/18/1965 (T&L 0232184 - T&L 023187)"	Crich, D.; Fraser-Reid, B.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
JX-46C	New operation manual for sucralose dated 10/18/2007 (T&L 0232188 - T&L 0232191; NIUT 062889 - NIUT 062892)	Crich, D.	Infringement	Admitted
JX-47	Occurrence of butyltin compounds in the waters of selected lakes, rivers and coastal environments from China" by Jiang et al. dated 12/06/2000 (GDFII 008699 - GDFII 8705; NIUT 064660 - NIUT 064666)"	Walters, E.	Infringement	Admitted
JX-48C	Schematic Drawing (T&L 0232125)	Sands, J.; Cai, Y.	Infringement	Admitted
JX-49C	Niutang Sample Log dated 10/09/2007 to 10/11/2007 (T&L 0232126 - T&L 0232135)	Sands, J.; Walters, E.	Infringement	Admitted
JX-50	Studies on the Vilsmeier-Haack Reaction. II. Characterization of Thionyl Chloride-Dimethylformamide Complexes" by K. Kikugawa and T. Kawashima dated 03/23/1971"	Crich, D.; Walters, E.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
JX-51C	T. Hutton deposition designations dated 12/12/2007	Hutton, T.		Admitted
JX-52C	T. McIntyre deposition designations dated 12/12/2007	McIntyre, T.		Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND  
 RELATED INTERMEDIATE COMPONENTS THEREOF

INV. NO. 337-TA-604

**FINAL JOINT EXHIBIT LIST**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
JX-53C	D. Coleman deposition designations dated 6/28/2007, 6/29/2007	Coleman, D.		Admitted
JX-54C	R. Wingard deposition designations dated 8/08/2007	Wingard, R.		Admitted
JX-55C	G. Sankey deposition designations dated 8/10/2007	Sankey, G.		Admitted
JX-56C	N. Vernon deposition designations dated 8/15/2007, 8/16/2007	Vernon, N.		Admitted
JX-57C	D. Neiditch deposition designations dated 7/16/2007, 7/17/2007	Neiditch, D.		Admitted
JX-58C	F. Ye JK China deposition designations dated 09/21/2007	Ye, F.	Infringement; Remedy	Admitted
JX-59C	H. Zhang JK China deposition designations dated 09/20/2007	Zhang, H.	Infringement; Remedy	Admitted
JX-60C	L. An JK China deposition designations dated 10/15/2007	An, L.	Infringement; Remedy	Admitted
JX-61C	F. Weber deposition designations dated 01/07/2008	Weber, F.	Infringement; Remedy	Admitted
JX-62C	J. Navia deposition designations dated 11/05/2007, 11/06/2007, and 02/28/2008	Navia, J.	Validity/Enforceability	Admitted
JX-63C	Withdrawn			Withdrawn by Complainants
JX-64C	Junjing Wu deposition designations dated 02/23/2008	Wu, J.	Infringement; Remedy	Admitted
JX-65C	Joint Stipulation Regarding Importation dated 02/29/2008		Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SUCRALOSE ESTERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. No. 1:17-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-1	Curriculum Vitae for Marvin L. Hayenga revised 09/2007	Hayenga, M.	Remedy; Domestic Industry	Admitted
CX-2	List of Materials Reviewed by Marvin L. Hayenga	Hayenga, M.	Remedy; Domestic Industry	Admitted
CX-3	List of Chinese Trading Companies Offering Sucralose (T&L 0235337 - T&L 0235340)	Hayenga, M.	Remedy	Admitted
CX-4	Curriculum Vitae for John Lewis Sands dated 07/1995	Sands, J.	Infringement; Validity/Enforceability	Admitted
CX-5C	Removed to Joint Exhibit List			
CX-6C	Process of Niutang's sucralose (NIUT 003630 - NIUT 003634)	Sands, J.;Crich, D.;Cai, Y.;Ling, G.	Infringement	Admitted
CX-7C	Mass Spectral Studies on Sukerul's Sample (Sample taken at -70 degrees C in the high-temperature chlorination vessel) (T&L 0235341 - T&L 0235345)	Crich, D.	Infringement	Admitted
CX-8C	Niutang's New Sucralose Process (NIUT 059135 - NIUT 059138)	Sands, J.;Crich, D.;Cai, Y.	Infringement	Admitted
CX-9C	Removed to Joint Exhibit List			
CX-10C	Niutang 2 Sample Log dated 11/15/2007 to 11/16/2007 (T&L 0232136 - T&L 0232145)	Sands, J.;Walters, E.	Infringement	Admitted
CX-11C	Schematics (T&L 0232180 - T&L 0232183)	Sands, J.;Wang, S.	Infringement	Admitted
CX-12C	Removed to Joint Exhibit List			
CX-13C	Qualitative Analysis of Intermediates of Carbohydrates In-process Samples by High Performance Liquid Chromatography/Mass Spectrometry (LC/MS) by Ciba dated 08/31/2007 (ATM 015) (T&L 0233327 - T&L 0233333)	Hand, J.;Crich, D.;St. Laurent, J.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 03-71A-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-14C	Quantitation of Intermediates of Carbohydrates In-process samples by High Performance Liquid Chromatography by Ciba dated 08/31/2007 (ATM 013) (T&L 0233309 - T&L 0233320)	Hand, J.;Crich, D.;St. Laurent, J.	Infringement	Admitted
CX-15C	GDFII Sample Log dated 10/16/2007 - 10/17/2007 (T&L 0232146 - T&L 0232154)	Sands, J.	Infringement	Admitted
CX-16C	Hebei Sukerui Sample Log and Discovery Samples dated 10/22/2007 to 10/23/2007 and 09/09/2007 (T&L 0232155 - T&L 0232161)	Sands, J.	Infringement	Admitted
CX-17C	JK Sucralose Sample Log dated 10/30/2007 to 10/31/2007 (T&L 0232162 - T&L 0232169)	Sands, J.	Infringement	Admitted
CX-18	Withdrawn			Withdrawn
CX-19	Withdrawn			Withdrawn
CX-20C	Compendium (T&L 0010000 - T&L 0010159)	Sands, J.	Infringement	Admitted
CX-21C	Sample List by LIMS Number dated 06/2007 (USM 0000001)	Sands, J.	Infringement	Admitted
CX-22	Letter from P. Goulet to Counsel regarding LIMS numbers identified on third-party testing reports dated 10/11/2007	Sands, J.	Infringement	Admitted
CX-23C	Tate & Lyle, Batch 5 Results in ppb of element in the solid powder, dated 03/2006 (T&L 0232192 - T&L 0232194)	Sands, J.	Infringement	Admitted
CX-24C	Tate & Lyle: Index of Analytical Results by Ciba (T&L 0230279 - T&L 0230371)	Sands, J.	Infringement	Admitted
CX-25C	Withdrawn			Withdrawn
CX-26C	VIMS Butyltin Analysis Report - Tate & Lyle Research Samples dated 11/28/2007 (T&L 0232338 - T&L 0232340)	Sands, J.;Walters, E.	Infringement	Admitted
CX-27C	Tate & Lyle Analytical Results from Ciba dated 11/30/2007 (T&L 0232214 - T&L 0232230)	Sands, J.	Infringement	Admitted
CX-28C	Tate & Lyle Sample Log dated 11/07/2007 (T&L 0232170 - T&L 0232179)	Sands, J.	Infringement; Domestic Industry	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUPPLIERS' IDENTIFIERS CONTAINING MICROLOGS AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 037-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-29C	VIMS Butyltin Analytical Report - Tate & Lyle Research Samples by D. Wood (T&L 0231829 - T&L 0231830)	Sands, J.	Infringement	Admitted
CX-30C	Niutang Analytical Results by Ciba dated 11/30/2007 (T&L 0232239 - T&L 0232260)	Sands, J.	Infringement	Admitted
CX-31C	GDFII Analytical Results by Ciba dated 11/30/2007 (T&L 0232266 - T&L 0232284)	Sands, J.	Infringement	Admitted
CX-32C	Schematics (NIUT 039409 and T&L 0232311 - T&L 0232312)	Sands, J., Cal, Y.	Infringement	Admitted
CX-33C	Withdrawn			Withdrawn
CX-34C	Withdrawn			Withdrawn
CX-35C	Page 73 from Notebook No. 6991 dated 04/05/2007 (T&L 0232288)	Flora, W.	Infringement	Admitted
CX-36	Withdrawn			Withdrawn
CX-37	List of Materials Considered by David Critch	Critch, D.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
CX-38	Removed to Joint Exhibit List			
CX-39	Removed to Joint Exhibit List			
CX-40	Dimethylformiminium Chlorsulfit - N, Chloride. Erstes Isolierbares Zwischenprodukt Aus Dem DMF - Cl2SO - Addukt" by G. Ferre and A. Palomo dated 02/28/1969 (T&L 0231869 - T&L 0231872)"	Critch, D.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
CX-41C	Investigation of the Reaction of Thionyl Chloride with Dimethylformamide (DMF) by Low Temperature NMR Spectroscopy (T&L 0231806 - T&L 0231808)	Critch, D.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
CX-42	U.S. Patent 4,980,463 (Walkup et al.) dated 12/25/1990	Critch, D.; Sands, J.	Infringement; Validity/Enforceability; Domestic Industry	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED IN IMMEDIATE COMPONENTS THEREOF Inv. No. 337-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-43C	Changzhou Niutang Manual for the Preparation of Sucralose dated 12/30/2003 (T&L 0231809 - T&L 0231813; NIUT 003635 - NIUT 003639)	Crich, D.; Cal, Y.	Infringement	Admitted
CX-44C	Operating Records (T&L 0231814 - T&L 0231818; NIUT 049428, NIUT 049269, NIUT 048970, NIUT 048966, NIUT 053418)	Crich, D.; Cal, Y.	Infringement	Admitted
CX-45C	Removed to Joint Exhibit List			
CX-46	Removed to Joint Exhibit List			
CX-47C	L&P Sucralose Synthesis Process (T&L 0231827 - T&L 0231828; GDFII 001374 - GDFII 001375)	Crich, D.; Wang, S.	Infringement	Admitted
CX-48C	Guangdong Food Industry Institute Sucralose Operating Manual dated 06/2004 (T&L 0231831 - T&L 0231849; GDFII 001376 - GDFII 001393)	Crich, D.; Wang, S.	Infringement	Admitted
CX-49C	Sucralose Research & Development (T&L 0232195 - T&L 0232196; GDFII 001906, GDFII 002057)	Crich, D.; Wang, S.	Infringement	Admitted
CX-50C	Sucralose Production Record: Low Temperature Chlorination station Job Record dated 06/11/2007 to 07/10/2007 (T&L 0231851; GDFII 004031, GDFII 004034)	Crich, D.; Wang, S.	Infringement	Admitted
CX-51C	Environmental Impact Report on the Extension Project for Producing 10 Tons of Sucralose Annually (Draft for Approval) dated 08/2006 (T&L 0232197 - T&L 0232211; NIUT 059139 - NIUT 039142, NIUT 059171 - NIUT 059172, NIUT 059175 - NIUT 059180, NIUT 059190 - NIUT 059191)	Crich, D.; Cal, Y.	Infringement	Admitted
CX-52C	Sucralose Production Record: High Temperature Chlorination dated 06/11/2007 to 12/10/2007 (T&L 0232212 - T&L 0232213; GDFII 004160, GDFII 004178)	Crich, D.; Wang, S.	Infringement	Admitted
CX-53C	JK Sucralose Technical Operating Procedures dated 2007 (T&L 023231 - T&L 0232238; JKS 15797 - JKS 15805)	Crich, D.; Wu, J.	Infringement	Admitted
CX-54C	The Technique Procedure of Mass Production of Sucralose dated 07/31/2007 and On Post Operation Records dated 11/23/2006 (JKS 00025 - JKS 00054)	Crich, D.; Wu, J.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND  
 RELATED INTERMEDIATE COMPONENTS THEREOF

INV. No. 037-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-55C	Yancheng Jiekang Biochemical Co., Ltd. 800 t/a Food Sweetener Sucralose (& Sucralose Ester) Construction Project Safety Pre-Assessment Report dated December 2006 (T&L 0232261 - T&L 0232265; JKS 13224 - JKS 13227)	Crich, D.; Wu, J.	Infringement	Admitted
CX-56C	Manufacturing Technological Processes & Raw, Auxiliary Material Consumption (T&L 0232285 - T&L 0232287; JKS 13098 - JKS 13103)	Crich, D.	Infringement	Admitted
CX-57	Synthesis and Application of a Novel Coupling Reagent, Ethyl 1-Hydroxy-1H-1,2,3-Triazole-4-Carboxylate" by Jiang et al. dated 09/17/1998 (T&L 0232289 - T&L 0232310)"	Crich, D.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
CX-58C	Operation Manual of Workshop I by C. Qinghai dated 04/16/2007 (SKR 002005a - SKR 002011a; SKR 001990 - SKR 002018)	Crich, D.; Wu, J.	Infringement	Admitted
CX-59C	Hebei Sukerui Science and Technology Co., Ltd. Sucralose 100 t/a Output Project Environmental Impact Report dated 12/2004 (T&L 0231859 - T&L 0231863; SKR 002433 - SKR 002436)	Crich, D.; Wu, J.	Infringement	Admitted
CX-60C	Operations Records for Chlorination Process dated 05/03/2007 and 05/09/2007 (T&L 0231866 - T&L 0231868; SKR 001665 - SKR 001667)	Crich, D.; Wu, J.	Infringement	Admitted
CX-61C	1300 Manufacturing Process Specification for Sucrose-6-Acetate Chlorination dated 04/30/2007 (T&L 0133055 - T&L 0133063)	Crich, D.	Domestic Industry	Admitted
CX-62C	Tate & Lyle Sucralose Manufacturing Process Flow Diagram (T&L 0133075 - T&L 0133079)	Crich, D.	Domestic Industry	Admitted
CX-63C	Tate & Lyle Sucralose Manufacturing Process Data (T&L 0231805)	Crich, D.	Domestic Industry	Admitted
CX-64	Removed to Joint Exhibit List			

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Doc. No. 311-PA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-65C	GDFII Test Data - LC-MS Identification and HPLC Quantitation of Chlorination Samples by Ciba dated 11/20/2007 to 11/27/2007 (with handwriting) (T&L 0232797 - T&L 0232869)	Crich, D.	Infringement	Admitted
CX-66C	Niutang Test Data - LC-MS Identification and HPLC Quantitation of Chlorination Samples by Ciba dated 11/20/2007 to 11/27/2007 (with handwriting) (T&L 0233348 - T&L 0233387)	Crich, D.	Infringement	Admitted
CX-67C	JK Sucralose Test Data - LC-MS Identification and HPLC Quantitation of Chlorination Samples by Ciba dated 11/20/2007 to 11/27/2007 (with handwriting) (T&L 0233169 - T&L 0233240)	Crich, D.	Infringement	Admitted
CX-68C	Hebel Test Data dated 11/20/2007 (with handwriting) (T&L 0233009 - T&L 0233065)	Crich, D.	Infringement	Admitted
CX-69C	Tate & Lyle Test Data - LC-MS Identification and HPLC Quantitation of Chlorination Samples by Ciba dated 11/21/2007 to 11/27/2007 (with handwriting) (T&L 0233528 - T&L 0233620)	Crich, D.	Domestic Industry	Admitted
CX-70C	Time and temperature data for the chlorination samples collected at Tate & Lyle's McIntosh facility on 11/07/2007 (T&L 0231803 - T&L 0231804)	Crich, D.	Domestic Industry	Admitted
CX-71	Removed to Joint Exhibit List			
CX-72	Sucrochemistry Part IX. Mono-, Di-, Tri-, and Tetra-Substituted Derivatives Prepared from Sucrose Octamethanesulphonate" by L. Hough and K.S. Mufti dated 09/28/1972 (T&L 0112651 - T&L 0112658)"	Crich, D.	Infringement; Validity/Enforceability; Domestic Industry	Admitted
CX-73	Withdrawn			Withdrawn
CX-74	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 333-TA-014

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-75	Withdrawn			Withdrawn
CX-76C	Exhibit Number Not Used			
CX-77	Withdrawn			Withdrawn
CX-78C	Hebei Sukerui Feasibility Study Report on Annual 100 Tons Sucralose Project dated 09/2005 (T&L 0234077 - T&L 0234084)	Crich, D.; Hayenga, M.	Remedy; Infringement	Admitted
CX-79	Chinese Patent Application No. 03126656.8 - Published Specification of Invention Patent Application dated 11/05/2003 (T&L 0135995 - T&L 0135999)	Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-80C	Excerpts from Changzhou Nutang Environmental Impact Report on the Extension Project for Producing 10 Tons of Sucralose Annually (T&L 0232204; T&L 0232287; T&L 0232265; T&L 0231861)	Crich, D.; Hayenga, M.	Remedy; Infringement; Validity/Enforceability	Admitted
CX-81	Chinese Patent 200310106025.1 (Ya et al.) dated 10/01/2003 (T&L 0234085 - T&L 0234089)	Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-82C	Withdrawn			Withdrawn
CX-83C	Withdrawn			Withdrawn
CX-84C	Withdrawn			Withdrawn
CX-85C	Withdrawn			Withdrawn
CX-86C	Withdrawn			Withdrawn
CX-87C	Withdrawn			Withdrawn
CX-88C	MTC Industries Purchases by Item Detail dated 01/2004 through 12/2007 (with handwriting) (NT MTC 0394 - NT MTC 0396)	Wang, J.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN MATERIALS, NEWSPAPERS CONTAINING SUCH CASE, AND RELATED INTERMEDIATE COMPONENTS THEREOF ISS. No. 337-1A-019

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-89C	MTC Industries Purchase Order No. MTC40314 dated 03/16/2004 (NT MTC 0397 - NT MTC 0399)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-90C	MTC Industries Purchase Order No. MTC41105 dated 11/23/2004 (NT MTC 0411 - NT MTC 0413)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-91C	MTC Industries Purchase Order No. MTC50312 dated 03/11/2005 (NT MTC 0429 - NT MTC 0432)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-92C	MTC Industries Purchase Order No. MTC50710 dated 07/25/2005 (NT MTC 0433 - NT MTC 0436)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-93C	MTC Industries Purchase Order No. MTC51226 dated 12/28/2005 (NT MTC 0455 - NT MTC 0458)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-94C	MTC Industries Purchase Order No. MTC60221 dated 02/27/2006 (NT MTC 0461 - NT MTC 0462)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-95C	MTC Industries Purchase Order No. MTC60315 dated 03/15/2006 (NT MTC 0474 - NT MTC 0482)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-96C	MTC Industries Purchase Order No. MTC60507 dated 04/05/2006 (NT MTC 0483 - NT MTC 0486)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-97C	MTC Industries Purchase Order No. MTC60828 dated 09/05/2006 (NT MTC 0491 - NT MTC 0495)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-98C	MTC Industries Purchase Order No. MTC60313 dated 03/13/2006 (NT MTC 0467 - NT MTC 0469)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-99C	MTC Industries Sales by detail dated 01/2007 to 12/2007 (MTC 292)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-100C	MTC Industries Invoice No. MTC20889 dated 03/18/2004 (MTC 308 - MTC 311)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-101C	MTC Industries Invoice No. MTC21237 dated 12/02/2004 (MTC 312 - MTC 313)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-102C	MTC Industries Invoice No. MTC21309 dated 01/27/2005 (MTC 315 - MTC 318)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-103C	MTC Industries Invoice No. MTC21532 dated 08/04/2005 (MTC 325 - MTC 334)	Wang, J.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 037-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-104C	MTC Industries Invoice No. MTC22547 dated 03/22/2007 (MTC 298 - MTC 299)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-105C	MTC Industries Invoice No. MTC21818 dated 03/03/2006 (HS 0000334 - HS 0000340)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-106C	MTC Industries Invoice No. MTC21792 dated 02/16/2006 (HS 0000320 - HS 0000326)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-107C	MTC Industries Invoice No. MTC21738 dated 01/16/2006 (HS 0000304 - HS 0000308)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-108C	Discounted Invoices for MTC Industries dated 03/13/2006 (HS 0000341 - HS 0000361)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-109C	MTC Industries Purchase Order No. MTC40332 dated 04/05/2004 (NT MTC 0400 - NT MTC 0403)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-110C	MTC Industries Purchases by detail dated 01/2007 to 12/2007 (NT MTC 0504)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-111C	MTC Industries Invoice No. MTC21390 dated 03/30/2005 (MTC 0321 - MTC 0322)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-112C	MTC Industries Invoice No. MTC21697 dated 12/23/2005 (MTC 0335 - MTC 0336)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-113C	MTC Industries Invoice No. MTC21763 dated 02/06/2006 (MTC 0342 - MTC 0343)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-114C	MTC Industries Invoice No. MTC22122 dated 08/08/2006 (MTC 0357 - MTC 0358)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-115	Response of Heartland Packaging Corporation to the Complaint and Notice of Investigation dated 06/14/2007	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-116	Letter from A. Maguire to J. Kuster dated 09/21/2005 (HL 000001 - HL000002)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-117C	Heartland Packing Corporation Customer Ledgers from 01/01/2005 to 06/08/2007 (HL 000179 - HL 000180)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-118C	Heartland Packaging Corporation Customer Ledgers from 03/01/2005 to 06/08/2007 (HL 000321)	Gelov, T.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS, CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 037-LA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-119C	Final Request from Wal-Mart to Heartland Packaging regarding account balance dated 12/02/2005 (HL 000181)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-120C	Heartland Packaging Invoice No. 003729 to Wal-Mart dated 07/20/2005 (HL 000327)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-121C	Wal-mart Statements of Remittance to Heartland Packaging dated 05/11/2005, 06/03/2005, and 08/12/2005 (HL 000331)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-122C	Check from Heartland Packaging to Wal-mart dated 12/07/2005 (HL 000329)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-123C	Wal-mart Unpaid Invoices Details for Recall dated 12/01/2005 (HL 000330)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-124C	Heartland Packaging Vendor Ledgers for 01/01/2004 to 12/31/2006 (HL 000190)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-125	Certificate of Analysis for Tate & Lyle Sucralose dated 05/03/2004 (HL 000191 - HL 000199)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-126C	Letter and emails between T. Gelov and L. Shufelt dated 11/11/2004 (HL 000200 - HL 000201)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-127C	Email from L. Shufelt to M. Haragan dated 08/31/2004 (HL 000204)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-128C	Heartland Packaging Items Sold to Customers from 06/01/2004 to 12/31/2005 (HL 000342 & HL 000344)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-129C	Heartland Packaging Item Costing Report from 01/01/2001 to 12/31/2007 (HL 000343)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-130C	Email from L. Shufelt to M. Haragan dated 12/03/2004 (HL 000322 - HL 000324)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-131C	Heartland Packaging Customer Ledgers from 01/01/2003 to 12/31/2004 (HL 000214 - HL 000220)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-132C	Heartland Sweeteners Invoice Register from 01/01/2004 to 12/31/2005 (HL 000348 - HL 000349)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-133C	Heartland Packaging Customer Ledgers from 01/01/2004 to 12/30/2006 (HL 000224)	Gelov, T.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED PATENTABLE COMPONENTS THEREOF INV. NO. 337-CA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-134C	Heartland Packaging Invoice Register from 01/01/2005 to 12/31/2006 (HL 000226)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-135C	Heartland Packaging Item Costing Report from 01/01/2004 to 12/31/2006 (HL 000352)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-136C	Heartland Packaging Item Costing Report from 01/01/2004 to 12/31/2006 (HL 000225)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-137C	Heartland Packaging Projected Income Statement dated 01/19/2005 (HS 0000727 - HS 0000729)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-138C	Nevella Brand Sucralose Raw Ingredient Payment Terms dated 01/2005 to 12/2005	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-139	Check, Invoice, and Purchase Order between Heartland Packaging and [REDACTED] dated 08/28/2004 to 09/24/2004 (HL 000311 - HL 000317)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-140C	Letter from T. Gelov to B. Anderson and L. Shufelt dated 01/31/2005 (HL 000340)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-141C	Note from Wal-mart to L. Schufelt (HL 000341)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-142C	Email from T. Gelov to L. Shufelt dated 12/16/2005 (HL 000338 - HL 000339)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-143	Products Containing Sucralose Packaging from Walmart (HS 0000018 - HS 0000022)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-144C	Packing List (dated 12/16/2005) and Certificate of Analysis (dated 12/06/2005) from MTC Industries to Heartland Sweeteners (HS 0000033 - HS 0000035)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-145C	Facsimile from J. Wang to T. Gelov regarding purchase orders dated 12/09/2005 (HS 0000038 - HS 0000040)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-146C	Email from T. Gelov to G. Cooper and G. Wolf dated 04/26/2006 (HS 0000056)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-147C	Email from T. Gelov to G. Cooper dated 04/27/2006 (HS 0000071)	Gelov, T.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENER CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 07-1A-001

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-148C	Email from T. Gelov to J. Kuster et al. dated 06/20/2006 (HS 0000084)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-149C	Email from T. Gelov to G. Wolf and G. Cooper dated 04/10/2006 (HS 0000089)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-150C	Email from T. Gelov to K. Dowell et al. dated 07/03/2006 (HS 0000098)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-151C	Heartland Packaging Packing Slips dated 04/24/2007 and 04/19/2007 (HS 0000148, HS 0000152, HS 0000382)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-152C	LexPharma Study No. L001: Quantification Sucralose in Lot #s 61008, 61009, 61101, 61102, MTC20070312, MTC20070316, and MTC20070319" (HS 0000157)"	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-153C	Heartland Packaging Packing Slip dated 01/12/2007 and Certificates of Analysis dated 09/30/2007 and 11/24/2006 (HS 0000185 - HS 0000190)	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-154C	Handdrawn document of chemical formula by J. Wu (T&L 0235349)	Wu, J.	Infringement	Admitted
CX-155C	Hebei Sukerui Science and Technology Co. Ltd. Operation Guide (A/0 Edition) dated 03/08/2006 (SKR 003341 - SKR 003355)	Wu, J.	Infringement	Admitted
CX-156C	Hebei Sukerui Test Results dated 05/16/2007 (SKR 003356 - SKR 003387)	Wu, J.	Infringement	Admitted
CX-157C	Hebei Sukerui Science and Technology Co. Ltd. Department Work Book (First Edition) by J. Wu (SKR 002294 - SKR 002342)	Wu, J.	Infringement	Admitted
CX-158C	Chinese language document (T&L 0235350 - T&L 0235372)	Wu, J.	Infringement	Admitted
CX-159C	Chinese language documents (SKR 000234 - SKR 000253)	Wu, G.	Infringement; Remedy	Admitted
CX-160C	Chinese language document (SKR 001882 - SKR 001890)	Wu, G.	Infringement; Remedy	Admitted
CX-161C	Letter from M. Wang to X. Ye dated 01/03/2006 (SKR 001881)	Wu, G.; Wang, M.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND  
 RELATED INTERMEDIATE COMPONENTS THEREOF

INV. No. 037-TA-503

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-162C	Hebei Sukerui Certificates of Analysis dated 05/10/2007 to 05/23/2007 (SKR 000556 - SKR 000559)	Wu, G.	Infringement	Admitted
CX-163C	Exhibit Number Not Used			
CX-164C	Exhibit Number Not Used			
CX-165C	Exhibit Number Not Used			
CX-166C	Exhibit Number Not Used			
CX-167C	Contract for Sino-foreign Equity Joint Ventures; Chlorination; and Reply (T&L 0235373 - T&L 0235400)	Wu, G.; Wang, M.	Remedy; Infringement; Importation	Admitted
CX-168C	Lab Notebook in Chinese (NIUT 034645 - NIUT 034709)	Cai, Y.	Infringement	Admitted
CX-169C	Lab Notebook in Chinese (NIUT 058655 - NIUT 058716)	Cai, Y.	Infringement	Admitted
CX-170C	Changzhou Niutang Patent dated 01/17/2007 in Chinese (NIUT 058151 - NIUT 058155)	Cai, Y.	Infringement	Admitted
CX-171C	Removed to Joint Exhibit List			
CX-172C	Schematics in Chinese (NIUT 039410 - NIUT 039418)	Cai, Y.	Infringement	Admitted
CX-173C	Charts in Chinese (NIUT 046933, NIUT 046718, NIUT 046513, NIUT 046488)	Cai, Y.	Infringement	Admitted
CX-174C	Exhibit Number Not Used			
CX-175C	Chinese Language Invoice dated 10/08/2003 (NIUT 039777)	Cai, Y.	Infringement	Admitted
CX-176C	Changzhou Niutang Sucralose Project Feasibility Study dated 12/2003 (NIUT 059302 - NIUT 059316; T&L 0232085 - T&L 0232089)	Cai, Y.; Hayenga, M.	Remedy; Infringement; Importation	Admitted
CX-177C	Experimental Notebook for Development Department No. 1003622 dated 11/2003 (NIUT 058836 - NIUT 058858)	Cai, Y.	Infringement	Admitted
CX-178C	Exhibit Number Not Used			
CX-179C	Experimental Notebook for Development Department dated 05/30 (NIUT 034750 - NIUT 034751)	Cai, Y.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SECURABLE INFORMATION CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF

INV. NO. 377-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-180C	Response of Changzhou Niutang Chemical Plant Co., Ltd. and U.S. Niutang Chemical Inc. to Tate & Lyle Technology Limited and Tate & Lyle Sucralose, Inc.'s Complaint and Notice of Investigation under Section 337 of the Tariff Act of 1930, As Amended dated 05/30/2007	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-181C	Federal Express Shipping Documents for Trichlorosucrose dated 03/09/2007 (NIUT 058420 - NIUT 058425)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-182	Changzhou Niutang Company Brochure (T&L 0003374 - T&L 0003389)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-183	Exhibit Number Not Used			
CX-184	U.S. Patent 5,136,031 (Khan et al.) dated 08/04/1992 (NIUT 0001312 - NIUT 0001319)	Ling, G.	Remedy; Infringement; Validity/Enforceability; Importation	Admitted
CX-185	U.S. Patent 4,405,654 (Lee) dated 09/20/1983 (NIUT 0001377 - NIUT 0001412)	Ling, G.	Remedy; Infringement; Validity/Enforceability; Importation	Admitted
CX-186C	Auri-Chem Inc. Sales by Customer Detail from 01/2000 to 05/2007 (NIUT 058056 - NIUT 058058)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-187C	Certificates of Analysis (NIUT 058169 - NIUT 058180)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-188C	U.S. Niutang Chemical Purchases by Vendor Detail from 01/01/2000 to 07/27/2007 (NIUT 058191 - NIUT 058200)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-189C	Changzhou Niutang Invoice No. 0049431 dated 06/09/2004 (NIUT 057574 - NIUT 057575)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-190C	Auri-Chem Inc. Purchases by Vendor Detail from 01/01/2000 to 07/27/2007 (NIUT 058203)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-191C	Auri-Chem Inc. Purchase Order No. PWPO60139 dated 03/05/2007 (NIUT 058414 - NIUT 058419)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-192C	Changzhou Niutang Invoice No. 05072801 dated 07/28/2005 (NIUT 058221 - NIUT 058225)	Ling, G.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 3:07-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-193C	Product marking for Nevella Brand Sweetener (with handwriting) (NIUT 058455)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-194C	Heartland Sweeteners Purchase Order No. 5608 dated 02/05/2007 (NIUT 058457)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-195C	Changzhou Niutang and Changzhou Tianhua Invoice Chart dated 01/16/2005 to 05/08/2007 (NIUT 057570 - NIUT 057573)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-196C	Changzhou Niutang Invoice No. 0042127 dated 04/23/2004 (NIUT 057578 - NIUT 057581)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-197C	Changzhou Niutang Invoice No. 00085868 dated 07/07/2005 (NIUT 057692 - NIUT 057693)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-198C	MTC Industries Purchase Order No. MTC51213 dated 11/28/2005 (NIUT 057704)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-199C	Changzhou Niutang Invoice No. 00142569 dated 11/10/2005 (NIUT 057718 - NIUT 057720)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-200C	Auri-Chem Invoice No. PW51085 dated 08/28/2006 (NIUT 057905 - NIUT 057907)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-201C	Changzhou Niutang Invoice No. 060322 dated 03/22/2006 (NIUT 057576 - NIUT 057577)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-202C	Changzhou Niutang Invoice No. 00192269 dated 01/06/2006 (NIUT 057697)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-203C	Changzhou Niutang Sales Confirmation No. NTSC1215 dated 12/15/2005 (NIUT 057698)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-204C	Changzhou Niutang Invoice No. NT00003 dated 01/29/2007 (NIUT 057582 - NIUT 057583)	Ling, G.	Remedy; Infringement; Importation	Admitted
CX-205	US Niutang Buyers Guide from ChemBuyersGuide.com (T&L 0003477 - T&L 0003478)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-206C	US Niutang Sales by Customer Detail from 06/01/1998 to 07/27/2007 (NIUT 058530)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-207C	Facsimile from US Niutang to Port Warehouse & Distributing dated 03/16/2007 (NIUT 057897)	Lin, J.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING NUCALOSE AND RELATED IMMEDIATE COMPONENTS THEREOF Inv. No. 37-16-001

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-208C	World Connection Express Bill of Lading for shipment from Pure-World Ingredients to Changzhou Niutang (NIUT 057561 - NIUT 057569)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-209C	Auri-Chem Invoice No. PW51123 dated 02/09/2007 (NIUT 057805 - NIUT 057808)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-210C	Auri-Chem Invoice No. PW51122 dated 02/08/2007 (NIUT 057809 - NIUT 057810)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-211C	Auri-Chem Invoice No. PW51137 dated 05/04/2007 (NIUT 057859 - NIUT 057861)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-212C	Documents regarding shipment dated 04/29/2007 from US Niutang to Auri-Chem (NIUT 058445 - NIUT 058453)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-213C	Email from L. Lin to B. Murphy dated 01/24/2007 (NIUT 059349)	Lin, J.	Remedy; Infringement; Importation	Admitted
CX-214C	GDFII Chinese Patent Application 03126656.8 (GDFII 003233 - GDFII 003237)	Wang, S.	Infringement	Admitted
CX-215C	GDFII Chinese Patent Application 03126655.X (GDFII 003228 - GDFII 003232)	Wang, S.	Infringement	Admitted
CX-216C	Chinese language notebook of Li Chunrong (GDFII 002092 - GDFII 2255)	Wang, S.	Infringement	Admitted
CX-217C	Document of Assurance of Non-Infringement of Patent from L&P dated 01/10/2007 (GDFII 001242)	Wang, S.	Infringement	Admitted
CX-218C	GDFII Sucralose Pilot Test Process dated 08/25/2002 (GDFII 003043 - GDFII 003072)	Wang, S.	Infringement	Admitted
CX-219C	GDFII Sucralose Industrial (Intermediate) Test Shop Construction Feasibility Study Report dated 08/2003 (GDFII 003073 - GDFII 003211)	Wang, S.	Infringement	Admitted
CX-220C	GDFII Feasibility Study (GDFII 05453 - GDFII 05483)	Wang, S.; Hayenga, M.	Remedy; Infringement	Admitted
CX-221C	DMF Reservoir Tank Diagram by S. Wang dated 09/18/2007 (T&L 0235401 - T&L 0235404)	Wang, S.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCH LIST, SO EXTENSIVE CONTAINING SEVERAL AND RELATED INTERMEDIATE COMPONENTS THEREOF IST No. 07-1A-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-222C	Sucralose Production Record: Neutralization Station Record (GDFII 004288, GDFII 004326, GDFII 004360, GDFII 004396, GDFII 004410, GDFII 004442, GDFII 004470)	Wang, S.	Infringement	Admitted
CX-223C	Sucralose Production Record: 5-Sugar Preparation Station Record (GDFII 005226, GDFII 005258, GDFII 005302)	Wang, S.	Infringement	Admitted
CX-224C	Exhibit Number Not Used			
CX-225C	Sucralose Production Record: 2-Sugar Chlorination Liquid Extraction Station Record (GDFII 004647)	Wang, S.	Infringement	Admitted
CX-226C	Handdrawn diagram by S. Wang (T&L 0235405)	Wang, S.	Infringement	Admitted
CX-227C	Removed to Joint Exhibit List			
CX-228C	Chinese language document (GDFII 002957 - GDFII 003042)	Wang, S.	Infringement	Admitted
CX-229C	Exhibit Number Not Used			
CX-230C	Removed to Joint Exhibit List			
CX-231C	L&P monthly production quantity of sucralose dated 07/2004 to 06/2007 (GDFII 005441)	Wang, S.	Infringement	Admitted
CX-232C	The transaction information of sucralose exported into USA during 2004 to 2nd quarter of 2007 (GDFII 005395 - GDFII 005396)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-233C	Sales Contracts from GDFII dated 02/04/2005 to 04/03/2007 (GDFII 005402 - GDFII 005436)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-234C	Sales Contracts from GDFII dated 02/12/2007 to 06/12/2007 (GDFII 005434 - GDFII 005440)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-235C	Sales Contracts from GDFII dated 09/21/2004 to 12/21/2005 (GDFII 005397 - GDFII 005426)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-236C	Sales Contracts from GDFII dated 06/29/2006 and 07/03/2006 (GDFII 005432 - GDFII 005433)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-237C	Chinese language document dated 12/14/2005 (GDFII 005425)	Wang, S.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 03-CA-304

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-238C	Emails from B. Green of Novel Ingredient to GDFII, Cul and Dion and S. Wang dated 03/02 and 03/06/2007 (T&L 0235406 - T&L 0235407)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-239C	Email from B. Faress of Ingredient Specialties to S. Wang of GDFII dated 05/27/2007 (T&L 0235408)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-240C	Two photographs taken at L&P meeting (T&L 0235409 - T&L 0235410)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-241	Guangdong Guangye Light and Chemical Industry Group Webpages dated 09/11/2006, 09/29/2006, and 04/03/2007 (T&L 0173878 - T&L 0173896)	Wang, S.	Remedy; Infringement; Importation	Admitted
CX-242C	Email from GDFII Marketing to Novel Ingredient dated 03/09/2007 (T&L 0235415)	Li, C.	Remedy; Infringement; Importation	Admitted
CX-243C	Emails between R. Luo of Novel Ingredient and D. Shao of GDFII dated 07/25/2007 to 09/07/2007 (T&L 0235416 - T&L 0235447)	Li, C.	Remedy; Infringement; Importation	Admitted
CX-244C	Emails dated 03/02/2007 to 07/31/2007 (T&L 0235448 - T&L 0235479)	Li, C.	Remedy; Infringement; Importation	Admitted
CX-245C	Photographs (T&L 0235480 - T&L 0235481)	Li, C.	Remedy; Infringement; Importation	Admitted
CX-246C	Declaration of Li Chunrong dated 08/31/2007 (T&L 0235411 - T&L 0235414)	Li, C.	Infringement	Admitted
CX-247C	Certificates of Analysis of GDFII Sucralose dated 09/11/2004 to 04/19/2006 and L&P Sucrose dated 12/15/2006 to 06/13/2007 (T&L 0235482 - T&L 0235526)	Li, C.	Remedy; Infringement	Admitted
CX-248C	Response of Guangdong Food Industry Institute and L&P Food Ingredient Co., Ltd to Tate & Lyle Technology Limited and Tate & Lyle Sucralose, Inc.'s Complaint and Notice of Investigation Under Section 337 of the Tariff Act of 1930, As Amended dated 06/07/2007	Li, C.	Remedy; Infringement; Importation	Admitted
CX-249C	Organization Chart of Forbest International USA (FBUSA 000001)	Ye, F.; Zhang, H.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 07-LA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-250C	Response of Forbest International USA, LLC to Tate & Lyle Technology Limited and Tate & Lyle Sucralose, Inc.'s Complaint and Notice of Investigation Under Section 337 of the Tariff Act of 1930, As Amended dated 06/15/2007	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-251	Forbest USA Brochure (T&L 0003356 - T&L 0003362)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-252	Forbest USA Company Information Webpage (T&L 0003366)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-253	Forbest USA Website (T&L 0003367 - T&L 0003373)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-254C	Certificate of Analysis of Beijing Forbest Sucralose dated 10/05/2006 (FBUSA 000097)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-255C	Email from B. Tao to H. Zhang dated 10/20/2005 (FBUSA 000102)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-256C	Email from B. Tao to H. Zhang dated 10/21/2005 (FBUSA 000103)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-257C	Shipping Documents for Sucralose Shipment from Beijing Forbest to Forbest USA dated 11/16/2005 (FBUSA 000105 - FBUSA 000107)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-258C	Email from L. An to Sucralose.cn, H. Zhang, and F. Wang dated 10/31/2006 (FBUSA 000151)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-259C	Forbest USA Inventory dated 05/23/2006 to 06/05/2007 (FBUSA 000169 - FBUSA 000172)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-260C	2007 Sales Records for F. Ye, H. Zhang, C. Parillo, R. McCormick, E. Martin, and S. Miller (FBUSA 000173 - FBUSA 000176)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-261C	2006 Sales Records for F. Ye, H. Zhang, C. Parillo, and R. McCormick (FBUSA 000177 - FBUSA 000180)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-262C	Forbest USA Product Buy and Sale Record dated 10/31/2005 to 12/27/2006 (FBUSA 000185 - FBUSA 000187)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPOUNDS THEREOF INV. NO. 337-TX-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-263C	Forbest USA Invoice No. 20070531-607 dated 05/31/2007 (FBUSA 000188 - FBUSA 000189)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-264C	Forbest USA Invoice No. 20070525-131 dated 05/25/2007 (FBUSA 000200 - FBUSA 000201)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-265C	Forbest USA Invoice No. 20070524-130 dated 05/24/2007 (FBUSA 000202 - FBUSA 000203)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-266C	Forbest USA Shipments for 2007 (FBUSA 000685 - FBUSA 000686)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-267C	LMZ International Ltd. Sales Contract No. LMZFB-070502 dated 05/15/2007 (FBUSA 000687 - FBUSA 000694)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-268C	Beijing Forbest Sales Contract No. FBUSA-031201 dated 12/01/2006 (FBUSA 000729 - FBUSA 000734)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-269C	Forbest USA Sales Contract No. FBUSA-060901 dated 09/23/2006 (FBUSA 000809 - FBUSA - 000815)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-270C	Forbest International USA: A Leading Worldwide Sucralose Manufacturer and Supplier (FBUSA 000860 - FBUSA 000888)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-271C	Letters from F. Ye to R. Miller of Univar Canada and M. Drinkard of Cumberland Packing dated 06/20/2006 (FBUSA 000892 and FBUSA 000900)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-272C	Indemnification Agreement between Forbest USA and Liquid Solutions (FBUSA 000893 - FBUSA 000895)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-273C	Indemnification Agreement between Forbest USA and Ingredients, Inc. dated 04/16/2007 (FBUSA 000896 - FBUSA 000899)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-274C	Indemnification Agreement between Forbest USA and Haile Resources dated 05/29/2007 (FBUSA 000904 - FBUSA 000907)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-275C	Confidentiality Agreement between Forbest USA and C. Merkel dated 06/05/2007 (FBUSA 000890, FBUSA 000902 - FBUSA 000903)	Ye, F.;Zhang, H.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 137-PA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-276C	Continuing Guaranty and Indemnity Agreement, Non-Disclosure Agreement, and Certification Regarding Cloned Animals between Publix and Forbest USA (FBUSA 000908 - FBUSA 000913)	Ye, F.; Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-277C	Response of JK Sucralose, Inc. to Tate & Lyle Technology Limited and Tate & Lyle Sucralose, Inc.'s Complaint and the Notice of Investigation Issued by the Commission Under Section 337 of the Tariff Act of 1930, As Amended dated 08/24/2007	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-278C	JK Sucralose Brochure (JKS 14214)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-279C	The General Manager Address by J. Wu (JKS 08507 - JKS 08508)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-280C	Technology development (JKS 08509)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-281C	Chinese language document (JKS 02624)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-282C	JK Sucralose Sales Contract No. JKUSA-200707A dated 06/27/2007 (JKS 00115 - JKS 000124)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-283C	Email from B. Ntumba to J. Zhang dated 08/08/2007 (JKS 14244)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-284C	Beijing Forbest Proforma Invoice No. FB-HB-0827/07 dated 08/27/2007 (JKS 18577)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-285C	Chinese language document (JKS 00935 - JKS 00936)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-286C	JK Sucralose Company Introduction Presentation (JKS 24755 - JKS 24786)	Zhang, H.	Remedy; Infringement; Importation	Admitted
CX-287C	Letter from F. Ye dated 06/01/2006 (FBUSA 000140)	Ye, F.	Remedy; Infringement; Importation	Admitted
CX-288	Complainants Tate & Lyle's Notice of 30(b)(6) Deposition of Respondent Garuda dated 07/19/2007	Matkin, J.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

~~CERTAIN SUCRALOSE SWEETENERS, CONTAINERS, SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF~~ Inv. No. 03-23-04

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-289C	Response of Garuda International, Inc. to Tate & Lyle Technology Limited and Tate & Lyle Sucralose, Inc.'s Complaint and Notice of Investigation Under Section 337 of the Tariff Act of 1930, As Amended dated 05/31/2007	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-290	Garuda International Company Information Website (T&L 0003511 - T&L 0003512)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-291C	Merchandise Receipt for shipment from GDFII to Garuda dated 08/25/2004 (GII 000001)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-292C	Garuda Invoice No. 6176 dated 06/28/2004 (GII 000002)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-293C	Garuda Invoice No. 6595 dated 01/21/2005 (GII 000003)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-294C	Garuda Invoice dated 08/25/2004 (GII 000004)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-295C	Garuda Invoice No. 4521 dated 09/23/2004 (GII 000005)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-296C	Corporate minutes dated 12/29/2006 (GII 000006)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-297C	Email from J. Matkin to GDFII Marketing dated 07/21/2004 (GII 000007)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-298C	Email from GDFII to J. Matkin dated 11/25/2004 (GII 000008)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-299C	Email from GDFII Marketing to J. Matkin dated 09/27/2004 (GII 000009)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-300C	Email from GDFII Marketing to J. Matkin dated 11/12/2004 (GII 000010)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-301C	Kosher Certification of GDFII and L&P dated 09/13/2004 (GII 000011)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-302C	Sucralose High-Intensity Sweetener" Brochure from GDFII (GII 000012)"	Matkin, J.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 337-1A-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-303C	Email from GDFII Marketing to J. Matkin dated 11/13/2003 (GII 000015 - GII 000021)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-304C	Email from GDFII Marketing to J. Matkin dated 03/29/2004 (GII 000022)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-305C	Email from GDFII Marketing to J. Matkin dated 04/08/2004 (GII 000023)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-306C	Email from J. Matkin to GDFII Marketing dated 04/19/2004 (GII 000025)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-307C	Email from GDFII Marketing to L. Amador dated 08/04/2004 (GII 000026)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-308C	Email from GDFII to J. Matkin dated 10/20/2003 (GII 000029)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-309C	Email from GDFII Marketing to J. Matkin dated 03/07/2004 (GII 000030)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-310C	Email from S. Loekstad to B. Faress dated 06/01/2004 (GII 000031 - GII 000032)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-311C	Statement of Quality Assurance by Garuda dated 12/15/2005 (GII 000042)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-312C	Email from A. Viano to L. Amador and B. Faress dated 07/19/2004 (GII 000062 - GII 000063)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-313C	Email from B. Faress to R. Matkin dated 08/26/2004 (GII 000065 - GII 000066)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-314C	Email from B. Faress to R. Matkin dated 08/26/2004 (GII 000067)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-315C	FedEx Invoices dated 08/11/2004, 09/03/2004, 11/03/2004 (GII 000073 - GII 000081)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-316C	Email from J. Wang of Fenchem to B. Faress dated 08/25/2004 (GII 000098 - GII 000100)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-317C	Product Data Sheet for Zuelit Sucralose (GII 000127 - GII 000128)	Matkin, J.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS, CONFIDENTIAL SUCRALOSE, AND RELATED INTERMEDIATE COMPOUNDS, TRADEMARKS  
 INV. No. 332-PA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-318C	Garuda Brochure (GII 000130 - GII 000131)	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-319C	FedEx Tracking Invoice No. 7-193-13378 dated 02/21/2005 to Garuda	Matkin, J.	Remedy; Infringement; Importation	Admitted
CX-320C	Beijing Forbest Trade Co. Change of Name (FCHEM 000001)	An, L.	Remedy; Infringement; Importation	Admitted
CX-321C	JKS Sales (FCHEM 000002)	An, L.	Remedy; Infringement; Importation	Admitted
CX-322C	Importation Reports (FCHEM 000006 - FCHEM 000054)	An, L.	Remedy; Infringement; Importation	Admitted
CX-323C	JK's Sucralose Process - Evaluation (FBUSA 000935 - FBUSA 000936)	An, L.	Infringement	Admitted
CX-324C	JKS Name Change (JKS 15678)	An, L.	Remedy; Infringement; Importation	Admitted
CX-325C	Exhibit Number Not Used			
CX-326C	Exhibit Number Not Used			
CX-327C	JK Sucralose Manufacturing Description (JKS 15477 - JKS 15483)	An, L.	Infringement	Admitted
CX-328C	Exhibit Number Not Used			
CX-329C	JK Sucralose Joint Venture Agreement (JKS 14697 - JKS 14719)	An, L.	Remedy; Infringement; Importation	Admitted
CX-330C	Yancheng First Come Biochem Co. Company Information (JKS 08489)	An, L.	Remedy; Infringement; Importation	Admitted
CX-331C	JK Sucralose Sales Contract No. JKUSA-200707A dated 06/27/2007 (JKS 08738)	An, L.	Remedy; Infringement; Importation	Admitted
CX-332C	JK Sucralose Product Information (JKS 15897)	An, L.	Remedy; Infringement; Importation	Admitted
CX-333C	Exhibit Number Not Used			
CX-334C	Technology Transfer Agreement (JKS 24720 - JKS 24727)	An, L.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. No. 037/1A/04

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-335C	Technology Transfer Agreement (JKS 24708 - JKS 24719)	An, L.	Remedy; Infringement; Importation	Admitted
CX-336C	Email from L. An dated 09/06/2007 (JKS 24605)	An, L.	Remedy; Infringement; Importation	Admitted
CX-337C	Report of Tate & Lyle v. Hebei lawsuit (JKS 24647 - JKS 24707)	An, L.	Remedy; Infringement; Importation	Admitted
CX-338C	Yancheng Jiekang Biochemical Co., Ltd. Safety Technology Operating Procedures (JKS 15180 - JKS 15198)	Wu, J.	Infringement	Admitted
CX-339C	Records on Sucralose dated 07/01/2005 to 04/24/2006 (JKS 15904 - JKS 15908)	Wu, J.	Infringement	Admitted
CX-340C	Exhibit Number Not Used			
CX-341C	Records on Sucralose dated 02/08/2006 to 06/13/2006 (JKS 15646 - JKS 15647)	Wu, J.	Infringement	Admitted
CX-342C	Feasibility Study Report on 20 t/a Sucralose Project (JKS 14264 - JKS 14268)	Wu, J.	Infringement	Admitted
CX-343C	Material Balance Chart (JKS 15433)	Wu, J.	Infringement	Admitted
CX-344C	Material Balance Chart (JKS 14459 - JKS 14462)	Wu, J.	Infringement	Admitted
CX-345C	Sucralose Technology Exchange Record, Experimental Record, and Chlorination Test Method (JKS 14357 - JKS 14369)	Wu, J.	Infringement	Admitted
CX-346C	Description of the Manufacturing Process Flow for the T-3600 Product (JKS 14497 - JKS 14501)	Wu, J.	Infringement	Admitted
CX-347C	Production Attention Points (JKS 15434)	Wu, J.	Infringement	Admitted
CX-348C	Mass Production Status Record dated 02/07/2006 (JKS 15584 - JKS 15585)	Wu, J.	Infringement	Admitted
CX-349C	Email from J. Wu to F. Wang dated 01/25/2006 (JKS 24596)	Wu, J.	Infringement	Admitted
CX-350C	Kosher Certificate (JKS 14399 - JKS 14400)	Wu, J.	Infringement	Admitted
CX-351C	50 t/a Sweetener Sucralose Project Feasibility Study Report by J. Wu dated 05/2006 (JKS 14402 - JKS 14426)	Wu, J.; Hayenga, M.	Remedy; Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPOUNDS THEREOF  
 INW No. 37-PA-014

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-352C	Kosher Certificate and Associated Documents for Yancheng First Come Biochem Sucralose dated 05/29/2006 (JKS 16308, JKS 16335 - JKS 16349)	Wu, J.	Infringement	Admitted
CX-353C	800 t/a Sucralose & Sucralose Ester Project Environmental Impact Report (Draft for Approval) dated 11/2006 (JKS 13067 - JKS 13204)	Wu, J.	Infringement	Admitted
CX-354C	800 t/a Food Sweetener Sucralose (& Sucralose Ester) Construction Project Safety Pre-Assessment Report by Z. Li dated 12/2006 (JKS 13420 - JKS 13395)	Wu, J.	Infringement	Admitted
CX-355C	Chinese Language Documents dated 07/31/2007 (JKS 00001 - JKS 00048)	Wu, J.; Hanessian, S.	Infringement	Admitted
CX-356C	JK Sucralose Technical Operating Procedures 2007 (JKS 15785 - JKS 15825)	Wu, J.	Infringement	Admitted
CX-357C	Exhibit Number Not Used			
CX-358C	JK Sucralose Manufacturing Intermediate Control Analysis Procedures (JKS 00549 - JKS 00553)	Wu, J.	Infringement	Admitted
CX-359C	JK Sucralose Sucralose-6-Ester Manufacturing Process Procedures dated 08/21/2007 (JKS 00064)	Wu, J.	Infringement	Admitted
CX-360C	Exhibit Number Not Used			
CX-361C	Jiangsu Science & Technology Achievement Transformation Special Fund Project Proposal for JK Sucralose dated 06/15/2007 (JKS 15853 - JKS 15891)	Wu, J.	Infringement	Admitted
CX-362C	Email dated 09/28/2006 (JKS 24528)	Wu, J.	Infringement	Admitted
CX-363C	Email from J. Wu to W. Sun dated 05/08/2006 (JKS 24571 - JKS 24572)	Wu, J.	Infringement	Admitted
CX-364C	Email from J. Wu to Zhu dated 02/19/2006 (JKS 24593)	Wu, J.	Infringement	Admitted
CX-365C	Withdrawn			Withdrawn
CX-366C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUGARLINE, SWEETENERS CONTAINING SUGARLINE, AND RELATED INTERMEDIATE COMPONENTS THEREOF

INV. NO. 337-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

<b>Trial Exhibit Number</b>	<b>Description</b>	<b>Sponsoring Witness</b>	<b>Purpose</b>	<b>Received</b>
CX-367C	Withdrawn			Withdrawn
CX-368C	Withdrawn			Withdrawn
CX-369	Withdrawn			Withdrawn
CX-370	Withdrawn			Withdrawn
CX-371C	Withdrawn			Withdrawn
CX-372	Withdrawn			Withdrawn
CX-373C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUGAR USE, SWEETENERS CONTAINING SUGAR USE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV No. 03-17A-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-374	Withdrawn			Withdrawn
CX-375	Withdrawn			Withdrawn
CX-376C	Withdrawn			Withdrawn
CX-377C	Withdrawn			Withdrawn
CX-378C	Withdrawn			Withdrawn
CX-379C	Withdrawn			Withdrawn
CX-380	Withdrawn			Withdrawn
CX-381C	Withdrawn			Withdrawn
CX-382C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 391-PA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial/Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-383C	Withdrawn			Withdrawn
CX-384	Withdrawn			Withdrawn
CX-385C	Withdrawn			Withdrawn
CX-386	Withdrawn			Withdrawn
CX-387C	Withdrawn			Withdrawn
CX-388C	Withdrawn			Withdrawn
CX-389C	Withdrawn			Withdrawn
CX-390C	Withdrawn			Withdrawn
CX-391C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Iss. No. 337-1A-649

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-392C	Withdrawn			Withdrawn
CX-393C	Withdrawn			Withdrawn
CX-394C	Withdrawn			Withdrawn
CX-395C	Withdrawn			Withdrawn
CX-396C	Withdrawn			Withdrawn
CX-397C	Withdrawn			Withdrawn
CX-398C	Withdrawn			Withdrawn
CX-399C	Withdrawn			Withdrawn
CX-400C	Withdrawn			Withdrawn
CX-401C	Withdrawn			Withdrawn
CX-402C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS (LUCROF) INV. NO. 337-TX-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-403C	Withdrawn			Withdrawn
CX-404C	Withdrawn			Withdrawn
CX-405C	Withdrawn			Withdrawn
CX-406C	Withdrawn			Withdrawn
CX-407C	Withdrawn			Withdrawn
CX-408	Withdrawn			Withdrawn
CX-409C	Withdrawn			Withdrawn
CX-410C	Withdrawn			Withdrawn
CX-411C	Withdrawn			Withdrawn
CX-412	Withdrawn			Withdrawn
CX-413C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 137-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-414C	Withdrawn			Withdrawn
CX-415C	Withdrawn			Withdrawn
CX-416C	Withdrawn			Withdrawn
CX-417C	Withdrawn			Withdrawn
CX-418C	Withdrawn			Withdrawn
CX-419C	Withdrawn			Withdrawn
CX-420C	Withdrawn			Withdrawn
CX-421C	Withdrawn			Withdrawn
CX-422C	Withdrawn			Withdrawn
CX-423C	Withdrawn			Withdrawn
CX-424C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF IAC NO. 337-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-425C	Withdrawn			Withdrawn
CX-426C	Withdrawn			Withdrawn
CX-427C	Withdrawn			Withdrawn
CX-428C	Withdrawn			Withdrawn
CX-429C	Withdrawn			Withdrawn
CX-430C	Withdrawn			Withdrawn
CX-431C	Respondent Heartland Sweeteners, LLC's Responses to First Set of Interrogatories (Nos. 1-39) dated 10/22/2007	Gelov, T.	Remedy; Infringement; Importation	Admitted
CX-432	Withdrawn			Withdrawn
CX-433C	Withdrawn			Withdrawn
CX-434C	Withdrawn			Withdrawn
CX-435C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 337-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-436C	Withdrawn			Withdrawn
CX-437C	Withdrawn			Withdrawn
CX-438C	Withdrawn			Withdrawn
CX-439C	Withdrawn			Withdrawn
CX-440C	Withdrawn			Withdrawn
CX-441C	Withdrawn			Withdrawn
CX-442C	Withdrawn			Withdrawn
CX-443C	Withdrawn			Withdrawn
CX-444C	Withdrawn			Withdrawn
CX-445C	Withdrawn			Withdrawn
CX-446C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 337-LA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

<b>Trial Exhibit Number</b>	<b>Description</b>	<b>Sponsoring Witness</b>	<b>Purpose</b>	<b>Received</b>
CX-447C	Withdrawn			Withdrawn
CX-448C	Withdrawn			Withdrawn
CX-449C	Withdrawn			Withdrawn
CX-450C	Withdrawn			Withdrawn
CX-451C	Withdrawn			Withdrawn
CX-452C	Withdrawn			Withdrawn
CX-453C	Withdrawn			Withdrawn
CX-454C	Withdrawn			Withdrawn
CX-455C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

**CERTAIN SUCRALOSE SWEETENERS, CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF** **Inv. No. 337-14-604**

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

<b>Trial Exhibit Number</b>	<b>Description</b>	<b>Sponsoring Witness</b>	<b>Purpose</b>	<b>Received</b>
CX-456C	Withdrawn			Withdrawn
CX-457C	Withdrawn			Withdrawn
CX-458C	Withdrawn			Withdrawn
CX-459C	Withdrawn			Withdrawn
CX-460C	Withdrawn			Withdrawn
CX-461C	Withdrawn			Withdrawn
CX-462C	Withdrawn			Withdrawn
CX-463C	Withdrawn			Withdrawn
CX-464C	Withdrawn			Withdrawn
CX-465C	Exhibit Number Not Used			

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 337-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-466C	Withdrawn			Withdrawn
CX-467C	Withdrawn			Withdrawn
CX-468C	Withdrawn			Withdrawn
CX-469C	Withdrawn			Withdrawn
CX-470C	Withdrawn			Withdrawn
CX-471C	Withdrawn			Withdrawn
CX-472C	Withdrawn			Withdrawn
CX-473C	Withdrawn			Withdrawn
CX-474C	Exhibit Number Not Used			
CX-475C	Exhibit Number Not Used			
CX-476C	Exhibit Number Not Used			
CX-477C	Exhibit Number Not Used			
CX-478C	Exhibit Number Not Used			
CX-479C	Exhibit Number Not Used			
CX-480C	Exhibit Number Not Used			
CX-481C	Exhibit Number Not Used			
CX-482C	Exhibit Number Not Used			
CX-483	JSZ International Inc. Business Information from California Business Portal dated 02/09/2007 (T&L 0004470)	Hayenga, M.	Remedy; Importation	Admitted
CX-484	JSZ International Inc. Contact Information from corporate website (T&L 0004471 - T&L 0004472)	Hayenga, M.	Remedy; Importation	Admitted
CX-485	JSZ International Inc. Information from Natural Products Expo Asia Website (T&L 0004473)	Hayenga, M.	Remedy; Importation	Admitted
CX-486	About JSZ International Inc. from corporate website (T&L 0004474 - T&L 0004477)	Hayenga, M.	Remedy; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN UNLAWFUL SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERNATIONAL COMPANIES' FILINGS Inv. No. 037-PA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-487	JSZ International Inc. Certificate of Analysis for Sucralose (T&L 0004478)	Hayenga, M.	Remedy; Importation	Admitted
CX-488	Novel Ingredient Services, LLC Contact Information from corporate website(T&L 0004479)	Hayenga, M.	Remedy; Importation	Admitted
CX-489	Novel Ingredient Services Product Packaging (T&L 0004480 - T&L 0004481)	Hayenga, M.	Remedy; Importation	Admitted
CX-490	Novel Ingredient Services Product Webpage (T&L 0004482 - T&L 0004538)	Hayenga, M.	Remedy; Importation	Admitted
CX-491	Pacific Rainbow International, Inc. Contact Information from corporate website (T&L 0004539)	Hayenga, M.	Remedy; Importation	Admitted
CX-492	Pacific Rainbow International, Inc. D&B Business Information Report dated 01/10/2007 (T&L 0004540 - T&L 0004545)	Hayenga, M.	Remedy; Importation	Admitted
CX-493	Pacific Rainbow International Brochure (T&L 0004546 - T&L 0004548)	Hayenga, M.	Remedy; Importation	Admitted
CX-494	Pacific Rainbow International Product Information from corporate website (T&L 0004549 - T&L 0004586)	Hayenga, M.	Remedy; Importation	Admitted
CX-495	Pacific Rainbow International Inc. Certificate of Analysis dated 03/06/2006 for Sucralose Powder FCC IV (T&L 0004587 - T&L 0004588)	Hayenga, M.	Remedy; Importation	Admitted
CX-496	PAT Vitamins, Inc. Webpage (T&L 0004589)	Hayenga, M.	Remedy; Importation	Admitted
CX-497	PAT Vitamins, Inc. D&B Business Information Report dated 01/10/2007 (T&L 0004590 - T&L 0004595)	Hayenga, M.	Remedy; Importation	Admitted
CX-498	PAT Vitamins, Inc. Product List (T&L 0004596)	Hayenga, M.	Remedy; Importation	Admitted
CX-499	PAT Vitamins, Inc. Corporate Information from website (T&L 0004597 - T&L 0004613)	Hayenga, M.	Remedy; Importation	Admitted
CX-500	PAT Vitamins Shipping Documents dated 05/23/2006 (T&L 0004614 - T&L 0004615)	Hayenga, M.	Remedy; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

**CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND  
 RELATED INTERMEDIATE COMPONENTS THEREOF**

**INV. NO. 337-TA-604**

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

<b>Trial Exhibit Number</b>	<b>Description</b>	<b>Sponsoring Witness</b>	<b>Purpose</b>	<b>Received</b>
CX-501	Phytochem International, Inc. Business Information from California Business Portal dated 02/09/2007 (T&L 0004616)	Hayenga, M.	Remedy; Importation	Admitted
CX-502	Phytochem International, Inc. D&B Business Information Report dated 01/10/2007 (T&L 0004617 - T&L 0004619)	Hayenga, M.	Remedy; Importation	Admitted
CX-503	Phytochem International, Inc. Certificate of Analysis for Sucralose dated 03/06/2006 (T&L 0004620)	Hayenga, M.	Remedy; Importation	Admitted
CX-504	Shanghai Trustin Chemical Co., Ltd. Company Information from corporate website (T&L 0004621)	Hayenga, M.	Remedy; Importation	Admitted
CX-505	Shanghai Trustin Chemical Co., Ltd. Product Information from corporate website (T&L 0004622 - T&L 0004623)	Hayenga, M.	Remedy; Importation	Admitted
CX-506	Shanghai Trustin Chemical Co., Ltd. Kosher Certification dated 06/13/2006 (T&L 0004624)	Hayenga, M.	Remedy; Importation	Admitted
CX-507	Xi' An Haotian Bio-Engineering Technology Co., Ltd. Contact Information from corporate website (T&L 0004625)	Hayenga, M.	Remedy; Importation	Admitted
CX-508	Xi' An Haotian Bio-Engineering Technology Co., Ltd. Corporate Information from corporate website (T&L 0004626)	Hayenga, M.	Remedy; Importation	Admitted
CX-509	Xi' An Haotian Bio-Engineering Technology Co., Ltd. Corporate Website (T&L 0004627 - T&L 0004652)	Hayenga, M.	Remedy; Importation	Admitted
CX-510	Xi' An Haotian Bio-Engineering Technology Co., Ltd. Product Information from ChemBlink (T&L 0004653)	Hayenga, M.	Remedy; Importation	Admitted
CX-511C	Staley Holdings, Inc. and Subsidiaries Consolidated Financial Statements dated 03/31/2005 and 2006 (T&L 0234038 - T&L 0234040)	Hayenga, M.; Maguire, A.	Domestic Industry	Admitted
CX-512C	Tate & Lyle Capital Summary dated 2005 to 2008 (T&L 0173752)	Hayenga, M.; Maguire, A.	Domestic Industry	Admitted
CX-513C	McIntosh, Alabama Sucralose Manufacturing Costs from 2006 (T&L 0173750)	Hayenga, M.; Maguire, A.	Domestic Industry	Admitted
CX-514C	T&L Sucralose: McIntosh Plant Actual FY07 Costs (04/2006 to 03/2007) (T&L 0231362)	Hayenga, M.; Maguire, A.	Domestic Industry	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 3:7-TX-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-515C	Tate & Lyle Organization Chart dated 08/28/2007 (T&L 0218746)	Hayenga, M.; Maguire, A.	Domestic Industry	Admitted
CX-516C	Withdrawn			Withdrawn
CX-517C	Withdrawn			Withdrawn
CX-518C	Investment estimates and fundraising (GDFII 05479 - GDFII 05482; T&L 0232068 - T&L 0232072)	Hayenga, M.	Remedy	Admitted
CX-519C	Chapter 10: Investment Estimates and Fundraising" (JKS 14418 - JKS 14422; T&L 0232062 - T&L 0232066)"	Hayenga, M.	Remedy	Admitted
CX-520C	Withdrawn			Withdrawn
CX-521C	Premium Ingredients, Ltd. Purchase Order and Shipping Documents from Nu-Scaan Nutraceuticals, Ltd. dated 10/04/2005 (T&L 0171381 - T&L 0171385)	Hayenga, M.	Remedy	Admitted
CX-522C	Withdrawn			Withdrawn
CX-523C	Withdrawn			Withdrawn
CX-524C	Withdrawn			Withdrawn
CX-525C	Artificial Sweeteners: A Global Strategic Business Report" from Global Industry Analysis, Inc. dated 09/2006 (T&L 0230665 - T&L 0230993)"	Hayenga, M.	Remedy	Admitted
CX-526C	Industry Study 2138: Alternative Sweeteners" by The Freedonia Group, Inc. dated 01/2007 (T&L 0230992 - T&L 0231205)"	Hayenga, M.	Remedy	Admitted
CX-527C	Tate & Lyle Annual Report 2007 (T&L 0231873 - T&L 0232020)	Hayenga, M.	Remedy	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 337-TA-014

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-528C	Tate & Lyle Annual General Meeting Presentation dated 07/18/2007 (T&L 0232023- T&L 0232051)	Hayenga, M.	Remedy	Admitted
CX-529C	Sweetener Analysis" by LMC International dated 12/2006 (T&L 0232052 - T&L 0232059)"	Hayenga, M.	Remedy	Admitted
CX-530C	Withdrawn			Withdrawn
CX-531C	Withdrawn			Withdrawn
CX-532C	Withdrawn			Withdrawn
CX-533C	Withdrawn			Withdrawn
CX-534C	Withdrawn			Withdrawn
CX-535C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 154013 (T&L 0232536)	Flora, W.	Infringement	Admitted
CX-536C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 162807 (T&L 0232537)	Flora, W.	Infringement	Admitted
CX-537C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 175099 (T&L 0232554)	Flora, W.	Infringement	Admitted
CX-538C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 175100 (T&L 0232555)	Flora, W.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

~~CERTAIN SUBSEQUENT SWEEPSTAKES CONTAINING SUCH USE, AND  
 RELATED INTERMEDIATE COMPONENTS THEREOF~~ INV. NO. 07-14-804

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-539C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 176609 (T&L 0232561)	Flora, W.	Infringement	Admitted
CX-540C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 176611 (T&L 0232562)	Flora, W.	Infringement	Admitted
CX-541C	Sample Transfer Data Sheet dated 07/06/2007 for LIMS Nos. 186435, 186436, and 186437 (T&L 0232643 - T&L 0232648)	Flora, W.	Infringement	Admitted
CX-542C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 186437 (T&L 0232650)	Flora, W.	Infringement	Admitted
CX-543C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 188346 (T&L 0232654)	Flora, W.	Infringement	Admitted
CX-544C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 192118 (T&L 0232655)	Flora, W.	Infringement	Admitted
CX-545C	Withdrawn			Withdrawn
CX-546C	Sample Transfer Data Sheet dated 02/06/2006 for LIMS Nos. 176609, 176610, 176611 (T&L 0232658 - T&L 0232662)	Flora, W.	Infringement	Admitted
CX-547C	Withdrawn			Withdrawn
CX-548C	Sample Transfer Data Sheet dated 08/04/2006 for LIMS Nos. 188344, 188345, and 188346 (T&L 0232673 - T&L 0232674)	Flora, W.	Infringement	Admitted
CX-549C	Sample Transfer Data Sheet dated 09/13/2006 for LIMS Nos. 192116, 192118, 192117, 192120, 192121, 192122, 192123, 192404, 192418, 192406, 192419, 192408, 192409, 192420, 192411, 192124, 192125, 192421, 192414, 192137, 192139, 192138, 192141, 192142, 192143, 192144, 192405, 192407, 192410, 192145, 192146, 192413, 192422, 192423, and 192424 (T&L 0232675 - T&L 0232678)	Flora, W.	Infringement	Admitted
CX-550C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 332-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-551C	Withdrawn			Withdrawn
CX-552C	Withdrawn			Withdrawn
CX-553C	Withdrawn			Withdrawn
CX-554C	Withdrawn			Withdrawn
CX-555C	Sample Transfer Data Sheet dated 07/06/2006 for LIMS Nos. 186435, 186436, and 186437 (T&L 0233834 - T&L 0233839)	Flora, W.	Infringement	Admitted
CX-556C	Sample Transfer Data Sheet dated 07/06/2006 for LIMS Nos. 186435, 186436, and 186437 (T&L 0233840 - T&L 0233845)	Flora, W.	Infringement	Admitted
CX-557C	Samples for Submission to USM for ICP-MS Tests for LIMS Nos. 175097, 154013, 175099, 175100, 176610, and 177052 dated 02/23/2006 (T&L 0233979-80)	Flora, W.	Infringement	Admitted
CX-558C	Samples for Department of Marine Science at USM for LIMS Nos. 154013, 175099, 175100, 176610, and 177052 dated 02/28/2006 (T&L 0233980 - T&L 0233981)	Flora, W.	Infringement	Admitted
CX-559C	Withdrawn			Withdrawn
CX-560C	Samples for Submission to USM for ICP-MS Tests dated 08/01/2006 for LIMS Nos. 185917, 186419, 186420, 186421, 186422, 186435, 186436, 186437, and 186504 (T&L 0233986)	Flora, W.	Infringement	Admitted
CX-561C	Tate & Lyle Results in ppb of element in the solid powder dated 05/2006 for LIMS Nos. 173769, 180891, 181300, 182326, 182335, 182337, 182463, and 182527 (T&L 0233992)	Flora, W.	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS, INDEED Doc. No. 337-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-562C	Tate & Lyle Results in ppb of element in the solid powder dated 08/2006 for LIMS Nos. 185917, 186419, 186420, 186421, 186422, 186435, 186436, 186437, and 186504 (T&L 0233994 - T&L 0233994)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-563C	Tate & Lyle Results in ppb of element in the solid powder dated 02/2006 for LIMS Nos. 176609 and 176611 (T&L 0233997)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-564C	Tate & Lyle Results in ppb of element in the solid powder dated 02/2006 for LIMS Nos. 154013, 175099, 175100, 176610, and 177052 (T&L 0233999) (Previously produced at T&L 0232192)	Flora, W.	Infringement	Admitted
CX-565C	Withdrawn			Withdrawn
CX-566C	Withdrawn			Withdrawn
CX-567C	Withdrawn			Withdrawn
CX-568C	Withdrawn			Withdrawn
CX-569C	Withdrawn			Withdrawn
CX-570C	Withdrawn			Withdrawn
CX-571C	JK Sucralose HPLC Analysis (JKS 83148 - JKS 83212)	Hanessian, S.; Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-572C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND  
 RELATED INTERMEDIATE COMPONENTS THEREOF

Inv. No. 357-FA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-573C	Withdrawn			Withdrawn
CX-574C	Withdrawn			Withdrawn
CX-575	Withdrawn			Withdrawn
CX-576C	Withdrawn			Withdrawn
CX-577C	Niutang Sample Analysis by F. Weber dated 12/17/2007 (NIUT 064748 - NIUT 064749)	Walters, E.; Crich, D.; Sands, J.	Infringement	Admitted
CX-578C	Niutang Sample Analysis by F. Weber dated 12/17/2007 (NIUT 064750 - NIUT 064751)	Walters, E.; Sands, J.	Infringement	Admitted
CX-579C	Exhibit Number Not Used			
CX-580C	Exhibit Number Not Used			
CX-581C	Exhibit Number Not Used			
CX-582C	Exhibit Number Not Used			
CX-583	Withdrawn			Withdrawn
CX-584	Removed to Joint Exhibit List			
CX-585C	Withdrawn			Withdrawn
CX-586C	Withdrawn			Withdrawn
CX-587C	Withdrawn			Withdrawn
CX-588C	Withdrawn			Withdrawn
CX-589	Changzhou Niutang Corporate Business Cards for Donna Ling, Angel Feng, and Huadong Zhou (██████████ 0000002)	██████████	Infringement	Not Admitted (Proffer)

## CONTAINS CONFIDENTIAL BUSINESS INFORMATION

Subject to Protective Order

CONFIDENTIAL - SUBJECTS INVOLVED IN THIS PROCEEDING ARE IDENTIFIED AS SUCH AND  
ALL OTHER INFORMATION IS UNCLASSIFIED

E.O. No. 13526-A

## COMPLAINANTS' FINAL LIST OF EXHIBITS

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-590C	Emails between A. Feng and J. Vesteburg dated 10/13/2005 and 10/14/2005 (██████████ 0000003 - ██████████ 0000006)	██████████	Infringement	Not Admitted (Proffer)
CX-591C	DHL-Sinotrans Co. Invoice dated 01/10/2006 (██████████ 0000007 - ██████████ 0000009)	██████████	Infringement	Not Admitted (Proffer)
CX-592C	Chinese Language Document dated 08/24/2006 to 08/25/2006 (██████████ 0000010)	██████████	Infringement	Not Admitted (Proffer)
CX-593C	Certification for Safe Transport of Chemical Goods (██████████ 0000011 - ██████████ 0000015)	██████████	Infringement	Not Admitted (Proffer)
CX-594C	Changzhou Niutang Certificates of Analysis and Photos dated 10/27/2005 and 12/13/2005 (██████████ 0000016 - ██████████ 0000025)	██████████	Infringement	Not Admitted (Proffer)
CX-595C	GDFII Shipping Documents dated 06/19/2006 (██████████ 0000026 - ██████████ 0000053)	██████████	Infringement	Not Admitted (Proffer)
CX-596C	Shipping Documents from N. Blank to J. Kocoras dated 06/27/2006 (██████████ 0000054 - ██████████ 0000056)	██████████	Infringement	Not Admitted (Proffer)
CX-597C	Emails between S. Zhou, N. Blank, and J. Kocoras dated 06/27/2006 and 07/27/2006 (██████████ 0000057 - ██████████ 0000058)	██████████	Infringement	Not Admitted (Proffer)
CX-598C	FedEx Shipping Documents dated 07/05/2006 (██████████ 0000059 - ██████████ 0000061)	██████████	Infringement	Not Admitted (Proffer)
CX-599C	Sample Transfer Data Sheet dated 01/04/2006 for LIMS Nos. 175099 and 175100 (T&L 0234857 - T&L 0234864)	██████████	Infringement	Not Admitted (Proffer)
CX-600C	Images of Products, including LIMS No. 175099 (T&L 0234852 - T&L 0234856)	██████████	Infringement	Not Admitted (Proffer)
CX-601C	Withdrawn			Withdrawn
CX-602C	Withdrawn			Withdrawn
CX-603	Removed to Joint Exhibit List			
CX-604C	Withdrawn			Withdrawn
CX-605C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN NUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INGREDIENTS COMPONENTS THROUGH INV. No. 337-TA-009

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-606	Removed to Joint Exhibit List			
CX-607C	Withdrawn			Withdrawn
CX-608C	Withdrawn			Withdrawn
CX-609C	Withdrawn			Withdrawn
CX-610C	Withdrawn			Withdrawn
CX-611C	Witness Statement of F. Wu	Wu, F.	Infringement	Admitted
CX-612C	Boycote Test Results dated 01/15/2008 (T&L 0234959 - T&L 0234963)	Sands, J.	Infringement	Not Admitted (Proffer)
CX-613C	Ingredient Specialties, Inc. Invoices dated 02/25/2005 to 04/02/2007 (ISI 00001 - ISI 00029)	Matkin, J.	Remedy; Infringement	Admitted
CX-614C P	Witness Statement of A. Maguire	Maguire, A.	Infringement; Remedy; Domestic Industry	Not Admitted (Proffer)
CX-614C R	Witness Statement of A. Maguire (Redacted Version)	Maguire, A.	Infringement; Remedy; Domestic Industry	Admitted
CX-615C P	Witness Statement of N. Blank	Blank, N.	Infringement	Not Admitted (Proffer)
CX-615C R	Witness Statement of N. Blank (Redacted Version)	Blank, N.	Infringement	Admitted
CX-616C P	Witness Statement of W. Flora	Flora, W.	Infringement; Remedy	Not Admitted (Proffer)
CX-616C R	Witness Statement of W. Flora (Redacted Version)	Flora, W.	Infringement; Remedy	Admitted
CX-617C P	Witness Statement of J. Sands	Sands, J.	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CONTAINS SIGNATURE, SWORN STATEMENTS, CONFIDENTIAL INFORMATION, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 03-7A-618

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-617C R	Witness Statement of J. Sands (Redacted Version)	Sands, J.	Infringement	Admitted
CX-618C P	Witness Statement of J. Hand	Hand, J.	Infringement	Not Admitted (Proffer)
CX-618C R	Witness Statement of J. Hand (Redacted Version)	Hand, J.	Infringement	Admitted
CX-619C	Witness Statement of J. Wiley	Wiley, J.	Infringement	Admitted
CX-620C	Witness Statement of R. Walkup	Walkup, R.	Infringement	Admitted
CX-621C P	Witness Statement of D. Crich	Crich, D.	Infringement	Not Admitted (Proffer)
CX-621C R	Witness Statement of D. Crich (Redacted Version)	Crich, D.	Infringement	Admitted
CX-621C S	Supplemental Witness Statement of D. Crich	Crich, D.	Infringement	Admitted
CX-622C P	Witness Statement of M. Hayenga	Hayenga, M.	Remedy; Domestic Industry	Not Admitted (Proffer)
CX-622C R	Witness Statement of M. Hayenga (Redacted Version)	Hayenga, M.	Remedy; Domestic Industry	Admitted
CX-623	Economics of High Intensity Sweeteners by PMC Specialties Group dated 11/04/2004 (T&L 0234958)	Hayenga, M.	Remedy	Admitted
CX-624C	Sample Transfer Data Sheet dated 02/06/2006 for LIMS Nos. 176609, 176610, and 176611 (T&L 0232556 - T&L 0232560)	Flora, W.	Infringement	Admitted
CX-625C	Image of LIMS No. 175100 (T&L 0234853)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-626C	Image of LIMS No. 188346 (T&L 0234854)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-627C	Image of LIMS No. 192118 (T&L 0232445)	Flora, W.	Infringement	Admitted
CX-628C	Image of LIMS No. 192419 (T&L 0232457)	Flora, W.	Infringement	Admitted
CX-629C	Image of LIMS No. 176609 (T&L 0232436)	Flora, W.	Infringement	Admitted
CX-630C	Image of LIMS No. 176611 (T&L 0232437)	Flora, W.	Infringement	Admitted
CX-631C	Image of LIMS No. 154013 (T&L 0004821)	Flora, W.	Infringement	Admitted
CX-632C	Image of LIMS No. 162807 (T&L 0234956)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-633C	Image of LIMS No. 186437 (T&L 0234957)	Flora, W.	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

**CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF** **Inv. No. 3:07-TA-604**

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

<b>Trial Exhibit Number</b>	<b>Description</b>	<b>Sponsoring Witness</b>	<b>Purpose</b>	<b>Received</b>
CX-634C	Ciba Lab Notebook regarding various samples dated 05/23/2007 (CIBA 0000033 - CIBA 0000055)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-635C	Ciba Lab Notebook regarding various samples dated 11/02/2007 (CIBA 0000056 - CIBA 0000058)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-636C	Ciba Lab Notebook regarding various samples dated 05/27/2007 (CIBA 0000059 - CIBA 0000068)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-637C	Ciba Lab Notebook regarding various samples dated 12/20/2007 (CIBA 0000127 - CIBA 0000144)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-638C	Ciba Lab Notebook regarding various samples dated 11/16/2007 (CIBA 0000145 - CIBA 0000164)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-639C	Ciba Lab Notebook regarding various samples dated 11/01/2007 (CIBA 0000165 - CIBA 0000167)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-640C	Ciba Lab Notebook regarding various samples dated 01/08/2007 (CIBA 0000168 - CIBA 0000178)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-641C	Ciba Lab Notebook regarding various samples dated 01/08/2007 (CIBA 0000179 - CIBA 0000189)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-642C	Ciba Lab Notebook regarding various samples dated 05/24/2007 (CIBA 0000190 - CIBA 0000200)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-643C	Ciba LC/MS Spectra Data for Sample J10 (CIBA 0000257 - CIBA 0000261)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-644C	Ciba LC/MS Spectra Data for Sample G7b (CIBA 0000246 - CIBA 0000256)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-645C	Ciba Calculation Spreadsheet regarding various samples (CIBA 0000241 - CIBA 0000245)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-646C	Tate & Lyle Process Specifications for manufacturing processes dated 04/30/2007 (T&L 0133045 - T&L 0133079)	Hand, J.;Crich, D.	Infringement	Admitted
CX-647C	LC-MS Chlorinated Species Method (T&L 0234820 - T&L 0234823)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-648C	HPLC Chlorinated Species Method (T&L 0234817 - T&L 0234819)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 07-1A-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-649C	T&L ELSD Calibration Curve (T&L 0234797 - T&L 0234816)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-650C	Niutang ELSD Calibration Curve (T&L 0234777 - T&L 0234796)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-651C	JK Sucralose ELSD Calibration Curve (T&L 0234747 - T&L 0234776)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-652C	Hebel Sukerui ELSD Calibration Curve (T&L 0234727 - T&L 0234746)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-653C	GDFII ELSD Calibration Curve (T&L 0234697 - T&L 0234726)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-654C	LC-ELSD Performance Checks (T&L 0234824 - T&L 0234851)	Hand, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-655	California Business Portal for AIDP, Inc. (T&L 0003279)	Hayenga, M.	Remedy	Admitted
CX-656	D&B Business Report for AIDP, Inc. (T&L 0003280 - T&L 0003285)	Hayenga, M.	Remedy	Admitted
CX-657	AIDP's web page regarding product information (T&L 0003286 - T&L 0003287)	Hayenga, M.	Remedy	Admitted
CX-658	AIDP's web site (T&L 0003288 - T&L 0003335)	Hayenga, M.	Remedy	Admitted
CX-659	Web page information on Beijing Forbest Chemical Co., Ltd. (T&L 0003336)	Hayenga, M.	Remedy	Admitted
CX-660	Forbest Chemical's web site (T&L 0003337 - T&L 0003354)	Hayenga, M.	Remedy	Admitted
CX-661	Beijing Forbest Trade Co., Ltd. Certificate of Analysis (T&L 0003355)	Hayenga, M.	Remedy	Admitted
CX-662	Forbest International USA, LLC's brochure (T&L 0003356 - T&L 0003362)	Hayenga, M.	Remedy	Admitted
CX-663	D&B Business Report for Forbest International USA, LLC (T&L 0003363 - T&L 0003365)	Hayenga, M.	Remedy	Admitted
CX-664	Food Technology Buyer's Guide information on Forbest International USA, LLC (T&L 0003366)	Hayenga, M.	Remedy	Admitted
CX-665	Forbest International USA, LLC brochure (T&L 0003367 - T&L 0003373)	Hayenga, M.	Remedy	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERENIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS EUROPE INV. NO. 337-TA-04

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-666	Changzhou Niutang Chemical Plant Co., Ltd. brochure (T&L 0003374 - T&L 0003389)	Hayenga, M.	Remedy	Admitted
CX-667	Niutang Chagzhou's web site (T&L 0003390 - T&L 0003475)	Hayenga, M.	Remedy	Admitted
CX-668	California Business Portal on U.S. Niutang Chemical, Inc. (T&L 0003476)	Hayenga, M.	Remedy	Admitted
CX-669	Chemical Buyer's Guide web site entry for U.S. Niutang Chemical, Inc. (T&L 0003477 - T&L 0003478)	Hayenga, M.	Remedy	Admitted
CX-670	California Business Portal on CJ America, Inc. (T&L 0003479)	Hayenga, M.	Remedy	Admitted
CX-671	D&B Business Report on CJ America, Inc. (T&L 0003480 - T&L 0003488)	Hayenga, M.	Remedy	Admitted
CX-672	Page from CJ America's web site (T&L 0003489)	Hayenga, M.	Remedy	Admitted
CX-673	NY Department of State Entity Information on Fortune Bridge Co., Inc. (T&L 0003490)	Hayenga, M.	Remedy	Admitted
CX-674	D&B Business Report on Fortune Bridge Co., Inc. (T&L 0003491 - T&L 0003495)	Hayenga, M.	Remedy	Admitted
CX-675	Fortune Bridge Inc. company profile web page (T&L 0003496)	Hayenga, M.	Remedy	Admitted
CX-676	Fortune Bridge Inc. web site (T&L 0003497 - T&L 0003504)	Hayenga, M.	Remedy	Admitted
CX-677	California Business Portal on Garuda International, Inc. (T&L 0003505)	Hayenga, M.	Remedy	Admitted
CX-678	D&B Business Report on Garuda International, Inc. (T&L 0003506 - T&L 3510)	Hayenga, M.	Remedy	Admitted
CX-679	Garuda International's web page regarding company information (T&L 0003511 - T&L 0003512)	Hayenga, M.	Remedy	Admitted
CX-680	Made in China.com company profile on Gremount International Co., Ltd. (T&L 0003513)	Hayenga, M.	Remedy	Admitted
CX-681	Gremount International Co., Ltd's web site regarding product information (T&L 0003514 - T&L 0003517)	Hayenga, M.	Remedy	Admitted
CX-682	Gremount International Co., Ltd's complete web site (T&L 0003518 - T&L 0003555)	Hayenga, M.	Remedy	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUGAROSE, SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 337-LA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-683	Guangdong Food Industry Institute's web page regarding product information (T&L 0003556 - T&L 0003557)	Hayenga, M.	Remedy	Admitted
CX-684	Guangdong Food Industry Institute's web site (T&L 0003558 - T&L 0003627)	Hayenga, M.	Remedy	Admitted
CX-685	Hebei Province Chemical Industry Academe's web page regarding company and product information (T&L 0003628 - T&L 0003631)	Hayenga, M.	Remedy	Admitted
CX-686	Hebei Province Chemical Industry Academe's web page regarding company information (T&L 0003632)	Hayenga, M.	Remedy	Admitted
CX-687	Hebei Province Chemical Industry Academe's complete web site (T&L 0003633 - T&L 0003813)	Hayenga, M.	Remedy	Admitted
CX-688	Hebei Sukerui Science and Technology Co., Ltd. web site regarding registration under ISO 9001:2000 (T&L 0003814)	Hayenga, M.	Remedy	Admitted
CX-689	Hebei Sukerui's web site (T&L 0003815 - T&L 0003839)	Hayenga, M.	Remedy	Admitted
CX-690	D&B Business Report on Heartland Packaging Corp. (T&L 0003840 - T&L 0003843)	Hayenga, M.	Remedy	Admitted
CX-691	Foodpros.com manufacturer information on Heartland Packaging Corp. (T&L 0003844 - T&L 0003845)	Hayenga, M.	Remedy	Admitted
CX-692	Letter authored by L&P Food Ingredient Co., Ltd. (T&L 0003846)	Hayenga, M.	Remedy	Admitted
CX-693	Guangdong Food Industry Institute web page identifying L&P Food Ingredient as its production facility (T&L 0003847)	Hayenga, M.	Remedy	Admitted
CX-694	Food Technology Buyer's Guide's information on L&P Food Ingredient Co., Ltd. (T&L 0003848)	Hayenga, M.	Remedy	Admitted
CX-695	Lianyungang Natiprol (INT'L) Co., Ltd. company web page (T&L 0003849)	Hayenga, M.	Remedy	Admitted
CX-696	Lianyungang Natiprol (INT'L) Co., Ltd. product web page (T&L 0003850)	Hayenga, M.	Remedy	Admitted
CX-697	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 037-TX-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-698	MTC Industries, Inc., company and product web pages (T&L 0004015 - T&L 0004016)	Hayenga, M.	Remedy	Admitted
CX-699	MTC's President's letter (web page) (T&L 0004017 - T&L 0004018)	Hayenga, M.	Remedy	Admitted
CX-700	MTC's web site (T&L 0004019 - T&L 0004080)	Hayenga, M.	Remedy	Admitted
CX-701	MTC (NanTong) Biology & Technology Co., Ltd. company web page (T&L 0004081 - T&L 0004082)	Hayenga, M.	Remedy	Admitted
CX-702	Nu-Scann Nutraceuticals Ltd. products and services web page (T&L 0004083 - T&L 0004085)	Hayenga, M.	Remedy	Admitted
CX-703	Nu-Scann Ltd web page (T&L 0004086)	Hayenga, M.	Remedy	Admitted
CX-704	ProFood International, Inc. company profile and product list (T&L 0004087 - T&L 0004088)	Hayenga, M.	Remedy	Admitted
CX-705	D&B Business Report for ProFood International, Inc. (T&L 0004089 - T&L 0004093)	Hayenga, M.	Remedy	Admitted
CX-706	ProFood homepage (T&L 0004094)	Hayenga, M.	Remedy	Admitted
CX-707	ProFood's web site (T&L 0004095 - T&L 0004126)	Hayenga, M.	Remedy	Admitted
CX-708	Ruland Chemistry Co., Ltd. homepage (T&L 0004127 - T&L 0004128)	Hayenga, M.	Remedy	Admitted
CX-709C	Certificate of Analysis for Ruland (T&L 0004783)	Hayenga, M.	Remedy	Admitted
CX-710C	Invoice from Ruland to Premium Ingredients Ltd. (T&L 0004784)	Hayenga, M.	Remedy	Admitted
CX-711	Ruland web site (T&L 0004129 - T&L 0004402)	Hayenga, M.	Remedy	Admitted
CX-712C	Invoice from Shanghai Aurisco Co., Ltd to Premium Ingredients, Ltd. (T&L 0004785)	Hayenga, M.	Remedy	Admitted
CX-713	World Intellectual Property Organization Bibliographic Data for Shanghai Aurisco (T&L 0004403)	Hayenga, M.	Remedy	Admitted
CX-714	Vivion, Inc. homepage (T&L 0004426 - T&L 0004428)	Hayenga, M.	Remedy	Admitted
CX-715	D&B Business report on Vivion, Inc. (T&L 0004429 - T&L 0004436)	Hayenga, M.	Remedy	Admitted
CX-716	Exhibit Number Not Used			

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 137-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-717C	Invoice from Zhongjin Pharmaceutical (Hong Kong) Co. Ltd. to Premium Ingredients Ltd. (T&L 0004786)	Hayenga, M.	Remedy	Admitted
CX-718	Exhibit Number Not Used			
CX-719C	Withdrawn			Withdrawn
CX-720	Exhibit Number Not Used			
CX-721	Exhibit Number Not Used			
CX-722	Exhibit Number Not Used			
CX-723	Exhibit Number Not Used			
CX-724	Withdrawn			Withdrawn
CX-725C	AIDP Invoice/Packing Slip for shipment to the United States and Certificate of Analysis (T&L 0004788 - T&L 0004789)	Hayenga, M.	Remedy	Admitted
CX-726C	Withdrawn			Withdrawn
CX-727	Withdrawn			Withdrawn
CX-728C	Withdrawn			Withdrawn
CX-729C	Withdrawn			Withdrawn
CX-730C	Withdrawn			Withdrawn
CX-731C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS Litigation Inv. No. 037-TA-014

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-732C	Withdrawn			Withdrawn
CX-733	Withdrawn			Withdrawn
CX-734C	Withdrawn			Withdrawn
CX-735C	Withdrawn			Withdrawn
CX-736C	Withdrawn			Withdrawn
CX-737C	Withdrawn			Withdrawn
CX-738C	Withdrawn			Withdrawn
CX-739C	Withdrawn			Withdrawn
CX-740C	Withdrawn			Withdrawn
CX-741	Withdrawn			Withdrawn
CX-742	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN INFORMATION, SWITCHEERS CONTAINING SIGNATURE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Jury No. 037-21A-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-743C	Withdrawn			Withdrawn
CX-744C	Withdrawn			Withdrawn
CX-745C	Withdrawn			Withdrawn
CX-746	Exhibit Number Not Used			
CX-747	Exhibit Number Not Used			
CX-748C	Exhibit Number Not Used			
CX-749C	Exhibit Number Not Used			
CX-750C	Exhibit Number Not Used			
CX-751C	Exhibit Number Not Used			
CX-752	Withdrawn			Withdrawn
CX-753	Withdrawn			Withdrawn
CX-754	Withdrawn			Withdrawn
CX-755	Withdrawn			Withdrawn
CX-756	Excerpt from McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Ed. dated 2003 (T&L 0234865 - T&L 0234867)	Crich, D.	Infringement; Validity/Enforceability	Not Admitted (Proffer)
CX-757	Excerpt from Hydroxylated prostanolic amides" by R. Aries dated 1975 (T&L 0234868 - T&L 0234869)"	Crich, D.	Infringement; Validity/Enforceability	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 037-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-758	Excerpt from Prostanic acid mixed anhydrides" by R. Aries dated 1974 (T&L 0234870 - T&L 0234871) (Publicly available and listed in Exhibit 3 of Crich's Expert Report)"	Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-759	Selective tetratosylation of sucrose: isolation of the 2,6,1',6'-tetrasulphonate" by J. Ballard et al. dated 10/01/1979 (T&L 0234872 - T&L 0234875) (Previously produced at T&L 0112795 - T&L 0112798)"	Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-760	Reaction of Methanesulphonyl Chloride-N,N-Dimethylformamide with Partially Esterified Derivatives of Sucrose" by R. Khan et al. dated 09/18/1974 (T&L 0234876 - T&L 0234884) (Previously produced at T&L 0112687 - T&L 0112696)"	Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-761	Advances in Selective Chemical Syntheses of Complex Oligosaccharides" by H. Paulsen dated 03/1982 (T&L 0234885 - T&L 0234886) (Previously produced at T&L 0119108 - T&L 0119109)"	Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-762	On the Reaction of Vilsmeier-Haack Reagent with Nucleoside: A Convenient Synthesis of 2,2'-Cyclocytidine" by K. Kikugawa and M. Ichino dated 1970 (T&L 0234887 - T&L 0234890)"	Crich, D.	Infringement; Validity/Enforceability	Not Admitted (Proffer)
CX-763	Nuclear Magnetic Resonance Investigations of Carbonium Ion Intermediates. Part II. A Chlorine-35 Quadrupole Resonance Study of Several (R-Chloromethylene)dimethylammonium Salts (Vilsmeier-Haack and Viehe reagents)" by G. Jugie et al. dated 1975 (T&L 0234891 - T&L 0234893)"	Crich, D.	Infringement; Validity/Enforceability	Not Admitted (Proffer)
CX-764	Chemical Formula Diagrams (T&L 0234894)	Crich, D.	Infringement; Validity/Enforceability	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUGAROSE, SWEETENER CONTAINING SUCRALOSE, AND RELATED INTEGRATE COMPONENTS THEREOF INV. NO. 135-TA-003

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-765	The Invention of New Radical Chain Reaction. Part VIII. Radical Chemistry of Thiohydroxamic Esters: A New Method for the Generation of Carbon Radicals from Carboxylic Acids" by D. Barton et al. dated 01/18/1985 (T&L 0234895 - T&L 0234918) (Publicly available and included on the list of Crich publications at T&L 0170037 - T&L 0170063)"	Crich, D.	Infringement; Validity/Enforceability	Admitted
CX-766	Protonated Heteroaliphatic Compounds" by G. Olah et al. dated 01/12/1970 (T&L 0234925 - T&L 0234955)"	Crich, D.	Infringement; Validity/Enforceability	Not Admitted (Proffer)
CX-767	Exhibit Number Not Used			
CX-768	Withdrawn			Withdrawn
CX-769	Withdrawn			Withdrawn
CX-770	Withdrawn			Withdrawn
CX-771	Withdrawn			Withdrawn
CX-772	Withdrawn			Withdrawn
CX-773	Withdrawn			Withdrawn
CX-774	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS TRADEMARKS INV. NO. 07-1A-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-775	Withdrawn			Withdrawn
CX-776	Withdrawn			Withdrawn
CX-777	Withdrawn			Withdrawn
CX-778	Withdrawn			Withdrawn
CX-779	Withdrawn			Withdrawn
CX-780	Withdrawn			Withdrawn
CX-781C	Withdrawn			Withdrawn
CX-782	MTC Industries Company Information from website (T&L 0004015 - T&L 0004016)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-783	MTC President's Letter by J. Wang from website (T&L 0004017 - T&L 0004018)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-784	MTC Industries, Inc. webpage (T&L 0004019 - T&L 0004080)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-785	MTC Group About Us webpage (T&L 0004081 - T&L 0004082)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-786C	Nantong Molecules Technology Certificate of Analysis of SucraPure dated 05/05/2006 (T&L 0004844 - T&L 0004845)	Wang, J.	Remedy; Infringement; Importation	Admitted
CX-787C	Response of MTC Industries, Inc. and Nantong Molecular Technology Co., Ltd. to the Complaint and Notice of Investigation dated 06/12/2007	Wang, J.	Remedy; Infringement; Importation	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 217-13-694

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-788C	Withdrawn			Withdrawn
CX-789C	Withdrawn			Withdrawn
CX-790C	Withdrawn			Withdrawn
CX-791C	Withdrawn			Withdrawn
CX-792C	Withdrawn			Withdrawn
CX-793C	Handwritten calculations from the deposition of D. Baker (T&L 0236234)	Baker, D.	Infringement; Validity/Enforceability	Admitted
CX-794C	Withdrawn			Withdrawn
CX-795C	Biotech Century High-Tech Co. Specification and Certificate of Analysis (FBUSA 004722 - FBUSA 004723)	Hayenga, M.	Remedy	Admitted
CX-796C	Withdrawn			Withdrawn
CX-797C	Withdrawn			Withdrawn
CX-798C	Email from J. Quon to J. Zhang dated 12/06/2006 (FBUSA 007636 - FBUSA 007648)	Hayenga, M.	Remedy	Admitted
CX-799C	Annotated Niutang Sample Log (T&L 0232126 - T&L 0232135)	Sands, J.	Infringement	Admitted
CX-800C	Withdrawn			Withdrawn
CX-801C	Bodycote Data from the Bodycote Test Results dated 01/15/2008 (T&L 0234968 - T&L 0235232)	Sands, J.	Infringement	Not Admitted (Proffer)
CX-802C	Niutang Updated ICP Results from Ciba dated 12/18/2007 (T&L 0234095 - T&L 0234101)	Sands, J.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SACCHAROSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. No. 339-13-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-803C	GDFII Updated ICP Results from Ciba dated 12/18/2007 (T&L 0234090 - T&L 0234094)	Sands, J.	Infringement	Admitted
CX-804C	Withdrawn			Withdrawn
CX-805C	Ciba LC-MS Data (CIBA 0000356 - CIBA 0000363)	Sands, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-806C	Ciba LC-MS Data (CIBA 0000364 - CIBA 0000373)	Sands, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-807C	Ciba LC-MS Data (CIBA 0000338 - CIBA 0000347)	Sands, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-808C	Ciba LC-MS Data (CIBA 0000329)	Sands, J.;Crich, D.	Infringement	CIBA 0000330 - 37 removed by Judge's Orders; CIBA 0000329 remains as enlargement of document previously produced at Crich Expert Report, Exhibit 44
CX-809C	Ciba LC-MS Data (CIBA 0000322 - CIBA 0000328)	Sands, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-810C	Ciba LC-MS Data (CIBA 0000356 - CIBA 0000363)	Sands, J.;Crich, D.	Infringement	Not Admitted (Proffer)
CX-811C	Supervision & Inspection Station for Food Quality of Guangdong Test Report for Sample G17A dated 10/25/2007 (GDFII 008393 - GDFII 008394)	Sands, J.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Ex. No. 17-1A-01

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-812C	Supervision & Inspection Station for Food Quality of Guangdong Test Report for Sample G17B dated 10/25/2007 (GDFII 008395 - GDFII 008396)	Sands, J.	Infringement	Admitted
CX-813C	Supervision & Inspection Station for Food Quality of Guangdong Test Report for Sample G16 dated 12/10/2007 (GDFII 008397 - GDFII 008398)	Sands, J.	Infringement	Admitted
CX-814	Products Containing Sucralose Packaging from Bloom (HS 0000027 - HS 0000028)	Hayenga, M.	Remedy	Admitted
CX-815	Products Containing Sucralose Packaging from Safeway (HS 0000025 - HS 0000026)	Hayenga, M.	Remedy	Admitted
CX-816	Products Containing Sucralose Packaging from Stop & Shop (HS 0000023 - HS 0000024)	Hayenga, M.	Remedy	Admitted
CX-817	Products Containing Sucralose Packaging from Food Lion (HS 0000015 - HS 0000016)	Hayenga, M.	Remedy	Admitted
CX-818	Products Containing Sucralose Packaging from Giant (HS 0000012 - HS 0000013)	Hayenga, M.	Remedy	Admitted
CX-819C	Ciba LC-MS Data (CIBA 0000316 - CIBA 0000321)	Sands, J.; Crich, D.	Remedy	Not Admitted (Proffer)
CX-820C	Sample Analysis dated 12/17/2007 by F. Weber (GDFII 008820 - GDFII 008821; NIUT 064746 - NIUT 064747)	Weber, F.	Infringement	Admitted
CX-821C	Sample Analysis dated 12/27/2007 by F. Weber (GDFII 008821A - GDFII 008822A)	Weber, F.	Infringement	Admitted
CX-822C	RTI Documents (RTI 001 - RTI 061)	Weber, F.	Infringement	Admitted
CX-823C	Exhibit Number Not Used			
CX-824C	Withdrawn			Withdrawn
CX-825C	Exhibit Number Not Used			
CX-826C	Exhibit Number Not Used			
CX-827C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND  
 RELATED INTERMEDIATE COMPONENTS THEREOF

INV. NO. 03-1A-009

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-828C	Withdrawn			Withdrawn
CX-829C	Withdrawn			Withdrawn
CX-830C	Withdrawn			Withdrawn
CX-831C	Samples for Department of Marine Science at USM dated 02/22/2006 (T&L 0233736)	Flora, W.	Infringement	Admitted
CX-832C	Withdrawn			Withdrawn
CX-833C	Samples for Department of Marine Science at USM dated 08/01/2006 (T&L 0233742)	Flora, W.	Infringement	Admitted
CX-834C	Samples for Department of Marine Science at USM dated 11/22/2005 (T&L 0233743)	Flora, W.	Infringement	Admitted
CX-835C	Sample Transfer Data Sheet dated 11/06/2006 (T&L 0235233- T&L 0235235)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-836C	Samples for Department of Marine Science at USM dated 01/04/2006 for LIMS Nos. 166320 and 173769 (T&L 0235236 - T&L 0235237)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-837C	Tate & Lyle Sample Set #1, Re-run dated 12/01/2005 (T&L 0235238 - T&L 0235241)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-838C	Analytical Test Results for Tate & Lyle Samples (CIBA 0000001 - CIBA 0000002)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-839C	Galbraith Summary Laboratory Report dated 06/29/2007 for various samples (Galbraith 0000001 - Galbraith 0000004)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-840C	Filtrate Impurities by HPLC & Select UV Curves Report by Ciba (T&L 0230193 - T&L 0230278)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-841C	Tate & Lyle Organotin Samples Report dated 11/14/2007 (T&L 0232341)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-842C	Sample Transfer Data Sheet dated 11/14/2007 for LIMS No. 183024 (T&L 0232352)	Flora, W.	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 332-TX-014

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-843C	Evidence Control and Chain of Custody Document for transfer to AIDP dated 05/17/2006 (T&L 0232588)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-844C	Samples for Submission to USM for ICP-MS Tests dated 05/26/2006 (T&L 0233984)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-845C	Test Results for LIMS No. 166320 (T&L 0233396)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-846C	Sample Transfer Data Sheet for LIMS No. 183024 (T&L 0232602)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-847C	Sample Transfer Data Sheet and accompanying documentation for LIMS No. 175097 (T&L 0235242 - T&L 0235253)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-848C	Sample Transfer Data Sheet for LIMS No. 175097 (T&L 0235254 - T&L 0235255)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-849C	Sample Transfer Data Sheet to Galbraith for LIMS No. 175097 (T&L 0235256)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-850C	Summary Laboratory Report for LIMS No. 175097 (Galbraith 0000003)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-851C	Tate & Lyle Global Ingredients Sales (T&L 0232097)	Hayenga, M.; Maguire, A.	Remedy	Not Admitted (Proffer)
CX-852C	LC-MS data for Sample TL8C (CIBA 0000348 - CIBA 0000355)	Hand, J.	Infringement	Not Admitted (Proffer)
CX-853C	LC-MS data for Sample 2N5 (CIBA 0000404 - CIBA 0000406)	Hand, J.	Infringement	Not Admitted (Proffer)
CX-854C	GDFII Test Data and Underlying Raw Data dated 11/20/2007 to 11/27/2007 (T&L 0232797 - T&L 0232869)	Crich, D.	Infringement	Not Admitted (Proffer)
CX-855C	Niutang Test Data and Underlying Raw Data dated 11/20/2007 to 11/27/2007 (T&L 0233348 - T&L 0233387)	Crich, D.	Infringement	Not Admitted (Proffer)
CX-856C	JK Sucralose Test Data and Underlying Raw Data dated 11/20/2007 to 11/27/2007 (T&L 0233169 - T&L 0233240)	Crich, D.	Infringement	Not Admitted (Proffer)
CX-857C	Hebei Test Data and Underlying Raw Data dated 11/20/2007 to 11/27/2007 (T&L 0232958 - T&L 0233008)	Crich, D.	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. No. 07-TA-011

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CX-858C	Hebei Test Data and Underlying Raw Data dated 11/20/2007 to 11/27/2007 (T&L 0233009 - T&L 0233065)	Crich, D.	Infringement	Not Admitted (Proffer)
CX-859C	Tate & Lyle Test Data and Underlying Raw Data dated 11/20/2007 to 11/27/2007 (T&L 0233528 - T&L 0233620)	Crich, D.	Infringement	Not Admitted (Proffer)
CX-860C	Image of Sample LIMS No. 154013 (T&L 0232257)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-861C	Sample Transfer Data Sheet dated 11/09/2006 (T&L 0235258 - T&L 0235260)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-862C	Sample Transfer Data Sheet dated 11/10/2006 (T&L 0235261 - T&L 0235263)	Flora, W.	Infringement	Not Admitted (Proffer)
CX-863C	Garuda Company Brochure, Product Data Sheet, and Product Information	Flora, W.	Infringement	Not Admitted (Proffer)
CX-864C	Tate & Lyle Speciality Sweeteners Sucralose Manufacturing Status Review dated 10/19/1995 (T&L 0225182 - T&L 0225191)	Maguire, A.	Infringement; Validity/Enforceability	Not Admitted (Proffer)
CX-865C	Email from R. Rable to M. Corley, A. Maguire, R. Turner, and A. Gomez dated 09/07/2004 (T&L 0235279 - T&L 0235280)	Maguire, A.	Importation; Remedy	Not Admitted (Proffer)
CX-866C	Email from R. Rable to A. Maguire et al. dated 09/09/2004 (T&L 0235281 - T&L 0235282)	Maguire, A.	Importation; Remedy	Not Admitted (Proffer)
CX-867C	Determination of Tin in Aqueous Media (ATM 018) dated 08/31/2007 (T&L 0233345 - T&L 0233346)	Hand, J.	Infringement	Not Admitted (Proffer)
CX-868C	Tate & Lyle Certificate of Analysis for Splenda (T&L 0068078)	Hayenga, M.; Maguire, A.	Infringement; Validity/Enforceability	Not Admitted (Proffer)
CPX-1	Compact Disc of Websites of Chinese Companies Offering Sucralose	Hayenga, M.	Remedy	Admitted
CPX-2C	Withdrawn			Withdrawn
CPX-3	Bloom brand bag of high-intensity sweetener	Hayenga, M.	Remedy	Admitted
CPX-4	Bloom brand box of high-intensity sweetener	Hayenga, M.	Remedy	Admitted
CPX-5	Splenda brand bag of high-intensity sweetener	Hayenga, M.	Remedy	Admitted
CPX-6	Withdrawn			Withdrawn
CPX-7C	Video of McIntosh Facility	Maguire, A.	Domestic Industry	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. No. 337-1A-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CPX-8.1C - CPX-8.10C	Niutang Plant Inspection Videos dated 10/09/2007 to 10/11/2007	Sands, J.;Wu, F.	Infringement	Not Admitted (Proffer)
CPX-9.1C - CPX-9.10C	GDFII Plant Inspection Videos dated 10/16/2007 to 10/18/2007	Sands, J.;Wu, F.	Infringement	Not Admitted (Proffer)
CPX-10.1C - CPX-10.5C	Hebei Plant Inspection Videos dated 10/22/2007 to 10/23/2007	Sands, J.;Wu, F.	Infringement	Not Admitted (Proffer)
CPX-11.1C - CPX-11.5C	JK Sucralose Plant Inspection Videos dated 10/30/2007 to 10/31/2007	Sands, J.;Wu, F.	Infringement	Not Admitted (Proffer)
CPX-12.1C - CPX-12.4C	T&L McIntosh Plant Inspection Videos dated 11/07/2007	Crich, D.;Maguire, A.	Domestic Industry	Not Admitted (Proffer)
CPX-13.1C - CPX-13.5C	Niutang 2 Plant Inspection Videos dated 11/15/2007	Wu, F.	Infringement	Not Admitted (Proffer)
CDX-1.002	Sucralose Structure (simplified)	Crich, D	Infringement	Admitted
CDX-1.003	To Make Sucralose, Chlorinate Positions 4, 1' & 6'	Crich, D	Infringement	Admitted
CDX-1.004	Sucralose Structure (simplified)	Crich, D	Infringement	Admitted
CDX-1.005	Different Positions in Sucrose Have Different Rates of Reactivity	Crich, D	Infringement	Admitted
CDX-1.008	An Ester Group Can Be Used to Protect an OH Position from Chlorination	Crich, D	Infringement	Admitted
CDX-1.009	Chlorination in the Penta-Ester Route to Sucralose	Crich, D	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 337-TA-001

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-1.010	Chlorination in the Mono-Ester Route to Sucralose	Crich, D	Infringement	Admitted
CDX-1.011	With Penta-Ester Route, There is Little Danger of Over Chlorination	Crich, D	Infringement	Admitted
CDX-1.012	With Mono-Ester Route, Over-Chlorination is a Major Concern	Crich, D	Infringement	Admitted
CDX-1.014	State of the Art in 1989	Crich, D	Infringement	Admitted
CDX-1.016	Preferred Prior Art Mono-Ester Chlorination Process	Crich, D	Infringement	Admitted
CDX-1.017	Thionyl Chloride + DMF Reaction Proceeds Through Stable Intermediate	Crich, D	Infringement	Admitted
CDX-1.018	Acid Chloride	Crich, D	Infringement	Admitted
CDX-1.020	Adding	Crich, D	Infringement	Admitted
CDX-1.023	GDFII Low Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-1.024	GDFII High Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-1.025	Infringement Analysis: GDFII	Crich, D	Infringement	Admitted
CDX-1.026	Infringement Analysis: GDFII	Crich, D	Infringement	Admitted
CDX-1.027	Infringement Analysis: GDFII	Crich, D	Infringement	Admitted
CDX-1.028	Infringement Analysis: GDFII	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.029	Infringement Analysis: GDFII	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.030	Infringement Analysis: GDFII	Crich, D	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN CALLOSE, STREPTOLYSIN, CONTAINING SULFALONE, AND RELATED INTERMEDIATE COMPONENTS THROUGH Inv. No. 05 TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-1.032	Infringement Analysis: GDFII	Crich, D	Infringement	Admitted
CDX-1.033	Infringement Analysis: GDFII	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.034	Infringement Analysis: Niutang	Crich, D	Infringement	Admitted
CDX-1.035	Infringement Analysis: Niutang	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.036	Infringement Analysis: Niutang	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.037	Infringement Analysis: Niutang	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.038	Infringement Analysis: Niutang	Crich, D	Infringement	Admitted
CDX-1.039	Infringement Analysis: Niutang	Crich, D	Infringement	Admitted
CDX-1.041	Claim Construction: '463 Examples Use Both Orders of Addition	Crich, D	Infringement	Admitted
CDX-1.044	Claim Construction: Specification	Crich, D	Infringement	Admitted
CDX-1.049	Claim Construction: Specification	Crich, D	Infringement	Admitted
CDX-1.050	Claim Construction: Specification	Crich, D	Infringement	Admitted
CDX-1.052	Claim Construction: '463 Preferred Heating Profile	Crich, D	Infringement	Admitted
CDX-1.053	Claim Construction: '463 Examples Use Gradient Heating	Crich, D	Infringement	Admitted
CDX-1.054	Simultaneous Reaction Paths Above 30-40 C	Crich, D	Infringement	Admitted
CDX-1.055	Claim Construction: '463 Specification	Crich, D	Infringement	Admitted
CDX-1.056	Claim Construction: '463 Specification	Crich, D	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS DERIVATIVES INV. NO. 337-TA-603

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-1.057	Claim Construction: '463 Specification	Crich, D	Infringement	Admitted
CDX-1.062	Hebei Sukerui Low Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-1.063	Hebei Sukerui Low Temperature Chlorination Steps	Crich, D.	Infringement	Admitted
CDX-1.066	Infringement Analysis: JK Sucralose	Crich, D	Infringement	Admitted
CDX-1.067	Infringement Analysis: JK Sucralose	Crich, D	Infringement	Admitted
CDX-1.069	Infringement Analysis: JK Sucralose	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.068	Infringement Analysis: JK Sucralose	Crich, D	Infringement	Admitted
CDX-1.070	Infringement Analysis: JK Sucralose	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.060	Sucralose Structure	Crich, D	Infringement	Admitted
CDX-1.073	Infringement Analysis: Hebei Sukerui	Crich, D	Infringement	Admitted
CDX-1.074	Infringement Analysis: Hebei Sukerui	Crich, D	Infringement	Admitted
CDX-1.075	Infringement Analysis: Hebei Sukerui	Crich, D	Infringement	Admitted
CDX-1.085	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Admitted
CDX-1.087	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Admitted
CDX-1.088	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Admitted
CDX-1.089	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.090	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 037-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-1.101	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Admitted
CDX-1.102	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Admitted
CDX-1.103	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Admitted
CDX-1.104	Domestic Industry Analysis: Tate & Lyle	Crich, D	Infringement	Not Admitted (Proffer)
CDX-1.105	JK Sucralose Low Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-1.106	JK Sucralose High Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-1.107	August 2006 Niutang Chlorination Process	Crich, D	Infringement	Admitted
CDX-1.108	October 2006 JK Sucralose Chlorination Process	Crich, D	Infringement	Admitted
CDX-1.109	December 2004 Hebei Sukerui Chlorination Process	Crich, D	Infringement	Admitted
CDX-1.116	Niutang Low Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-1.117	Niutang High Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-1.118	Hebei Sukerui High Temperature Chlorination Steps	Crich, D	Infringement	Admitted
CDX-2.0	Process of Sucralose Production	Maguire, A.	Remedy; Domestic Industry	Admitted
CDX-2.001	Tate & Lyle Annual General Meeting Presentation dated 07/18/2007 (T&L 0232023- T&L 0232051)	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.002	Tate & Lyle Speciality Sweeteners Sucralose Manufacturing Status Review dated 10/19/1995 (T&L 0225182 - T&L 0225191)	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.003	Photo of McIntosh Plant	Maguire, A	Remedy; Domestic Industry	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. NO. 03-PA-684

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-2.004C	McIntosh, Alabama Sucralose Manufacturing Costs from 2006 (T&L 0173750)	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.005C	Wholesale Tate & Lyle Sucralose Sales in the U.S. (T&L 0232097)	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.006	Annual Report (T&L0231915)	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.007C	MTC Industries Invoice No. MTC21818 dated 03/03/2006	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.008	Photo of Splenda and Bloom brands high intensity sweetener	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.009	Email from R. Rabie to M. Corley, A. Maguire, R. Turner, and A. Gomez dated 09/07/2004 (T&L 0235279 - T&L 0235280)	Maguire, A	Remedy; Domestic Industry	Not Admitted (Proffer)
CDX-2.010	Email from R. Rabie to A. Maguire et al. dated 09/09/2004 (T&L 0235281 - T&L 0235282)	Maguire, A	Remedy; Domestic Industry	Not Admitted (Proffer)
CDX-2.011	McNeil Specialties Certificate of Analysis (T&L 0068078)	Maguire, A	Remedy; Domestic Industry	Admitted
CDX-2.12	Premium Ingredients Certificate of Analysis (T&L 0171383)	Maguire, A.	Remedy; Domestic Industry	Admitted
CDX-3.001C	USM Tin Detection - Pre-Suit Samples	Sands, J	Infringement	Admitted
CDX-3.002C	Ciba Tin Detection - Pre-Suit Samples	Sands, J	Infringement	Admitted
CDX-3.003C	VIMS Organotin Detection - Pre-Suit Samples	Sands, J	Infringement	Admitted
CDX-3.004C	Ciba - Plant Inspection Samples Bulk and Wastewater	Sands, J	Infringement	Admitted
CDX-3.005C	Ciba - Tin Detected in First Niutang Inspection Samples	Sands, J	Infringement	Admitted
CDX-3.006C	Ciba - Tin Detected in Second Niutang Inspection Samples	Sands, J	Infringement	Admitted
CDX-3.007C	Ciba - Tin Detected in GDFII Inspection Samples	Sands, J	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUBCATALOGS, SUPPLIERS CONTAINING INFORMATION AND RELATED INFORMATION - COMPLAINANTS (HEREIN) Jax No. 337-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-3.008C	Bodycote - Organotin Detected in First Niutang Inspection Samples	Sands, J	Infringement	Not Admitted (Proffer)
CDX-3.009C	Bodycote - Organotin Detected in Second Niutang Inspection Samples	Sands, J	Infringement	Not Admitted (Proffer)
CDX-3.010C	Bodycote - Organotin Detected in GDFII Inspection Samples	Sands, J	Infringement	Not Admitted (Proffer)
CDX-3.011C	Tin Detection at Niutang	Sands, J	Infringement	Admitted
CDX-3.012C	Tin Detection at GDFII	Sands, J	Infringement	Admitted
CDX-3.013C	Video Capture - Low Temperature Chlorination Feed at Niutang	Sands, J	Infringement	Admitted
CDX-3.014C	Video Capture - DMF + Thionyl Chloride Mixture at GDFII	Sands, J	Infringement	Admitted
CDX-3.015C	Video Capture - Chlorination Quench at Hebel	Sands, J	Infringement	Admitted
CDX-3.016C	Video Capture - High Temperature Chlorination Sampling at JK Sucralose	Sands, J	Infringement	Admitted
CDX-4.1	G7B Sample Take at 67 degrees - Method 15: Identification (T&L 0232803)	Hand, J.	Infringement	Admitted
CDX-4.2	G7B Sample Take at 67 degrees - Method 15: Identification (CIBA 0000328)	Hand, J.	Infringement	Admitted
CDX-4.3	TL8C Sample taken at ~75 degrees C - Method 15: Identification (T&L 0233617)	Hand, J.	Infringement	Admitted
CDX-4.4	TL8C Sample taken at ~80 degrees C - Method 15: Identification (T&L 0233618)	Hand, J.	Infringement	Admitted
CDX-4.5	TL8C Sample taken at ~85 degrees C - Method 15: Identification (T&L 0233619)	Hand, J.	Infringement	Admitted
CDX-4.6	J9 Sample taken from the high temperature chlorination vessel at ~64 degrees C - Method 15: Identification (CIBA 0000329)	Hand, J.	Infringement	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE AND  
 RELATED INTERMEDIATE COMPOUNDS THEREOF

Inv. No. 137-TA-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-4.10	J9 Sample taken from the high temperature chlorination vessel at -64 degrees C - Method 15: Identification (CIBA 0000332)	Hand, J.	Infringement	Admitted
CDX-4.11	J9 Sample taken from the high temperature chlorination vessel at -64 degrees C - Method 15: Identification (CIBA 0000333)	Hand, J.	Infringement	Admitted
CDX-5.001	Illustrative Example of MTC Sucralose Flow	Hayenga, M	Remedy	Admitted
CDX-5.002	Illustrative Example of Niutang Sucralose Flow	Hayenga, M	Remedy	Admitted
CDX-5.003	Illustrative Example of Forbest USA's Sucralose Flow	Hayenga, M	Remedy	Admitted
CDX-5.004	Illustrative Example of Corporate relationships between JKS and Forbest	Hayenga, M	Remedy	Admitted
CDX-5.005	Illustrative Example of Corporate Niutang Relationships	Hayenga, M	Remedy	Admitted
CDX-5.006	Wholesale Tate & Lyle Sucralose Sales in the U.S. (T&L 0232097)	Hayenga, M.	Remedy	Admitted
CDX-6.1	Tate and Lyle Sucralose, Inc. Sucralose Manufacturing Process Flow Diagram (T&L 0133075)	Wiley, J.	Domestic Industry	Admitted
CDX-6.2	Tate and Lyle Sucralose Manufacturing (T&L 0133047)	Wiley, J.	Domestic Industry	Admitted
CDX-6.3	Tate and Lyle Sucralose Manufacturing (T&L 0133048)	Wiley, J.	Domestic Industry	Admitted
CDX-6.4	Sucralose Manufacturing Process Flow Diagram (T&L 0133077)	Wiley, J.	Domestic Industry	Admitted
CDX-6.5	Sucralose Manufacturing Process Flow Diagram (T&L 0133078)	Wiley, J.	Domestic Industry	Admitted
CDX-7.1	Chlorination of 1' Position	Baker, D.	Infringement; Validity/Enforceability	Admitted
CDX-7.3	Reaction of Acid Chlorida and Sucrose-6-Ester	Baker, D.	Infringement; Validity/Enforceability	Admitted
CDX-7.4	Jenner Example 7	Baker, D.; Hanessian, S.	Infringement; Validity/Enforceability	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPOUNDS THEREOF Doc. No. 1:07-cv-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CDX-7.5	Molecule Diagram	Baker, D.	Infringement; Validity/Enforceability	Admitted
CDX-7.6	Avogadro's Number	Baker, D.	Infringement; Validity/Enforceability	Admitted
CDX-8.1	List of Direct and Indirect Evidence	Baker, D.	Infringement; Validity/Enforceability	Admitted
CDX-9.2	Chlorination Pathways	Fraser-Reid, B.	Infringement; Validity/Enforceability	Admitted
CDX-10.2	Production and Supply Chain of Heartland Sweeteners	Gelov, T.	Remedy	Admitted
CDX-10.21	Maxwell-Boltzmann Distribution	Crich, D.	Infringement; Validity/Enforceability	Admitted
CDX-10.23	Maxwell-Boltzmann Distribution	Crich, D.	Infringement; Validity/Enforceability	Admitted
CDX-11.1C	Comparison of Niutang and GDFII Process	Walters, E.	Infringement; Validity/Enforceability	Admitted
CDX-11.4C	Niutang Process & Example 13	Walters, E.	Infringement; Validity/Enforceability	Admitted
CRX-001C	Respondents' Deposition Exhibit 81, Sankey (T&L 0236235)	Sands, J.	Validity	Admitted
CRX-002C	McIntosh Plant Equipment List (T&L0173754-62)	Wiley, J.	Domestic Industry Validity	Admitted
CRX-003	Withdrawn			Withdrawn
CRX-004	Withdrawn			Withdrawn
CRX-005	Withdrawn			Withdrawn
CRX-006	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

**CERTAIN SUCRALOSE SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF** **Inv. No. 337-TA-604**

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

<b>Trial Exhibit Number</b>	<b>Description</b>	<b>Sponsoring Witness</b>	<b>Purpose</b>	<b>Received</b>
CRX-007	Withdrawn			Withdrawn
CRX-008	Withdrawn			Withdrawn
CRX-009	Withdrawn			Withdrawn
CRX-010	Withdrawn			Withdrawn
CRX-011	Withdrawn			Withdrawn
CRX-012	Withdrawn			Withdrawn
CRX-013	Withdrawn			Withdrawn
CRX-014	Withdrawn			Withdrawn
CRX-015	Report titled "Sucralose Impurities" by R. Roberts, dated July 19, 1988 (T&L 0101475 - T&L 0101498)"	Crich, D.	Invalidity	Admitted
CRX-016C	Report titled "Alternative Pathways To Sucralose" by N. Vernon, dated February 05, 1990 (T&L 0102174 - T&L 0102214)"	Sands, J.	Invalidity	Admitted
CRX-017C	Lab Notebook, # 87-034, N. Vernon (T&L 0099836 - T&L 0100146)	Walkup, R.	Invalidity	Admitted
CRX-018C	Lab Notebook, # 87-023, R. Walkup (T&L 0099547 - T&L 0099834)	Walkup, R.	Invalidity	Admitted
CRX-019C	Lab Notebook, # 87-038, V. Berryman (T&L 0222124 - T&L 0222317)	Crich, D.	Invalidity	Admitted
CRX-020C	Lab Notebook, # 87-037, J. Navia (T&L 0062577 - T&L 0062770)	Crich, D.	Invalidity	Admitted

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SPECIALTY SWEETENERS CONTAINING SUCRALOSE AND RELATED INTERMEDIATE COMPONENTS THEREOF Inv. No. 337-TA-603

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CRX-021C	Lab Notebook, # 87-032, V. Beryman (T&L 0221648 - T&L 0221929)	Crich, D.	Invalidity	Admitted
CRX-022C	Withdrawn			Withdrawn
CRX-023C	Withdrawn			Withdrawn
CRX-024C	Withdrawn			Withdrawn
CRX-025C	Withdrawn			Withdrawn
CRX-026C	Withdrawn			Withdrawn
CRX-027C	Withdrawn			Withdrawn
CRX-028C	Withdrawn			Withdrawn
CRX-029C	Withdrawn			Withdrawn
CRX-030C	Withdrawn			Withdrawn
CRX-031C	Tate & Lyle Global Ingredients Sales (T&L 0232097)	Hayenga, M. Maguire, A.	Remedy/Validity	Admitted
CRX-032C	Withdrawn			Withdrawn
CRX-033C	Withdrawn			Withdrawn
CRX-034C	Tate & Lyle Speciality Sweeteners Sucralose Manufacturing Status Review dated 10/19/1995 (T&L 0225182 - T&L 0225191)	Maguire, A.	Infringement Validity/Enforceability	Admitted
CRX-035C	Withdrawn			Withdrawn

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF INV. No. 037-1A-004

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CRX-036C	Withdrawn			Withdrawn
CRX-037C	Test Results for LIMS No. 166320 (T&L 0233396)	Flora, W.	Infringement	Not Admitted (Proffer)
CRX-038C	Sample Transfer Data Sheet and accompanying documentation for LIMS No. 175097 (T&L 0235242 - T&L 0235253)	Flora, W.	Infringement	Not Admitted (Proffer)
CRX-039C	Sample Transfer Data Sheet for LIMS No. 175097 (T&L 0235254 - T&L 0235255)	Flora, W.	Infringement	Not Admitted (Proffer)
CRX-040C	Sample Transfer Data Sheet to Galbraith for LIMS No. 175097 (T&L 0235256)	Flora, W.	Infringement	Not Admitted (Proffer)
CRX-041C	LC-MS data for Sample TL8C (CIBA 0000348 - CIBA 0000355)	Hand, J.	Infringement	Not Admitted (Proffer)
CRX-042C	LC-MS data for Sample 2N5 (CIBA 0000404 - CIBA 0000406)	Hand, J.	Infringement	Not Admitted (Proffer)
CRX-043C	Withdrawn			Withdrawn
CRX-044C	Withdrawn			Withdrawn
CRX-045C	Withdrawn			Withdrawn
CRX-046C	Withdrawn			Withdrawn
CRX-047C	Withdrawn			Withdrawn
CRX-048C	Withdrawn			Withdrawn
CRX-049C	Sample Transfer Data Sheet dated 11/09/2006 (T&L 0235258 - T&L 0235260)	Flora, W.	Infringement	Not Admitted (Proffer)
CRX-050C	Sample Transfer Data Sheet dated 11/10/2006 (T&L 0235261 - T&L 0235263)	Flora, W.	Infringement	Not Admitted (Proffer)

**CONTAINS CONFIDENTIAL BUSINESS INFORMATION**  
**Subject to Protective Order**

CERTAIN INFORMATION CONTAINED HEREIN IS UNCLASSIFIED, AND RELATED INTERMEDIATE COMPONENTS THEREOF  
 INS. No. 317-TA-604

**COMPLAINANTS' FINAL LIST OF EXHIBITS**

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CRX-051C	Email from R. Rabie to M. Corley, A. Maguire, R. Turner, and A. Gomez dated 09/07/2004 (T&L 0235279 - T&L 0235280)	Maguire, A.	Importation; Remedy	Not Admitted (Proffer)
CRX-052C	Email from R. Rabie to A. Maguire et al. dated 09/09/2004 (T&L 0235281 - T&L 0235282)	Maguire, A.	Importation; Remedy	Not Admitted (Proffer)
CRX-053C	TIC od TOC MS from Samples: N16, G16, H15, J20, and 2N12 (T&L 0231103 - T&L 0234112)	Sands, J.	Infringement	Not Admitted (Proffer)
CRX-054C	Removed to Joint Exhibit List			
CRX-055C R	Rebuttal Witness Statement of J. Sands (Redacted)	Sands, J.	Infringement	Admitted
CRX-055C P	Rebuttal Witness Statement of J. Sands	Sands, J.	Infringement	Not Admitted (Proffer)
CRX-056C	Rebuttal Witness Statement of D. Crich	Crich, D.	Infringement	Admitted
CRX-057C	Rebuttal Witness Statement of R. Walkup	Walkup, R.	Infringement	Admitted
CRX-058C	Rebuttal Witness Statement of J. Wiley	Wiley, J.	Domestic Industry	Admitted
CRPX-8.1C thru CRPX-8.10C	Niutang Plant Inspection Videos dated 10/09/2007 to 10/11/2007	Sands, J.;Wu, F.	Infringement	Admitted
CRPX-9.1C thru CRPX-9.10C	GDFII Plant Inspection Videos dated 10/16/2007 to 10/18/2007	Sands, J.;Wu, F.	Infringement	Admitted
CRPX-10.1C - CRPX-10.5C	Withdrawn			Withdrawn
CRPX-11.1C - CRPX-11.5C	Withdrawn			Withdrawn

CONTAINS CONFIDENTIAL BUSINESS INFORMATION  
Subject to Protective Order

CERTAIN SUCRALOSE, SWEETENERS CONTAINING SUCRALOSE, AND RELATED INTERMEDIATE COMPONENTS THEREOF

INV. NO. 337-1A-604

COMPLAINANTS' FINAL LIST OF EXHIBITS

Trial Exhibit Number	Description	Sponsoring Witness	Purpose	Received
CRPX-12.1C - CRPX-12.4C	Withdrawn			Withdrawn
CRPX-13.1C - CRPX-13.5C	Niutang 2 Plant Inspection Videos dated 11/15/2007	Sands, J.; Wu, F.	Infringement	Admitted

UNITED STATES INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C.

In the Matter of

**CERTAIN SUCRALOSE, SWEETENERS  
CONTAINING SUCRALOSE, AND  
RELATED INTERMEDIATE  
COMPOUNDS THEREOF**

Investigation No. 337-TA-604

**RESPONDENTS' FINAL TRIAL EXHIBIT LIST**

Pursuant to Order No. 39, Respondents Hebei Sukerui Science and Technology Co., Ltd., Beijing Forbest Trade Co., Ltd., Beijing Forbest Chemical Co., Ltd., Forbest International USA, LLC, Changzhou Niutang Chemical Plant Co., Ltd., U.S. Niutang Chemical, Inc., Garuda International, Inc., Guangdong Food Industry Institute, L&P Food Ingredient Co., Ltd., JK Sucralose Inc. and Heartland Packaging Corporation (collectively "the Respondents") hereby submit their Final Trial Exhibit List.

Respectfully submitted,

JK SUCRALOSE INC.

Dated: March 14, 2008

By: /s/ Jeffrey R. Whieldon

FISH & RICHARDSON P.C

Ruffin B. Cordell  
Jeffrey R. Whieldon  
1425 K Street, N.W.  
Washington, D.C. 20005  
(202) 783-5070 (phone)  
(202) 783-2331 (fax)

Craig R. Smith  
Maria Raia Hamilton  
225 Franklin Street  
Boston, MA 02110  
(617) 542-5070 (phone)  
(617) 542-8906 (fax)

Counsel for Respondent JK Sucralose,  
Inc.

By: /s/ Michael Shen

Marcia Sundeen, Esq.  
Michael Shen, Esq.  
Aimee N. Soucie, Esq.  
KENYON & KENYON LLP  
1500 K Street, N.W.  
Washington, D.C. 20005  
(202) 220-4200  
(202) 220-4201 FAX

Jiabin Wang  
Zaihua Qu  
LIFANG & PARTNERS  
Room 1105, Tower A  
Nanxincang International Building  
No. A22, Dongsishitiao Street  
Dongcheng District, Beijing 100007  
People's Republic of China

Counsel for Hebei Sukerui Science and  
Technology Co., Ltd., Beijing Forbest  
Trade Co., Forbest International USA,  
LLC and Beijing Forbest Chemical Co.,  
Ltd.

By: /s/ Goutam Patnaik

Gary M. Hnath  
Goutam Patnaik  
BINGHAM MCCUTCHEN LLP  
2020 K Street N.W.  
Washington, D.C. 20006  
(202) 373-6000  
(202) 373-6001 FAX

Counsel for Respondents Changzhou  
Niutang Chemical Plant Co., Ltd.; U.S.  
Niutang Chemical, Inc.; Garuda  
International, Inc.; Guangdong Food  
Industry Institute; and L&P Food  
Ingredient Co., Ltd

By: /s/ William L. O'Connor

William L. O'Connor, Esq.  
DANN PECAR NEWMAN  
& KLEIMAN, P.C.  
OneAmerica Tower  
One American Square, Suite 2300  
Indianapolis, Indiana 46282  
(317) 632-3232  
(317) 632-2962 FAX

Counsel for Respondent Heartland  
Packaging Corporation

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-1	WITHDRAWN			
RX-2	WITHDRAWN			
RX-3	WITHDRAWN			
RX-4	WITHDRAWN			
RX-5	WITHDRAWN			
RX-6	WITHDRAWN			
RX-7	WITHDRAWN			
RX-8	WITHDRAWN			
RX-9	WITHDRAWN			
RX-10	WITHDRAWN			
RX-11	WITHDRAWN			
RX-12	WITHDRAWN			
RX-13	WITHDRAWN			
RX-14	WITHDRAWN			
RX-15	WITHDRAWN			
RX-16	WITHDRAWN			
RX-17	WITHDRAWN			
RX-18	WITHDRAWN			
RX-19	WITHDRAWN			
RX-20	WITHDRAWN			
RX-21	WITHDRAWN			
RX-22	WITHDRAWN			
RX-23	WITHDRAWN			
RX-24	WITHDRAWN			
RX-25	David Baker Curriculum Vitae (Ex. A to Baker Expert Report)	Invalidity	D. Baker	2/29/08
RX-26	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-27C	Report of R. Walkup dated 1988-07-15 - Iminium Chloride Reagent Mediated Chlorination of Sucrose-6-Benzoate (Ex. J to Baker Expert Report) (T&L 0101396-0101412)	Invalidity	D. Baker	2/29/08
RX-28	WITHDRAWN			
RX-29	WITHDRAWN			
RX-30C	Chart of Patent Examples (Ex. O to Baker Expert Report) (Respondent's Deposition Exhibit 225)	Invalidity	D. Baker; R. Walkup	2/29/08
RX-31	WITHDRAWN			
RX-32C	Mass Spectral Studies of Sukerui's Sample	Non-Infringement	D. Baker	2/29/08
RX-33	WITHDRAWN			
RX-34	WITHDRAWN			
RX-35	WITHDRAWN			
RX-36	WITHDRAWN			
RX-37	WITHDRAWN			
RX-38	WITHDRAWN			
RX-39	WITHDRAWN			
RX-40	WITHDRAWN			
RX-41	WITHDRAWN			
RX-42	WITHDRAWN			
RX-43	WITHDRAWN			
RX-44	WITHDRAWN			
RX-45	WITHDRAWN			
RX-46	WITHDRAWN			
RX-47	WITHDRAWN			
RX-48	WITHDRAWN			
RX-49	WITHDRAWN			
RX-50	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-51	WITHDRAWN			
RX-52	WO 2007/099557 A2 Ratnam et al. (Ex. 7 to Baker Rebuttal Expert Report)	Invalidity; Non-infringement	D. Baker	2/29/08
RX-53	WITHDRAWN			
RX-54	WITHDRAWN			
RX-55	WITHDRAWN			
RX-56	WITHDRAWN			
RX-57	WITHDRAWN			
RX-58	WITHDRAWN			
RX-59	WITHDRAWN			
RX-60	WITHDRAWN			
RX-61	Khan, R. H. and Prasada Rao, T. S. R., "N,N-Dimethyl(chlorosulfonyl)methaniminium chloride mediated direct and chemoselective conversion of carboxylic acids to aldehydes," Journal of Molecular Catalysis A: Chemical, 135(1), 111-114 (1998).	Invalidity Non-Infringement	D. Baker	2/29/08
RX-62	WITHDRAWN			
RX-63	WITHDRAWN			
RX-64	WITHDRAWN			
RX-65	WITHDRAWN			
RX-66	WITHDRAWN			
RX-67	WITHDRAWN			
RX-68	WITHDRAWN			
RX-69	WITHDRAWN			
RX-70	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-71	WITHDRAWN			
RX-72	WITHDRAWN			
RX-73	WITHDRAWN			
RX-74	WITHDRAWN			
RX-75	WITHDRAWN			
RX-76	WITHDRAWN			
RX-77	WITHDRAWN			
RX-78	Vinogradova, S. V., et al., "Investigations of the Reaction of Thionyl Chloride with Dimethylformamide," Institute of Heteroorganic Compounds, Academy of Sciences of the USSR, No. 3, pp 513-519 (1971). (Ex. 10 to Baker Rebuttal Expert Report)	Invalidity Non-Infringement	D. Baker	2/29/08
RX-79	WITHDRAWN			
RX-80C	(Chinese Document) Sukerui Operation Manual dated 2007-04-16 (SKR001990 – 001991, 002005 - 002007); English Translation of SKR001990 – 001991, SKR 002005a – 002007a	Non-Infringement	D. Baker; W. Guangli; W. Junjing	2/29/08
RX-81C	(Chinese Document) Sukerui Batch Record (SKR 007796 – 007797, 007799, 007802, and 007805); (English Translation) SKR.007930 – 007932, 007934, 007937, and 007940	Non-Infringement	D. Baker; W. Guangli; W. Junjing	2/29/08
RX-82C	Description of Sukerui's Experiments (Ex. 6 to Baker Rebuttal Expert Report)	Non-Infringement	D. Baker	2/29/08
RX-83	WITHDRAWN			
RX-84	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-85	WITHDRAWN			
RX-86	WITHDRAWN			
RX-87	WITHDRAWN			
RX-88	WITHDRAWN			
RX-89	WITHDRAWN			
RX-90	WITHDRAWN			
RX-91	WITHDRAWN			
RX-92	WITHDRAWN			
RX-93	WITHDRAWN			
RX-94	WITHDRAWN			
RX-95	WITHDRAWN			
RX-96	WITHDRAWN			
RX-97	WITHDRAWN			
RX-98	WITHDRAWN			
RX-99	WITHDRAWN			
RX-100	WITHDRAWN			
RX-101	WITHDRAWN			
RX-102	WITHDRAWN			
RX-103C	R. Walkup Research Notebook #87-023 (T&L0099547 - 0099650) (Navia Ex. 49)	Invalidity	R. Walkup	2/29/08
RX-104C	J. Navia Research Notebook - #87-017 (T&L0098960 - 0099249) (Navia Ex. 50)	Invalidity	J. Navia	2/29/08
RX-105	WITHDRAWN			
RX-106	WITHDRAWN			
RX-107	WITHDRAWN			
RX-108	WITHDRAWN			
RX-109	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-110	David, S., et al., "Regioselective manipulation of hydroxyl groups via organotin derivatives," Tetrahedron Vol. 41, No.4, 643-663, 1985 (T&L0010077 - 0010098) (Navia Ex. 60)	Invalidity; Non-Infringement	Fraser-Ried	2/29/08
RX-111	WITHDRAWN			
RX-112	WITHDRAWN			
RX-113C	Curriculum Vitae of Nicholas Vernon (Vernon000001 - 000003) (Vernon Ex. 72)	Invalidity	N. Vernon	2/29/08
RX-114C	Direct Sucralose Isolation Process - Continuous Chromatography - Proposal For Work To Be Done by Vernon dated 1994-08-01 (T&L0097433 - 0097436) (Vernon Ex. 73)	Invalidity	N. Vernon	2/29/08
RX-115	WITHDRAWN			
RX-116C	Internal Memo dated 1995-03-09 re: Direct process meeting 1995-03-09 (T&L0097446 - 0097451) (Vernon Ex. 75)	Invalidity	N. Vernon	2/29/08
RX-117C	Email dated 2006-06-22 from W. Flora re: Vernon - 1 <sup>st</sup> and 2 <sup>nd</sup> generation sucralose chemistry (T&L0152176 - 0152190) (Vernon Ex. 76)	Invalidity	N. Vernon	2/29/08
RX-118C	Memo dated 1998-12-11 re: Chlorination process (T&L0131934 - 0131939) (T&L0103565) (Vernon Ex. 77)	Invalidity	N. Vernon	2/29/08
RX-119C	Executive Summary dated 1999-03-15 re: Initial [REDACTED] and Chlorination Studies (T&L0144774 - 01447787) (Vernon Ex. 78)	Invalidity	N. Vernon	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-120C	2 <sup>nd</sup> Generation Sucralose Manufacturing – Process Description dated January 2000 (T&L0130625 – 0130665) (Vernon Ex. 79)	Invalidity	N. Vernon	2/29/08
RX-121	WITHDRAWN			
RX-122	WITHDRAWN			
RX-123	WITHDRAWN			
RX-124	WITHDRAWN			
RX-125	WITHDRAWN			
RX-126	WITHDRAWN			
RX-127	WITHDRAWN			
RX-128	WITHDRAWN			
RX-129	WITHDRAWN			
RX-130	WITHDRAWN			
RX-131C	Chart for final analytics for ITC complaint (T&L0062100) (Flora Ex. 196)	Non-infringement	R. Walkup; D. Coleman; W. Flora	2/29/08
RX-132C	Goulet to Counsel re LIMS numbers 2007-10-11 (Flora Ex. 197)	Non-infringement	R. Walkup; W. Flora	2/29/08
RX-133	WITHDRAWN			
RX-134	WITHDRAWN			
RX-135	WITHDRAWN			
RX-136	WITHDRAWN			
RX-137	WITHDRAWN			
RX-138	WITHDRAWN			
RX-139	WITHDRAWN			
RX-140	WITHDRAWN			
RX-141	WITHDRAWN			
RX-142	WITHDRAWN			
RX-143	WITHDRAWN			
RX-144	WITHDRAWN			
RX-145	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-146	WITHDRAWN			
RX-147C	Filtrate impurities by HPLC & Select UV Curves (T&L0230193 – 0230278) (Flora Ex. 216)	Non-Infringement	W. Flora	2/29/08
RX-148	WITHDRAWN			
RX-149C	Notebook Examples '463, '709, '435 (Navia Ex. 225)	Invalidity	J. Navia	2/29/08
RX-150C	Pages from Walkup Notebook 87-023-191 (T&L0099738 – 47) (Navia Ex. 226)	Invalidity	R. Walkup; J. Navia	2/29/08
RX-151C	Pages from Walkup Notebook 87-023-178 (T&L0099725 – 27) (Navia Ex. 227)	Invalidity	J. Navia	2/29/08
RX-152C	Pages from Walkup Notebook 87-023-104 (T&L0099651 – 53) (Navia Ex. 228)	Invalidity	J. Navia	2/29/08
RX-153C	Pages from Walkup Notebook 87-023-115 (T&L0099662 – 63) (Navia Ex. 229)	Invalidity	R. Walkup; J. Navia	2/29/08
RX-154C	Pages from Navia Notebook 87-028-255 (T&L0221310 – 23) (Navia Ex. 230)	Invalidity	J. Navia	2/29/08
RX-155	WITHDRAWN			
RX-156C	Pages from Walkup Notebook 87-023-148 (T&L0099695 – 96) (Navia Ex. 232)	Invalidity	J. Navia	2/29/08
RX-157C	Pages from Walkup Notebook 87-023-153 (T&L0099700 – 01) (Navia Ex. 233)	Invalidity	J. Navia	2/29/08
RX-158C	Pages from Navia Notebook 87-017-277 (T&L0099231 – 36) (Navia Ex. 234)	Invalidity	J. Navia	2/29/08
RX-159C	Pages from Walkup Notebook 87-023-245 (T&L0099792 – 94) (Navia Ex. 235)	Invalidity	J. Navia	2/29/08
RX-160C	Pages from Walkup Notebook 87-023-263 (T&L0099810 – 11) (Navia Ex. 236)	Invalidity	J. Navia	2/29/08
RX-161C	Pages from Navia Notebook 87-028-105 (T&L0221160 – 65) (Navia Ex. 237)	Invalidity	J. Navia	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-162C	Pages from Navia Notebook 87-028-99 (T&L0221154 – 58) (Navia Ex. 238)	Invalidity	J. Navia	2/29/08
RX-163C	Pages from Wingard's Notebook (T&L0219835 – 46) (Navia Ex. 239)	Invalidity	J. Navia	2/29/08
RX-164	WITHDRAWN			
RX-165C	Sigma-Aldrich Product Detail for Dichloromethylene-dimethyliminium chloride (Navia Ex. 241)	Invalidity	J. Navia	2/29/08
RX-166C	Handwritten Formula (Navia Ex. 242)	Invalidity	J. Navia	2/29/08
RX-167C	Navia Notebook No. 0135 (02/10/1992 – 03/17/1994) (T&L0102944 – 0103109) (Navia Ex. 243)	Invalidity	J. Navia	2/29/08
RX-168	USP 4,950,746 Navia (Wingard Ex. 69)	Invalidity Non-infringement	R. Wingard; Fraser-Ried	2/29/08
RX-169	WITHDRAWN			
RX-170C	Significant Event Report: Project Sucralose; [REDACTED] for Primary Chlorination Reactions in the Sucralose Practice dated 2004-11-19 (T&L0229840 – 0229850) (McIntyre Ex. 255)	Domestic Industry Invalidity	T. McIntyre	2/29/08
RX-171	WITHDRAWN			
RX-172C	[REDACTED] of Primary Chlorination Reactions Project Update dated 2006-01-17 (T&L0229835 – 0229839) (McIntyre Ex. 257)	Domestic Industry Invalidity	T. McIntyre	2/29/08
RX-173	WITHDRAWN			
RX-174	WITHDRAWN			
RX-175	WITHDRAWN			
RX-176	WITHDRAWN			
RX-177	WITHDRAWN			
RX-178	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-179	WITHDRAWN			
RX-180	WITHDRAWN			
RX-181	WITHDRAWN			
RX-182	WITHDRAWN			
RX-183	WITHDRAWN			
RX-184	WITHDRAWN			
RX-185	WITHDRAWN			
RX-186	WITHDRAWN			
RX-187	WITHDRAWN			
RX-188	WITHDRAWN			
RX-189	WITHDRAWN			
RX-190	WITHDRAWN			
RX-191	WITHDRAWN			
RX-192	WITHDRAWN			
RX-193	WITHDRAWN			
RX-194	WITHDRAWN			
RX-195	WITHDRAWN			
RX-196	WITHDRAWN			
RX-197	WITHDRAWN			
RX-198	WITHDRAWN			
RX-199	WITHDRAWN			
RX-200C	CIBA report dated November 30 <sup>th</sup> (T&L0232906 – 0232919)	Non-Infringement	D. Baker	2/29/08
RX-201	WITHDRAWN			
RX-202	WITHDRAWN			
RX-203	WITHDRAWN			
RX-204	WITHDRAWN			
RX-205	WITHDRAWN			
RX-206	WITHDRAWN			
RX-207	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-208	WITHDRAWN			
RX-209	WITHDRAWN			
RX-210	WITHDRAWN			
RX-211	WITHDRAWN			
RX-212	WITHDRAWN			
RX-213	WITHDRAWN			
RX-214	WITHDRAWN			
RX-215	WITHDRAWN			
RX-216CR	Witness statement of Wang Mantang	Non-Infringement Remedy	W. Mantang	2/27/08
RX-216CP	Proffered Witness statement of Wang Mantang	Non-Infringement Remedy	W. Mantang	Rejected
RX-217	WITHDRAWN			
RX-218CR	Witness statement of Wu Junjing	Non-Infringement	W. Junjing	2/27/08
RX-218CP	Proffered Witness statement of Wu Junjing	Non-Infringement	W. Junjing	Rejected
RX-219C	Witness statement of Dr. David C. Baker	Invalidity	D Baker	2/26/08
RX-220	WITHDRAWN			
RX-221	WITHDRAWN			
RX-222	WITHDRAWN			
RX-223	WITHDRAWN			
RX-224	WITHDRAWN			
RX-225	WITHDRAWN			
RX-226	WITHDRAWN			
RX-227	WITHDRAWN			
RX-228	WITHDRAWN			
RX-229	WITHDRAWN			
RX-230	WITHDRAWN			
RX-231	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-232C	T&L Sucralose Manufacturing Technology Status Report by Sankey Dated 06/30/1995 T&L0225198 - T&L0225229	Non-infringement, domestic industry	A. Maguire	2/29/08
RX-233	WITHDRAWN			
RX-234	WITHDRAWN			
RX-235	WITHDRAWN			
RX-236	WITHDRAWN			
RX-237C	T&L Message Book Dated 10/28/2005 T&L0103372 - T&L0103419	Remedy	A. Maguire	2/29/08
RX-238C	T&L Preliminary Results Presentation Dated 6/2/2005 T&L0147942 - T&L0147992	Remedy	A. Maguire	2/29/08
RX-239	WITHDRAWN			
RX-240	WITHDRAWN			
RX-241	WITHDRAWN			
RX-242C	E-mail from A. Maguire to R. Varvil, R. Turner, R. Hodson, S. Molinary, J. Smith, C. Darwen, S. Molinary, S. Musesengwa Dated 9/15/2004 re Competitive Sucralose T&L0154518 - T&L0155419	Remedy	A. Maguire	2/29/08
RX-243	Press Release Dated 5/22/2006 re Sucralose Patent Infringement US Federal Circuit Court Action T&L0169952 - T&L0169955	Remedy	A. Maguire	2/29/08
RX-244	T&L Press Release re Filing of Suit Alleging Infringement Dated 5/23/2006 T&L0136775 - T&L0136785	Remedy, Invalidity	A. Maguire	2/29/08
RX-245	WITHDRAWN			
RX-246	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-247C	Declaration of J. Wiley Dated 7/18/2007	Invalidity, domestic Industry, non-infringement	Fraser-Ried	2/29/08
RX-248C	T&L Process Specification Dated 4/30/2007 T&L0133045-T&L0133079	Invalidity, domestic Industry, non-infringement	Fraser-Ried	2/29/08
RX-249	WITHDRAWN			
RX-250	WITHDRAWN			
RX-251	WITHDRAWN			
RX-252C	Lab Notebook of Robert Wingard Dated 1988 T&L0099250 - T&L0099545	Invalidity, domestic Industry, non-infringement	R. Wingard	2/29/08
RX-253C	Lab Notebook of Robert Wingard Dated 1989 T&L0089098 - T&L0089257	Invalidity, domestic Industry, non-infringement	R. Wingard	2/29/08
RX-254C	Lab Notebook of Robert Wingard Dated 1989 T&L0082888 - T&L0083015	Invalidity, domestic Industry, non-infringement	R. Wingard	2/29/08
RX-255C	Lab Notebook of Robert Wingard Dated 1989 T&L0089258 - T&L0089412	Invalidity, domestic Industry, non-infringement	R. Wingard	2/29/08
RX-256C	Lab Notebook of Robert Wingard Dated 1990 T&L0089413 - T&L0089493	Invalidity, domestic Industry, non-infringement	R. Wingard	2/29/08
RX-257	WITHDRAWN			
RX-258	U.S. Patent No. 5,023,329, Issued 6/11/1991, Neiditch et al.	Invalidity, domestic Industry, non-infringement	R. Wingard	2/29/08
RX-259	WITHDRAWN			
RX-260	WITHDRAWN			
RX-261	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-262C	The DSDA Catalyzed Acetylation of Sucrose "Cold Process" Progress Report T&L0170416 - T&L0170434	Invalidity, non-infringement	G. Sankey	2/29/08
RX-263 – RX-266	WITHDRAWN			
RX-264	WITHDRAWN			
RX-265	WITHDRAWN			
RX-266	WITHDRAWN			
RX-267C	Athens Research Group - Status Report Dated 11/30/1988 09/1998 - 11/1998 T&L0101523 - T&L0101530	Invalidity, non-infringement, domestic industry	D. Baker; R. Walkup	2/29/08
RX-268	WITHDRAWN			
RX-269	WITHDRAWN			
RX-270	WITHDRAWN			
RX-271	WITHDRAWN			
RX-272C	Report Dated 2/2/1990 re Chlorination Comparison T&L0102126 - T&L0102131	Invalidity, non-infringement, domestic industry	R. Walkup	2/29/08
RX-273	WITHDRAWN			
RX-274	WITHDRAWN			
RX-275	WITHDRAWN			
RX-276	WITHDRAWN			
RX-277C	Complaint Exhibit No. 116-- Preliminary Infringement Analysis (USP '435) T&L 0004696	Invalidity, non-infringement, domestic industry	D. Coleman	2/29/08
RX-278C	Curriculum Vitae of Dr. Bretram Fraser-Reid	Invalidity, non-infringement	Fraser-Ried	2/29/08
RX-279C	Curriculum Vitae of Dr. D. Eric Walters	Invalidity, non-infringement, domestic industry	E. Walters	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-280C	Publications list of Dr. Eric Walters	Invalidity, non-infringement, domestic industry	E. Walters	2/29/08
RX-281C	Plant Chlorination Temperature Ramp Sampling 1322A- 06/28/06 T&L0229856-T&L0229903	Invalidity, non-infringement, domestic industry	D. Baker; T. Hutton	2/29/08
RX-282	WITHDRAWN			
RX-283	WITHDRAWN			
RX-284C	Email from Thomas Hutton to Michael R. Young dated 8/7/06 T&L0142561	Invalidity, non-infringement, domestic industry	T. Hutton	2/29/08
RX-285C	Research Report: [REDACTED] 2/2/06 T&L0142787-T&L0142799	Invalidity, non-infringement, domestic industry	T. Hutton	2/29/08
RX-286	WITHDRAWN			
RX-287C	R&D Priority Objectives - 5/24/07 T&L0170528-T&L0170532	Invalidity, non-infringement, domestic industry	T. Hutton	2/29/08
RX-288	WITHDRAWN			
RX-289C	R&D Priority Objectives - 3/1/07 T&L0170553-T&L0170556	Invalidity, non-infringement, domestic industry	T. Hutton	2/29/08
RX-290	WITHDRAWN			
RX-291	WITHDRAWN			
RX-292C	Lab Notebook Page (Hutton, Ex. 253)	Invalidity, non-infringement, domestic industry	T. Hutton	2/29/08
RX-293C	Patent Abstract for U.S. Patent 4,751,294 NIUT 001468-001535	Invalidity, non-infringement	C. Ya	2/29/08
RX-294C	Patent Abstract for U.S. Patent 5,023,329 NIUT 0001584-NIUT 0001612	Invalidity, non-infringement	C. Ya	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-295	WITHDRAWN			
RX-296C	Distanoxan-Sucrose Complex by John Sands 1/3/08 (Sands, Ex. 334)	Invalidity, non-infringement	J. Sands	2/29/08
RX-297	WITHDRAWN			
RX-298	WITHDRAWN			
RX-299	WITHDRAWN			
RX-300	1/3/08 Scientific Figures drawn by J. Sands (Sands, Ex. 338)	Invalidity, non-infringement	J. Sands	2/29/08
RX-301C	Analytical Results - TL -- November 30, 2007 T&L0232214-T&L0232230	Non-infringement	W. Flora; F. Wu; J. Sands; J. Hand	2/29/08
RX-302C	Analytical Results - Niutang -- November 30, 2007 T&L0232239-T&L0232260	Non-infringement	F. Wu; J. Sands; J. Hand	2/29/08
RX-303C	Analytical Results - GDFII -- November 30, 2007 T&L0232266-T&L0232284	Non-infringement	F. Wu; J. Sands; J. Hand	2/29/08
RX-304C	Updated ICP Results - Niutang -- December 18, 2007 T&L0234095-T&L0234101	Non-infringement	F. Wu; J. Sands; J. Hand	2/29/08
RX-305C	Updated ICP Results - GDFII - December 18, 2007 T&L 0234090-234094	Invalidity, non-infringement	F. Wu; J. Sands; J. Hand	2/29/08
RX-306	WITHDRAWN			
RX-307	WITHDRAWN			
RX-308	WITHDRAWN			
RX-309C	Ciba Analytical Test Method (Determination of Tin etc.) Dated 9/20/2006 T&L0232791-T&L0232793	Non-infringement	J. Hand	2/29/08
RX-310C	Niutang Laboratory Notebook NIUT 034467-NIUT 034478	Invalidity, non-infringement	C. Ya	2/29/08
RX-311C	Niutang Laboratory Notebook NIUT 0059636-0059683	Invalidity, Non-infringement	C. Ya	2/29/08
RX-312C	Niutang Laboratory Notebook NIUT 059585-NIUT059635	Invalidity, Non-infringement	C. Ya	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-313C	Abstract of U.S. Patent 4, 549, 013 NIUT 0001433-NIUT 0001447	Invalidity, Non-infringement	C. Ya	2/29/08
RX-314C	Abstract of U.S. Patent 5,136,031 NIUT 0001312-NIUT 0001319	Invalidity, Non-infringement	C. Ya	2/29/08
RX-315C	Abstract of U.S. Patent 4,977,254 NIUT 0001536-NIUT 0001551	Invalidity, Non-infringement	C. Ya	2/29/08
RX-316C	Abstract of U.S. Patent 4,617,269 NIUT 0001448-NIUT 0001467	Invalidity, Non-infringement	C. Ya	2/29/08
RX-317	Zhou et al., "Organotin Pollution in China," TheScientificWorld 2:655-659 (2002) GDFII 008815-008819; NIUT 0064741-064745	Non-infringement	Fraser-Ried; E. Walters	2/29/08
RX-318	Dai et al., "Sorption behavior of butyltin compounds in estuarine environments of the Haihe River, China," ACS Symposium Series 835:370-387 (2003) GDFII 008645; NIUT 064606	Non-infringement	Fraser-Ried	2/29/08
RX-319	Takahashi et al., "Butyltin residues in livers of humans and wild terrestrial mammals and in plastic products," Environmental Pollution 106:213-218 (1999) GDFII 008602-GDFII 008607; NIUT 064563-NIUT 064568	Non-infringement	Fraser-Ried	2/29/08
RX-320	Yan et al., "Primary Determination of Butyltins in Sediments of Pearl River Delta," Research of Environmental Sciences 13:43-45 (2000) GDFII 008746 - GDFII 008748	Non-infringement	Fraser-Ried; W. Sanyong	2/29/08
RX-321C	Sample G10 testing results (December 14, 2007) GDFII 008745	Non-infringement	L. Chunrong	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-322	WITHDRAWN			
RX-323	U.S. Patent No. 4,049,689 GDFII 008749-GDFII 008751	Invalidity, non-infringement	L. Chunrong	2/29/08
RX-324C	Test Report No. 2007-N-095 GDFII 008777-GDFII 008778	Non-infringement	L. Chunrong	2/29/08
RX-325C	Test Report No. 2007-N-093 GDFII 008384-GDFII 008385	Non-infringement	Fraser-Ried; E. Walters; L. Chunrong	2/29/08
RX-326C	GC Profile for Ethyl Acetate Solvent GDFII 008386-GDFII 008392	Non-infringement	L. Chunrong	2/29/08
RX-327	WITHDRAWN			
RX-328C	09-30-2007 China National Accreditation Service for Conformity Assessment - List of accredited testing scopes GDFII 008429-GDFII 008430	Non-infringement	L. Chunrong	2/29/08
RX-329	Determination of Tin in Foods (2004) GDFII 08407-GDFII 08411	Non-infringement	L. Chunrong	2/29/08
RX-330	WITHDRAWN			
RX-331C	Technology description and process manual for Niutang NIUT 062897 and NIUT 003631-NIUT 003639	Non-infringement	E. Walters; C. Ya	2/29/08
RX-332	WITHDRAWN			
RX-333	WITHDRAWN			
RX-334	WITHDRAWN			
RX-335	WITHDRAWN			
RX-336C	Niutang Operating Records NIUT 048970-NIUT 049023	Non-infringement	C. Ya	2/29/08
RX-337	"Solvents Handbook", 2002 ISBN7-5025-4002-4 pp816-821 GDFII 008420-GDFII 008428	Invalidity, non-infringement	L. Chunrong	2/29/08
RX-338	WITHDRAWN			
RX-339	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-340C	Coleman Declaration T&L0004661-75	Invalidity, non-infringement, domestic industry	D. Coleman	2/29/08
RX-341	WITHDRAWN			
RX-342C	Niutang Laboratory Notebook NIUT 060058-NIUT 060103	Invalidity, non-infringement	C. Ya	2/29/08
RX-343	WITHDRAWN			
RX-344C	GDFII Sample testing GDFII 008393-GDFII 008398	Non-infringement	Fraser-Ried; L. Chunrong	2/29/08
RX-345	WITHDRAWN			
RX-346	Hoch, M., "Organotin compounds in the environment - an overview," Applied Geochemistry 16:719-743 (2001) GDFII 008545-GDFII 008569; NIUT 064506-NIUT 064530	Non-infringement	E. Walters; L. Chunrong	2/29/08
RX-347	Quevauviller et al., "Leaching of organotin compounds from poly(vinyl chloride) (PVC) material," Applied Organometallic Chemistry 5:125-129 (1991) GDFII 008677-GDFII 00868; NIUT 064638-NIUT 064642	Non-infringement	E. Walters	2/29/08
RX-348	WITHDRAWN			
RX-349	WITHDRAWN			
RX-350	WITHDRAWN			
RX-351C	Crich Exhibit 47 T&L 0231803-804	Invalidity, non-infringement	E. Walters	2/29/08
RX-352C	Niutang Inspection sample logs, T&L0232136-T&L0232145	Non-infringement	J. Sands	2/29/08
RX-353C	Tate & Lyle Process Specification, T&L0133045-79	Domestic Industry, Non-infringement	T. Hutton; E. Walters	2/29/08
RX-354	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-355C	US Patent Abstract for 4,980,463NIUT 0001552-NIUT 0001583	Non-infringement	C. Ya	2/29/08
RX-356	WITHDRAWN			
RX-357C	Determination of Tin Catalyst in Sucralose, dated 12/16/20087 NIUT 064716	Non-infringement	T. LiQing	2/29/08
RX-358	WITHDRAWN			
RX-359C	12-15-07 Results of analysis, NIUT 064718	Non-infringement	T. LiQing	2/29/08
RX-360C	Niutang Laboratory Notebook, NIUT 059957 - NIUT 060006	Non-infringement, invalidity	C. Ya	2/29/08
RX-361	Qi et al., "The application of chromatography - mass spectrometry combined technique in the analysis of microimpurities contained in 1,2-dichloroethane," Polyvinyl Chloride 3:37-42 (2006) NIUT 064704-NIUT 064709	Non-infringement, invalidity	C. Ya	2/29/08
RX-362	WITHDRAWN			
RX-363	"Environmental Science Trends - organic Tin Survey in Changjiang River" (2003) NIUT 064376-NIUT 064378	Non-infringement	E. Walters; C. Ya	2/29/08
RX-364	WITHDRAWN			
RX-365	WITHDRAWN			
RX-366	WITHDRAWN			
RX-367	WITHDRAWN			
RX-368	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-369	"Synthetic Ethanol for Industrial Use (1992)" NIUT 064379-NIUT 064388	Non-infringement	C. Ya	2/29/08
RX-370	WITHDRAWN			
RX-371	WITHDRAWN			
RX-372	WITHDRAWN			
RX-373	WITHDRAWN			
RX-374	WITHDRAWN			
RX-375	WITHDRAWN			
RX-376	WITHDRAWN			
RX-377	WITHDRAWN			
RX-378	WITHDRAWN			
RX-379	WITHDRAWN			
RX-380	WITHDRAWN			
RX-381	WITHDRAWN			
RX-382	WITHDRAWN			
RX-383	WITHDRAWN			
RX-384	WITHDRAWN			
RX-385	WITHDRAWN			
RX-386	WITHDRAWN			
RX-387C	RTI Testing GDFII 008820-GDFII 008823	Non-infringement	Fraser-Ried	2/29/08
RX-388C	RTI Testing NIUT 064746-NIUT 064747	Non-infringement	F. Weber; E. Walters	2/29/08
RX-389C	RTI Sample Testing NIUT 064748-NIUT 064751	Non-infringement	F. Weber; E. Walters	2/29/08
RX-390	WITHDRAWN			
RX-391	WITHDRAWN			
RX-392	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-393	EP 0 031 651 to Jackson et al.	Invalidity, non-infringement	Fraser-Ried	2/29/08
RX-394	GB 2 065 648 to Jackson et al.	Invalidity, non-infringement	Fraser-Ried	2/29/08
RX-395	Moore, "Experimental Methods in Organic Chemistry," 3d Ed., Chapter 4 (1982) GDFII 008361-GDFII 008377; NIUT 064350-NIUT 064366	Invalidity, non-infringement	Fraser-Ried	2/29/08
RX-396	Otera et al, "Distannoxane as Reverse Micelle-Type Catalyst: Novel Solvent Effect on Reaction Rate of Transesterification," J. Org. Chem. 54:4013-4014 (1989) GDFII 006287-GDFII 006288; NIUT 060564-NIUT 060565	Invalidity, non-infringement	Fraser-Ried	2/29/08
RX-397	Wagner et al, "Preparation and Synthetic Utility of Some Organotin Derivatives of Nucleosides," J. Org. Chem. 39(1):24-30 (1974) GDFII 006300-GDFII 006306; NIUT 060577-NIUT 060583	Invalidity, non-infringement	Fraser-Ried	2/29/08
RX-398	WITHDRAWN			
RX-399	WITHDRAWN			
RX-400C	GDFII Sucralose Production Process Document GDFII 001370-GDFII 001375	Non-infringement	Fraser-Ried; W. Sanyong	2/29/08
RX-401	WITHDRAWN			
RX-402	WITHDRAWN			
RX-403	WITHDRAWN			
RX-404	WITHDRAWN			
RX-405	WITHDRAWN			
RX-406	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-407	WITHDRAWN			
RX-408	WITHDRAWN			
RX-409	WITHDRAWN			
RX-410	WITHDRAWN			
RX-411	WITHDRAWN			
RX-412	WITHDRAWN			
RX-413	WITHDRAWN			
RX-414	WITHDRAWN			
RX-415	WITHDRAWN			
RX-416	WITHDRAWN			
RX-417	WITHDRAWN			
RX-418	WITHDRAWN			
RX-419	WITHDRAWN			
RX-420	WITHDRAWN			
RX-421	WITHDRAWN			
RX-422	WITHDRAWN			
RX-423	WITHDRAWN			
RX-424	WITHDRAWN			
RX-425	WITHDRAWN			
RX-426	WITHDRAWN			
RX-427	WITHDRAWN			
RX-428	WITHDRAWN			
RX-429	WITHDRAWN			
RX-430	WITHDRAWN			
RX-431	WITHDRAWN			
RX-432	WITHDRAWN			
RX-433	WITHDRAWN			
RX-434	WITHDRAWN			
RX-435	WITHDRAWN			
RX-436	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-437	WITHDRAWN			
RX-438	WITHDRAWN			
RX-439	WITHDRAWN			
RX-440	WITHDRAWN			
RX-441	WITHDRAWN			
RX-442	WITHDRAWN			
RX-443	WITHDRAWN			
RX-444	WITHDRAWN			
RX-445	WITHDRAWN			
RX-446	WITHDRAWN			
RX-447	WITHDRAWN			
RX-448	WITHDRAWN			
RX-449	WITHDRAWN			
RX-450	WITHDRAWN			
RX-451	WITHDRAWN			
RX-452C	11/1/2007 Tate & Lyle's Objections and Responses to Guangdong Food Industry Institute, L&P and Niutang's 9th Set of Requests for Production	Invalidity, non-infringement, domestic industry, remedy	J. Hand	2/29/08
RX-453	WITHDRAWN			
RX-454	WITHDRAWN			
RX-455	WITHDRAWN			
RX-456	WITHDRAWN			
RX-457	WITHDRAWN			
RX-458	WITHDRAWN			
RX-459	WITHDRAWN			
RX-460	WITHDRAWN			
RX-461	WITHDRAWN			
RX-462	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-463C	L&P's Sucralose Operating ManualGDFII 001376- GDFII 001394	Non-infringement	W. Sanyong	2/29/08
RX-464C	Test Result GDFII 008779	Non-infringement,	L. Chunrong	2/29/08
RX-465	WITHDRAWN			
RX-466C	Sample List for Niutang Inspection, October 9-11, 2007 NIUT 064389	Non-infringement,	C. Ya	2/29/08
RX-467C	Sample List for Niutang Inspection - NIUT 064390	Non-infringement, invalidity	C. Ya	2/29/08
RX-468	WITHDRAWN			
RX-469	WITHDRAWN			
RX-470C	Nanjing University Results of Analysis for Tin, NIUT 0064756	Non-infringement,	C. Ya; T. LiQing	2/29/08
RX-471	WITHDRAWN			
RX-472	WITHDRAWN			
RX-473	WITHDRAWN			
RX-474	WITHDRAWN			
RX-475C	Niutang Sample Log NIUT 064813-NIUT 064832	Non-infringement	C. Ya; J. Sands	2/29/08
RX-476	WITHDRAWN			
RX-477	WITHDRAWN			
RX-478	WITHDRAWN			
RX-479	WITHDRAWN			
RX-480	WITHDRAWN			
RX-481	WITHDRAWN			
RX-482	WITHDRAWN			
RX-483	WITHDRAWN			
RX-484C	HPLC Test Results for GDFII GDFII 008820A	Non-infringement, invalidity	L. Chunrong	2/29/08
RX-485	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-486	WITHDRAWN			
RX-487	WITHDRAWN			
RX-488	WITHDRAWN			
RX-489	WITHDRAWN			
RX-490	WITHDRAWN			
RX-491	WITHDRAWN			
RX-492	WITHDRAWN			
RX-493	WITHDRAWN			
RX-494	WITHDRAWN			
RX-495	WITHDRAWN			
RX-496	WITHDRAWN			
RX-497	WITHDRAWN			
RX-498	WITHDRAWN			
RX-499	WITHDRAWN			
RX-500	WITHDRAWN			
RX-501	WITHDRAWN			
RX-502C	Laboratory Notebook of Wang Sanyong GDFII 001906-GDFII 002091	Non-infringement	W. Sanyong; L. Chunrong	2/29/08
RX-503C	Laboratory Notebook of Li Chunrong GDFII 002092-GDFII 002255	Non-infringement	L. Chunrong	2/29/08
RX-504C	GDFII Representative Pilot Plant Records GDFII 003043-GDFII 003211	Non-infringement	W. Sanyong	2/29/08
RX-505C	Navia et al. "Study on the Selectivity of Benzoylation of Metal Chelates of Sucrose." p. 465 - 480. GDFII 003270-GDFII003285	Non-infringement, invalidity	W. Sanyong	2/29/08
RX-506C	Greene et al. "Protective Groups in Organic Sythesis." p. 149-160. GDFII 003286-GDFII 003298	Non-infringement, invalidity	W. Sanyong	2/29/08
RX-507C	Production Records for GDFII GDFII 003617-GDFII 005388	Non-infringement	W. Sanyong; L. Chunrong	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-508C	Feasibility Study GDFII 005453-GDFII 005483	Non-infringement	W. Sanyong	2/29/08
RX-509	WITHDRAWN			
RX-510	WITHDRAWN			
RX-511C	Manual excerpt, solubility of tin dichloride, GDFII 008399-GDFII 008406	Non-infringement	Fraser-Ried; E. Walters; L. Chunrong	2/29/08
RX-512	WITHDRAWN			
RX-513	WITHDRAWN			
RX-514	WITHDRAWN			
RX-515	WITHDRAWN			
RX-516	WITHDRAWN			
RX-517	WITHDRAWN			
RX-518	WITHDRAWN			
RX-519	WITHDRAWN			
RX-520	WITHDRAWN			
RX-521	WITHDRAWN			
RX-522	WITHDRAWN			
RX-523	WITHDRAWN			
RX-524	WITHDRAWN			
RX-525C	Description of Niutang Process NIUT 062898 and NIUT059136-NIUT059138	Non-infringement	E. Walters; C. Ya	2/29/08
RX-526C	Feasibility Study NIUT 059302-NIUT 059307	Non-infringement	C. Ya	2/29/08
RX-527	WITHDRAWN	Non-infringement, remedy		
RX-528C	Niutang Laboratory Notebooks NIUT 059915-NIUT 059956	Non-infringement, invalidity	C. Ya	2/29/08
RX-529	WITHDRAWN			
RX-530	WITHDRAWN			
RX-531	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-532	WITHDRAWN			
RX-533	WITHDRAWN			
RX-534C	Niutang Inspection, dated 11/27/2007 NIUT062903-NIUT062906	Non-infringement, invalidity	C. Ya	2/29/08
RX-535C	Representative Batch Records NIUT 063374-NIUT 063839	Non-infringement, invalidity	C. Ya	2/29/08
RX-536	WITHDRAWN			
RX-537	WITHDRAWN			
RX-538	WITHDRAWN			
RX-539C	Niutang Laboratory Notebook, NIUT 059684- NIUT 059727	Non-infringement	C. Ya	2/29/08
RX-540C	Patent Abstract for U.S. Patent 5,470,969 NIUT 0001704-NIUT 0001724	Non-infringement, invalidity	C. Ya	2/29/08
RX-541C	Patent Abstract for U.S. Patent 4,343,934 NIUT 0001339- NIUT 00001345	Non-infringement, invalidity	C. Ya	2/29/08
RX-542C	Patent Abstract for U.S. Patent 4,889,928 NIUT 0001501-NIUT 0001516	Non-infringement, invalidity	C. Ya	2/29/08
RX-543C	Patent Abstract for U.S. Patent 4,362,869 NIUT 0001346-NIUT 0001361	Non-infringement, invalidity	C. Ya	2/29/08
RX-544	WITHDRAWN			
RX-545C	Abstract for U.S. Patent 5,141,860 NIUT 0001662-NIUT 0001679	Non-infringement, invalidity	C. Ya	2/29/08
RX-546	WITHDRAWN			
RX-547	WITHDRAWN			
RX-548	WITHDRAWN			
RX-549	WITHDRAWN			
RX-550	WITHDRAWN			
RX-551	WITHDRAWN			
RX-552	WITHDRAWN			
RX-553	WITHDRAWN			
RX-554	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-555C	Patent Abstract for U.S. Patent 5,449,772 NIUT 0001695-NIUT 0001703	Non-infringement, invalidity	C. Ya	2/29/08
RX-556	WITHDRAWN			
RX-557	WITHDRAWN			
RX-558C	Niutang batch records, NIUT 063975-NIUT 064250	Non-infringement	C. Ya	2/29/08
RX-559C	Patent Abstract for U.S. Patent 5,498,709, NIUT 0001725-NIUT 0001753	Non-infringement, invalidity	C. Ya	2/29/08
RX-560C	Patent Abstract for U.S. Patent 4,801,700, NIUT 0001490-NIUT 0001500	Non-infringement, invalidity	C. Ya	2/29/08
RX-561C	Direct Witness Statement of Dr. Fraser-Reid	Invalidity, non- infringement	Fraser-Ried	2/28/08
RX-562C	Direct Witness Statement of Dr. Wang Sanyong	Non-infringement, invalidity, remedy	W. Sanyong	2/28/08
RX-563C	Direct Witness Statement of Ms. Li Chunrong	Non-infringement, invalidity, remedy	L. Chunrong	2/28/08
RX-564C	Direct Witness Statement of Dr. Cai Ya	Non-infringement, invalidity, remedy	C. Ya	2/29/08
RX-565	WITHDRAWN			
RX-566	WITHDRAWN			
RX-567	WITHDRAWN			
RX-568	WITHDRAWN			
RX-569	WITHDRAWN			
RX-570	WITHDRAWN			
RX-571	WITHDRAWN			
RX-572	WITHDRAWN			
RX-573	WITHDRAWN			
RX-574	U.S. Patent No. 4,405,654 dated 09/20/1983	Non-infringement, Invalidity	W. Sanyong	2/29/08
RX-575	WITHDRAWN			
RX-576	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-577	WITHDRAWN			
RX-578	WITHDRAWN			
RX-579	WITHDRAWN			
RX-580	Walter A. Szarek, "Deoxyhalogeno Sugars," in Advances in Carbohydrate Chemistry & Biochemistry, 28, 230-259 (1967) (SKR007727-SKR007770)	Non-Infringement, Invalidity	D. Baker; Fraser-Ried	2/29/08
RX-581	WITHDRAWN			
RX-582	Hanessian et al., "A New Synthesis of Chlorodeoxy-y-Sugars," Chem. Commun., 1967, 1152-155 (SKR006818-SKR006823)	Non-Infringement, Invalidity	D. Baker; S. Hanessian; Fraser-Ried	2/29/08
RX-583	WITHDRAWN			
RX-584	WITHDRAWN			
RX-585	WITHDRAWN			
RX-586	WITHDRAWN			
RX-587	WITHDRAWN			
RX-588	WITHDRAWN			
RX-589	Ballard et al., "Sucrochemistry. Part XII. Reaction of Sucrose with Sulphuryl Chloride," Journal of the Chemical Society: Perkin Transaction I., vol. 14, pp. 1524-1528 02/22/1973 (Exhibit 9 to the Rebuttal Expert Report of David Crich) (GDFII006192-GDFII006196; NIUT060469-NIUT060473)	Non-infringement, Invalidity	Fraser-Ried	2/29/08
RX-590	WITHDRAWN			
RX-591	WITHDRAWN			
RX-592	Pizey, S.S., "Synthetic Reagents, Volume 1" (T&L0126616-T&L0126714)	Non-infringement, Invalidity	Fraser-Ried	2/29/08
RX-593	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-594	WITHDRAWN			
RX-595	WITHDRAWN			
RX-596	Curriculum vitae (Exhibit A to the Second Expert Report of Stephen Hanessian) (JKS81708)	Non-Infringement	S. Hanessian	2/29/08
RX-597C	Temperature plot (Exhibit B to the Second Expert Report of Stephen Hanessian)	Non-Infringement	J. Wu	2/29/08
RX-598	WITHDRAWN			
RX-599	WITHDRAWN			
RX-600	WITHDRAWN			
RX-601	Curriculum vitae of Joseph St. Laurent (Exhibit A to the Expert Report of Joseph St. Laurent)	Non-Infringement	St. Laurent	2/22/08
RX-602C	07/31/2007 The Technique Procedure of Mass Production of Sucralose (Top Secret) Foreign language document (JKS00001; JKS00025; JKS00054)	Non-Infringement	J. Wu	2/29/08
RX-603	WITHDRAWN			
RX-604C	Foreign language document (JKS15785-JKS15825)	Non-Infringement	J. Wu	2/29/08
RX-605	WITHDRAWN			
RX-606	WITHDRAWN			
RX-607	WITHDRAWN			
RX-608	WITHDRAWN			
RX-609	WITHDRAWN			
RX-610	WITHDRAWN			
RX-611C	Chemical Code (SKR007952-007954)	Non-Infringement	D. Baker; W. Junjing	2/29/08
RX-612	WITHDRAWN			
RX-613C	Patent Abstract for U.S. patent 4,405,654 NIUT 0001377-NIUT 0001412	Invalidity, non-infringement	C. Ya	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-614C	Patent Abstract for US Patent 5,089,608 NIUT 0001642-NIUT 0001661	Invalidity, non-infringement	C. Ya	2/29/08
RX-615C	US Patent Abstract for 5,122,601 NIUT 0001320-NIUT 0001338	Invalidity, non-infringement	C. Ya	2/29/08
RX-616C	US Patent Abstract for 5,034,551 NIUT 0001613-NIUT 0001641	Invalidity, non-infringement	C. Ya	2/29/08
RX-617C	US Patent Abstract for 4,380,476 NIUT 0001362-NIUT 00001376	Invalidity, non-infringement	C. Ya	2/29/08
RX-618C	US Patent Abstract for 4,435,440 NIUT 0001413-NIUT 0001432	Invalidity, non-infringement	C. Ya	2/29/08
RX-619	WITHDRAWN			
RX-620	WITHDRAWN			
RX-621	WITHDRAWN			
RX-622	WITHDRAWN			
RX-623	WITHDRAWN			
RX-624	WITHDRAWN			
RX-625	WITHDRAWN			
RX-626	WITHDRAWN			
RX-627C	LC-MS Identification and HPLC Quantitation of Chlorination Samples (Exhibit 44 to the Initial Expert Report of David Crich)	Non-infringement	St. Laurent; D. Crich	2/22/08
RX-628	WITHDRAWN			
RX-629	WITHDRAWN			
RX-630	WITHDRAWN			
RX-631	WITHDRAWN			
RX-632	Declaration of Jim Wiley (Ex. 14 to Baker Rebuttal Report)	Domestic Industry Non-infringement	D. Baker	2/29/08
RX-633	WITHDRAWN			
RX-634	WITHDRAWN			
RX-635	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-636	WITHDRAWN			
RX-637	WO 2006/072965 (T&L0170902 – 0170920)	Invalidity; Non-infringement	D. Crich	2/29/08
RX-638	WITHDRAWN			
RX-639	WITHDRAWN			
RX-640	Aldrich catalog excerpt for phosgene imminium chloride (SKR008054 – 008055)	Invalidity; Non-infringement	D. Baker; R. Walkup	2/29/08
RX-641CR	Rebuttal Witness Statement of David C. Baker	Invalidity; Non-infringement, Domestic Industry	D. Baker	2/26/08
RX-642C	Rebuttal Witness Statement of Junjing Wu	Non-infringement	Junjing Wu	2/27/08
RX-643C	Rebuttal Witness Statement of Guangli Wu	Non-Infringement	Guangli Wu	2/27/08
RX-644	WITHDRAWN			
RX-645	WITHDRAWN			
RX-646	WITHDRAWN			
RX-647	WITHDRAWN			
RX-648	WITHDRAWN			
RX-649	WITHDRAWN			
RX-650	WITHDRAWN			
RX-651	WITHDRAWN			
RX-652	WITHDRAWN			
RX-653	WITHDRAWN			
RX-654	WITHDRAWN			
RX-655	WITHDRAWN			
RX-656	WITHDRAWN			
RX-657	WITHDRAWN			
RX-658	WITHDRAWN			
RX-659	WITHDRAWN			
RX-660	WITHDRAWN			
RX-661	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-662	WITHDRAWN			
RX-663	WITHDRAWN			
RX-664	WITHDRAWN			
RX-665	WITHDRAWN			
RX-666	WITHDRAWN			
RX-667	WITHDRAWN			
RX-668	WITHDRAWN			
RX-669	WITHDRAWN			
RX-670	WITHDRAWN			
RX-671	WITHDRAWN			
RX-672	WITHDRAWN			
RX-673	WITHDRAWN			
RX-674	WITHDRAWN			
RX-675	WITHDRAWN			
RX-676	WITHDRAWN			
RX-677	WITHDRAWN			
RX-678	WITHDRAWN			
RX-679	WITHDRAWN			
RX-680	WITHDRAWN			
RX-681	WITHDRAWN			
RX-682	WITHDRAWN			
RX-683	WITHDRAWN			
RX-684	WITHDRAWN			
RX-685	WITHDRAWN			
RX-686	WITHDRAWN			
RX-687	WITHDRAWN			
RX-688	WITHDRAWN			
RX-689	WITHDRAWN			
RX-690	WITHDRAWN			
RX-691	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-692	WITHDRAWN			
RX-693	WITHDRAWN			
RX-694	WITHDRAWN			
RX-695	WITHDRAWN			
RX-696	WITHDRAWN			
RX-697	WITHDRAWN			
RX-698	WITHDRAWN			
RX-699	WITHDRAWN			
RX-700C	Witness Statement of Jinshan Wu	Non-Infringement	J. Wu	2/28/08
RX-701C-C	Witness Statement of Lijun An	Non-Infringement	L. An	2/27/08
RX-702C	Witness Statement of Joseph St. Laurent	Non-Infringement, Domestic Industry	St. Laurent	2/21/08
RX-702S-C	Supplemental Witness Statement of Joseph St. Laurent	Non-Infringement	St. Laurent	2/21/08
RX-703C	Witness Statement of Stephen Hanessian	Non-Infringement, Domestic Industry	S. Hanessian	2/27/08
RX-703S-C	Supplemental Witness Statement of Stephen Hanessian	Non-Infringement	S. Hanessian	2/27/08
RX-704C	HPLC Graph (JKS83206)	Non-Infringement	J. Wu	2/29/08
RX-705C	Material Balance Table (JKS00041-JKS00048)	Non-Infringement	J. Wu	2/29/08
RX-706	WITHDRAWN			
RX-707	WITHDRAWN			
RX-708	WITHDRAWN			
RX-709	WITHDRAWN			
RX-710	WITHDRAWN			
RX-711	WITHDRAWN			
RX-712	WITHDRAWN			
RX-713	WITHDRAWN			
RX-714	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-715	WITHDRAWN			
RX-716	WITHDRAWN			
RX-717	WITHDRAWN			
RX-718	WITHDRAWN			
RX-719	WITHDRAWN			
RX-720C	Handwritten graph (Crich Depo Ex. 529)	Non-infringement	D. Crich	2/29/08
RX-721	WITHDRAWN			
RX-722	WITHDRAWN			
RX-723	WITHDRAWN			
RX-724	WITHDRAWN			
RX-725	WITHDRAWN			
RX-726	WITHDRAWN			
RX-727	WITHDRAWN			
RX-728	WITHDRAWN			
RX-729	WITHDRAWN			
RX-730	WITHDRAWN			
RX-731	WITHDRAWN			
RX-732	WITHDRAWN			
RX-733	WITHDRAWN			
RX-734	WITHDRAWN			
RX-735	WITHDRAWN			
RX-736	WITHDRAWN			
RX-737	WITHDRAWN			
RX-738	WITHDRAWN			
RX-739	WITHDRAWN			
RX-740	WITHDRAWN			
RX-741	WITHDRAWN			
RX-742	WITHDRAWN			
RX-743	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-744	WITHDRAWN			
RX-745	WITHDRAWN			
RX-746	WITHDRAWN			
RX-747	WITHDRAWN			
RX-748	WITHDRAWN			
RX-749	WITHDRAWN			
RX-750	WITHDRAWN			
RX-751	WITHDRAWN			
RX-752	WITHDRAWN			
RX-753	WITHDRAWN			
RX-754	WITHDRAWN			
RX-755	WITHDRAWN			
RX-756	WITHDRAWN			
RX-757	WITHDRAWN			
RX-758	WITHDRAWN			
RX-759	WITHDRAWN			
RX-760	WITHDRAWN			
RX-761	WITHDRAWN			
RX-762	WITHDRAWN			
RX-763	WITHDRAWN			
RX-764	WITHDRAWN			
RX-765	WITHDRAWN			
RX-766	WITHDRAWN			
RX-767	WITHDRAWN			
RX-768	WITHDRAWN			
RX-769	WITHDRAWN			
RX-770	WITHDRAWN			
RX-771	WITHDRAWN			
RX-772	WITHDRAWN			
RX-773	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-774	WITHDRAWN			
RX-775	WITHDRAWN			
RX-776	WITHDRAWN			
RX-777	WITHDRAWN			
RX-778	WITHDRAWN			
RX-779	WITHDRAWN			
RX-780	WITHDRAWN			
RX-781	WITHDRAWN			
RX-782	WITHDRAWN			
RX-783	WITHDRAWN			
RX-784	WITHDRAWN			
RX-785	WITHDRAWN			
RX-786	WITHDRAWN			
RX-787	WITHDRAWN			
RX-788	WITHDRAWN			
RX-789	WITHDRAWN			
RX-790	WITHDRAWN			
RX-791	WITHDRAWN			
RX-792	WITHDRAWN			
RX-793	WITHDRAWN			
RX-794	WITHDRAWN			
RX-795	WITHDRAWN			
RX-796	WITHDRAWN			
RX-797	WITHDRAWN			
RX-798	WITHDRAWN			
RX-799	WITHDRAWN			
RX-800	WITHDRAWN			
RX-801	WITHDRAWN			
RX-802	WITHDRAWN			
RX-803	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-804C	Test Result No. 2007-N-94 GDFII 008743-GDFII 008744	Non-infringement	L. Chunrong	2/29/08
RX-805C	Raw material invoices for GDFII GDFII 001395-GDFII 001400	Non-infringement	W. Sanyong	2/29/08
RX-806C	12-15-07 Results of analysis NIUT-064717	Non-infringement	C. Ya; T. LiQing	2/29/08
RX-807	WITHDRAWN			
RX-808C	Environmental Report GDFII 005484-GDFII 005589	Non-infringement	W. Sanyong	2/29/08
RX-809C	Representative Batch Records for GDFII GDFII 008155-GDFII 008311	Non-infringement	W. Sanyong; L. Chunrong	2/29/08
RX-810C	Pilot Production Records for Niutang NIUT 034471-NIUT 034494	Non-infringement	C. Ya	2/29/08
RX-811C	Raw material invoices for Niutang NIUT 039487-NIUT 039860	Non-infringement	C. Ya	2/29/08
RX-812C	Representative Batch Records from 2005 for Niutang NIUT039910-NIUT053014	Non-infringement	C. Ya	2/29/08
RX-813C	Factory Layout and Equipment NIUT039409-NIUT039418	Non-infringement	C. Ya; J. Sands	2/29/08
RX-814C	Equipment List NIUT062883-NIUT062888	Non-infringement	C. Ya	2/29/08
RX-815	WITHDRAWN			
RX-816C	Niutang Laboratory Notebook NIUT 059728-NIUT 059774	Non-infringement	C. Ya	2/29/08
RX-817	WITHDRAWN			
RX-818C	Representative Production Records from 2004 for Niutang NIUT 015173-NIUT 016905	Non-infringement	C. Ya	2/29/08
RX-819	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-820	WITHDRAWN			
RX-821	WITHDRAWN			
RX-822	WITHDRAWN			
RX-823C	Niutang Environmental Application NIUT 062056-NIUT 062063	Non-infringement	C. Ya	2/29/08
RX-824C	Operations manual for Niutang NIUT 003635-NIUT 003639	Non-infringement	C. Ya	2/29/08
RX-825C	Raw material invoices for GDFII GDFII 001698-GDFII 001710	Non-infringement	W. Sanyong	2/29/08
RX-826	WITHDRAWN			
RX-827	WITHDRAWN			
RX-828C	Rebuttal Witness Statement of Dr. Bertram Fraser-Reid	Non-infringement	Fraser-Reid	2/28/08
RX-829C	Rebuttal Witness Statement of Dr. D. Eric Walters	Non-infringement	E. Walters	2/29/08
RX-830CR	Rebuttal Witness Statement of Li Chunrong	Non-infringement	L. Chunrong	2/28/08
RX-831CR	Rebuttal Witness Statement of Dr. Cai Ya	Non-infringement	C. Ya	2/29/08
RX-832C	Rebuttal Witness Statement of Dr. Wang Sanyong	Non-infringement	W. Sanyong	2/28/08
RX-833CR	Rebuttal Witness Statement of Prof. Tian LiQing	Non-infringement	T. LiQing	2/29/08
RX-834C	Gremount-Heartland Sweeteners Sales Contract (HS 0000102)	Non-Infringement	T. Gelov	2/29/08
RX-835C	Gremount-Heartland Sweeteners Invoice (HS 0000097)	Non-Infringement	T. Gelov	2/29/08
RX-836C	Gremount-Heartland Sweeteners bill of lading (HS 0000099)	Non-Infringement	T. Gelov	2/29/08
RX-837C	Heartland Sweetener letter to Gremount (HS 0000101)	Non-infringement	T. Gelov	2/29/08
RX-838C	Heartland Sweeteners customs form (HS 0000077)	Non-Infringement	T. Gelov	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RX-839C	Heartland Sweeteners purchase order(HS 0000147)	Non-Infringement	T. Gelov	2/29/08
RX-840C	Auri Chem invoice to Heartland Sweeteners (HS 0000184)	Non-Infringement	T. Gelov	2/29/08
RX-841C	Auri Chem invoice to Heartland Sweeteners (HS 0000191)	Non-Infringement	T. Gelov	2/29/08
RX-842C	Heartland Sweeteners purchase order (HS 0000383)	Non-Infringement	T. Gelov	2/29/08
RX-843C	Heartland Sweeteners purchase order (HS 0000036)	Non-Infringement	T. Gelov	2/29/08
RX-844C	Rebuttal Witness Statement of Teodor Gelov	Non-Infringement	T. Gelov	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RDX-1	Excerpts from U.S. Patent No. 4,980,463 to Walkup et al.	Invalidity Non-infringement Domestic Industry	D. Baker	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RDX-2	Excerpts from File History of U.S. Patent No. 4,980,463	Invalidity Non-infringement Domestic Industry	D. Baker; Fraser-Ried; E. Walters	2/29/08
RDX-3	WITHDRAWN			
RDX-4	Excerpts from U.S. Patent No. 4,362,869 to Jenner et al.	Invalidity Non-infringement Domestic Industry	D. Baker	2/29/08
RDX-5	Excerpts from U.S. Patent No. 4,617,269 to Rathbone et al.	Invalidity Non-infringement Domestic Industry	D. Baker	2/29/08
RDX-6	Claim Construction of Claim 1, '463 patent	Invalidity Non-infringement Domestic Industry	D. Baker	2/29/08
RDX-7C	Sukerui's Chlorination Process	Invalidity Non-infringement Domestic Industry	W. Junjing	2/29/08
RDX-8	WITHDRAWN			
RDX-9C	Comparison of Navia '746 Patent to '969 Patent	Invalidity	Fraser-Reid	2/29/08
RDX-10C	Comparison of standard extraction process to '551 extraction process	Invalidity	Fraser-Reid	2/29/08
RDX-11C	Comparison of Prior Art to '463 Patent	Invalidity	Fraser-Reid	2/29/08
RDX-12	WITHDRAWN			
RDX-13	WITHDRAWN			
RDX-14	WITHDRAWN			
RDX-15	WITHDRAWN			
RDX-16	WITHDRAWN			
RDX-17	WITHDRAWN			
RDX-18	WITHDRAWN			
RDX-19	WITHDRAWN			
RDX-20	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RDX-21	WITHDRAWN			
RDX-22	WITHDRAWN			
RDX-23	WITHDRAWN			
RDX-24	WITHDRAWN			
RDX-25C	Addition Sequence	Non-infringement	D. Baker; W. Junjing	2/29/08
RDX-26C	Comparison between Sukerui's process and Claim 1 of the '463 patent	Non-infringement	D. Baker	2/29/08
RDX-27C	Comparison between Sukerui's process and JK's process	Non-infringement	D. Baker	2/29/08
RDX-28C	Sukerui Process	Non-infringement	D. Baker	2/29/08
RDX-29C	Comparison of Acid Chlorides Reactions with Alcohol and Thionyl Chloride/DMF Adduct Reactions with Alcohol	Non-infringement	D. Baker	2/29/08
RDX-30	Sucrose-6-Acetate	Non-infringement	D. Baker	2/29/08
RDX-31C	MS Studies (From RX-32C)	Non-infringement	D. Baker	2/29/08
RDX-32	WITHDRAWN			
RDX-33	WITHDRAWN			
RDX-34.1	Drawings related to intermediates		Fraser-Reid; Walters	2/29/08
RDX-35C	Graph related to Tate & Lyle heating profile	Domestic Industry	E. Walters	2/29/08
RDX-36C	Drawings comparing GDFII process to '463 patent process	Non-Infringement	Fraser-Reid	2/29/08
RDX-37	WITHDRAWN			
RDX-38.1C	Demonstrative regarding Niutang first process	Non-Infringement	E. Walters	2/29/08
RDX-38.3C	Demonstrative regarding Niutang first process	Non-Infringement	E. Walters	2/29/08
RDX-39	WITHDRAWN			
RDX-40	WITHDRAWN			
RDX-41.001 – RDX-41.008	Excerpts from '463 patent	Non-Infringement	S. Hanessian	2/29/08
RDX-42	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RDX-43	WITHDRAWN			
RDX-44	Excerpts from Rathbone '269 patent	Non-Infringement	S. Hanessian	2/29/08
RDX-45	Excerpts from Mufti '476 patent	Non-Infringement	S. Hanessian	2/29/08
RDX-46	WITHDRAWN			
RDX-47	WITHDRAWN			
RDX-48	WITHDRAWN			
RDX-49.001C – RDX-49.002C	JK Sucralose process	Non-Infringement	S. Hanessian	2/29/08
RDX-50	WITHDRAWN			
RDX-51C	JK Sucralose process	Non-Infringement	S. Hanessian	2/29/08
RDX-52	WITHDRAWN			
RDX-53	WITHDRAWN			
RDX-54.001 – RDX-54.005	Excerpts from '463 patent file history	Non-Infringement	S. Hanessian	2/29/08
RDX-55.001C – RDX-55.003C	Excerpts from Dr. Crich's Witness Statement	Non-Infringement	S. Hanessian	2/29/08
RDX-56	WITHDRAWN			
RDX-57	WITHDRAWN			
RDX-58	WITHDRAWN			
RDX-59	WITHDRAWN			
RDX-60C	Intermediate Compounds Formed by Reacting Thionyl Chloride with DMF	Non-Infringement	S. Hanessian	2/29/08
RDX-61	WITHDRAWN			
RDX-62	WITHDRAWN			
RDX-63	WITHDRAWN			
RDX-64	WITHDRAWN			
RDX-65	WITHDRAWN			
RDX-66.001C – RDX-66.004C	Excerpts from Dr. Crich's Expert Report	Non-Infringement	S. Hanessian	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RDX-67.001C – RDX-67.002C	Excerpts from Hand Deposition Transcript	Non-Infringement	St. Laurent	2/22/08
RDX-68	WITHDRAWN			
RDX-69.001C – RDX-69.002C	Excerpts from Dr. Crich's Deposition Transcript	Non-Infringement	S. Hanessian	2/29/08
RDX-70	WITHDRAWN			
RDX-71	WITHDRAWN			
RDX-72	WITHDRAWN			
RDX-73	WITHDRAWN			
RDX-74	WITHDRAWN			
RDX-75	WITHDRAWN			
RDX-76	WITHDRAWN			
RDX-77	WITHDRAWN			
RDX-78.001C – RDX-78.002C	Excerpts from Dr. Crich's Expert Report	Non-Infringement	St. Laurent	2/22/08
RDX-79	WITHDRAWN			
RDX-80	WITHDRAWN			
RDX-81	WITHDRAWN			
RDX-82	WITHDRAWN			
RDX-83	WITHDRAWN			
RDX-84	WITHDRAWN			
RDX-85	WITHDRAWN			
RDX-86	WITHDRAWN			
RDX-87	WITHDRAWN			
RDX-88	WITHDRAWN			
RDX-89	WITHDRAWN			
RDX-90	WITHDRAWN			
RDX-91	WITHDRAWN			
RDX-92	WITHDRAWN			
RDX-93	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RDX-94	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RPX-1	WITHDRAWN			
RPX-2C	T&L's Video Coverage of First Niutang Plant Inspection	Non-infringement	C. Ya; Walters	2/29/08
RPX-2.1.01C	T&L's Video Coverage of First Niutang Plant Inspection	Non-infringement	J. Sands	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RPX-2.1.02C	Still from T&L's Video Coverage of First Niutang Plant Inspections	Non-infringement	J. Sands	2/29/08
RPX-2.2.01C	Still from T&L's Video Coverage of First Niutang Plant Inspections	Non-infringement	J. Sands	2/29/08
RPX-2.3.01C	Still from T&L's Video Coverage of First Niutang Plant Inspections	Non-infringement	J. Sands	2/29/08
RPX-2.3.02C	Still from T&L's Video Coverage of First Niutang Plant Inspections	Non-infringement	J. Sands	2/29/08
RPX-2.3.03C	Still from T&L's Video Coverage of First Niutang Plant Inspections	Non-infringement	J. Sands	2/29/08
RPX-2.4.01C	Still from T&L's Video Coverage of First Niutang Plant Inspections	Non-infringement	J. Sands	2/29/08
RPX-3C	T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	W. Sanyoung; L. Chunrong; Fraser-Reid	2/29/08
RPX-3.1.01C	Stills from T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	J. Sands	2/29/08
RPX-3.1.02C	Stills from T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	J. Sands	2/29/08
RPX-3.1.03C	Stills from T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	J. Sands	2/29/08

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RPX-3.2.01C	Stills from T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	J. Sands	2/29/08
RPX-3.3.01C	Stills from T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	J. Sands	2/29/08
RPX-3.3.02C	Stills from T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	J. Sands	2/29/08
RPX-3.4.01C	Stills from T&L's Video Coverage of GDFII Plant Inspection	Non-infringement	J. Sands	2/29/08
RPX-4C	T&L Video Coverage of Second Niutang Plant Inspection	Non-infringement	C. Ya; E. Walters	2/29/08
RPX-5	WITHDRAWN			
RPX-6C	Niutang Video Coverage of First Niutang Plant Inspection	Non-infringement	C. Ya; E. Walters	2/29/08
RPX-7C	Niutang Video Coverage of Second Niutang Plant Inspection	Non-infringement	C. Ya; E. Walters	2/29/08
RPX-8C	GDFII Video Coverage of GDFII Plant Inspection	Non-infringement	W. Sanyoung; L. Chunrong; Fraser-Reid	2/29/08
RPX-9	WITHDRAWN			
RPX-10	WITHDRAWN			

Hearing Exhibit	Description/Title	Purpose	Sponsoring Witness	Received
RPX-11	WITHDRAWN			
RPX-12	WITHDRAWN			
RPX-13	WITHDRAWN			
RPX-14	WITHDRAWN			
RPX-15	WITHDRAWN			
RPX-16	WITHDRAWN			
RPX-17	WITHDRAWN			
RPX-18	WITHDRAWN			
RPX-19	WITHDRAWN			
RPX-20	WITHDRAWN			
RPX-21C	Addition sequence DVD	Non-Infringement	D. Baker; J. Wu	2/29/08
RPX-22	WITHDRAWN			
RPX-23	WITHDRAWN			

**IN THE MATTER OF CERTAIN SUCRALOSE  
SWEETENERS CONTAINING SUCRALOSE, AND  
RELATED INTERMEDIATE COMPOUNDS THEREOF**

337-TA-604

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **PUBLIC FINAL INITIAL DETERMINATION** has been served upon, **Christopher G. Paulraj, Esq.**, Commission Investigative Attorney, and the following parties via overnight delivery where necessary on March 9, , 2009.

*Marilyn R. Abbott*  
Marilyn R. Abbott, Secretary  
U.S. International Trade Commission  
500 E Street, S.W., Room 112A  
Washington, DC 20436

**FOR COMPLAINANTS TATE & LYLE TECHNOLOGY LIMITED AND TATE & LYLE SUCRALOSE, INC:**

Thomas L Jarvis, Esq.  
**FINNEGAN HENDERSON FARABOW GARRETT  
& DUNNER LLP**  
901 New York Avenue N.W.  
Washington, DC 20001-4413

( ) Via Hand Delivery  
 Via Overnight Mail  
( ) Via First Class Mail  
( ) Other: \_\_\_\_\_

F. David Foster, Esq.  
David Nickel, Esq.  
**MILLER & CHEVALIER CHARTERED**  
655 Fifteenth Street, N.W.  
Washington, DC 20005

( ) Via Hand Delivery  
 Via Overnight Mail  
( ) Via First Class Mail  
( ) Other: \_\_\_\_\_

**FOR RESPONDENTS CHANGZHOU NIUTANG CHEMICAL PLANT CO., LTD;  
GUANGDONG FOOD INDUSTRY INSTITUTE ; GARUDA INTERNATIONAL INC. ;  
L&P FOOD INGREDIENT CO., LTD. ; AND U.S. NIUTANG CHEMICAL, INC. :**

Gary M. Hnath, Esq.  
Goutam Patnaik, Esq.  
Timothy A. Molino, Esq.  
Mathew L. Fedowitz, Esq.  
**BINGHAM McCUTCHEN LLP**  
2020 K Street, N.W.  
Washington, DC 20006

( ) Via Hand Delivery  
 Via Overnight Mail  
( ) Via First Class Mail  
( ) Other: \_\_\_\_\_

**IN THE MATTER OF CERTAIN SUCRALOSE  
SWEETENERS CONTAINING SUCRALOSE, AND  
RELATED INTERMEDIATE COMPOUNDS THEREOF**

337-TA-604

**FOR RESPONDENTS HEARTLAND PACKAGING CORPORATION AND  
HEARTLAND SWEETENERS LLC:**

William L. O'Connor, Esq.  
Jeffrey Kosc, Esq.  
James B. Chapman, II, Esq.  
**DANN PECAR NEWMAN & KLEIMAN, P.C.**  
One America Tower  
One American Square, Suite 2300  
Indianapolis, IN 46282

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**FOR RESPONDENTS HEBEI SUKERUI SCIENCE AND TECHNOLOGY CO., LTD;  
BEIJING FORBEST CHEMICAL CO., LTD; BEIJING FORBEST TRADE CO., LTD &  
FORBEST INTERNATIONAL USA, LLC.:**

Marcia H. Sundeen, Esq.  
Michael M. Shen, Esq.  
**KENYON & KENYON LLP**  
1500 K Street, N.W.  
Washington, DC 20005

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**FOR RESPONDENT JK SUCRALOSE INC.:**

Ruffin B. Cordell, Esq.  
Jeffrey R. Whieldon, Esq.  
**FISH & RICHARDSON P.C.**  
1425 K Street, N.W.  
Washington, DC 20005

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Craig S. Smith, Esq.  
**FISH & RICHARDSON, P.C.**  
225 Franklin Street  
Boston, MA 02110

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**FOR RESPONDENTS MTC INDUSTRIES, INC. & NANTONG MOLECULAR  
TECHNOLOGY CO., LTD.:**

Kevin Tung, Esq.  
**KEVIN KERVENG TUNG, P.C.**  
33-70 Prince Street, CA-30  
Flushing, NY 11354

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**IN THE MATTER OF CERTAIN SUCRALOSE  
SWEETENERS CONTAINING SUCRALOSE, AND  
RELATED INTERMEDIATE COMPOUNDS THEREOF**

**337-TA-604**

**PUBLIC MAILING LIST**

Heather Hall  
**LEXIS - NEXIS**  
9443 Springboro Pike  
Miamisburg, OH 45342

( ) Via Hand Delivery  
 Via Overnight Mail  
( ) Via First Class Mail  
( ) Other: \_\_\_\_\_

Kenneth Clair  
**THOMSON WEST**  
1100 - 13<sup>th</sup> Street NW, Suite 200  
Washington, DC 20005

( ) Via Hand Delivery  
 Via Overnight Mail  
( ) Via First Class Mail  
( ) Other: \_\_\_\_\_

**UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.**

**In the Matter of**

**CERTAIN SUCRALOSE, SWEETENERS  
CONTAINING SUCRALOSE, AND  
RELATED INTERMEDIATE  
COMPOUNDS THEREOF**

**Investigation No. 337-TA-604**

**NOTICE OF COMMISSION DETERMINATION NOT TO REVIEW AN INITIAL  
DETERMINATION FINDING SEVEN RESPONDENTS IN DEFAULT**

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission has determined not to review an initial determination ("ID") (Order No. 10) of the presiding administrative law judge ("ALJ") in the above-captioned investigation finding seven respondents in default, and to have waived their respective rights to appear, to be served with documents, and to contest the allegations at issue in the investigation.

**FOR FURTHER INFORMATION CONTACT:** Clint A. Gerdine, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-2310. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

**SUPPLEMENTARY INFORMATION:** This investigation was instituted on May 10, 2007, based upon a complaint filed on behalf of Tate & Lyle Technology Ltd. of London, United Kingdom ("Tate & Lyle") on April 6, 2007. The complaint alleged violation of subsection (a)(1)(B) of section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337) in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain

sucralose, sweeteners containing sucralose, and related intermediate compounds thereof by reason of infringement of various claims of United States Patent Nos. 5,470,969; 5,034,551; 4,980,463; 5,498,709; and 7,049,435.

On July 6, 2007, complainant filed a motion pursuant to Commission rule 210.16, 19 C.F.R. § 210.16, for an order to show cause and entry of a default judgment against seven respondents: Gremount International Co., Ltd.; Hebei Province Chemical Industry Academe; Hebei Research Institute of Chemical Industry; Lianyungang Natiprol (Int'l) Co., Ltd.; Ruland Chemistry Co., Ltd.; Shanghai Aurisco International Trading Co., Ltd.; and Zhongjin Pharmaceutical (Hong Kong) Co. The Commission investigative attorney supported the motion. On July 19, 2007, the ALJ issued a show cause order (Order No. 6) that required the seven respondents to show cause why they should not be held in default, having not responded to the complaint and notice of investigation or the motion for a show cause order. None of the seven respondents responded to Order No. 6.

On August 6, 2007, the ALJ issued the subject ID (Order No. 10), stating that the seven respondents did not respond to the complaint, notice of investigation, or the order to show cause. Consequently, the ALJ found the seven respondents in default, and pursuant to Commission rule 210.16(b)(3), 19 C.F.R. § 210.16(b)(3), to have waived their right to appear, to be served with documents, or to contest the allegations in the complaint. No petitions for review of the subject ID were filed. Accordingly, the Commission has determined not to review the ID.

This action is taken under the authority of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and of section 210.42 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.42).

By order of the Commission.



Marilyn R. Abbott  
Secretary to the Commission

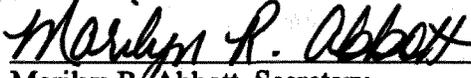
Issued: August 27, 2007

**CERTAIN SUCRALOSE, SWEETENERS CONTAINING  
SUCRALOSE, AND COMPONENTS THEREOF**

337-TA-604

**CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION DETERMINATION FINDING SEVEN RESPONDENTS IN DEFAULT** has been served by hand upon the Commission Investigative Attorney, Christopher G. Paulraj, Esq., and the following parties as indicated, on August 27, 2007.

  
Marilyn R. Abbott, Secretary  
U.S. International Trade Commission  
500 E Street, SW  
Washington, DC 20436

**ON COMPLAINANTS TATE & LYLE  
TECHNOLOGY LIMITED AND TATE & LYLE  
SUCRALOSE, INC.:**

Thomas L. Jarvis, Esq.  
**FINNEGAN HENDERSON  
FARABOW GARRETT & DUNNER**  
901 New York, Avenue, NW  
Washington, DC 20001-4413  
P-202-408-4000  
F-202-408-4400

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**ON BEHALF OF RESPONDENTS CHANGZHOU  
NIUTANG CHEMICAL PLANT CO., LTD.,  
GUANGDONG FOOD INDUSTRY INSTITUTE,  
GARUDA INTERNATIONAL CO., LTD.,  
L & P FOOD INGREDIENT CO., LTD.  
AND U.S. NIUTANG CHEMICAL, INC.: ON BEHALF  
OF RESPONDENTS CHANGZHOU  
NIUTANG CHEMICAL PLANT CO., LTD.,  
GUANGDONG FOOD INDUSTRY INSTITUTE,  
GARUDA INTERNATIONAL CO., LTD.,  
L & P FOOD INGREDIENT CO., LTD.  
AND U.S. NIUTANG CHEMICAL, INC.:**

Gary M. Hnath, Esq.  
**BINGHAM MCCUTCHEN LLP**  
2020 K Street, NW  
Washington, D.C. 20006  
P-202-373-6000  
F-202-373-6001

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**ON BEHALF OF RESPONDENT HEBEI SUKERUI  
SCIENCE AND TECHNOLOGY CO., LTD.:**

Marcia H. Sundeen, Esq.  
Michael M. Shen, Esq.  
**KENYON & KENYON LLP**  
1500 K Street, NW  
Suite 700  
Washington, DC 20005  
P-202-220-4200

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**ON BEHALF OF RESPONDENTS MTC  
INDUSTRIES, INC. AND NANTONG MOLECULAR  
TECHNOLOGY CO., LTD.:**

Kevin Tung, Esq.  
Kun Zhao, Esq.  
Yinan Wang, Esq.  
**KEVIN KERVENG TUNG, PC**  
33-70 Prince Street, CA-30  
Flushing, NY 11354  
P-718-939-4633  
F-718-939-4468

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**ON BEHALF OF RESPONDENT HEARTLAND  
PACKAGING CORPORATION:**

William L. O'Connor, #14925-22  
Jeffrey Kosc, #26234-49  
**DANN PECAR NEWMAN & KLEIMAN**  
One America Tower  
One American Square, Suite 2300  
Indianapolis, Indiana 46282  
P-317-632-3232  
F-317-632-2962

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**ON BEHALF OF RESPONDENT JK SUCRALOSE,  
INCORPORATED:**

Craig S. Smith, Esq.  
Maria Hamilton, Esq.  
Michael Warner Kallus, Esq.  
**FISH & RICHARDSON PC**  
225 Franklin Street  
Boston, MA 02110  
P-617-542-7070  
F-617-542-8906

- Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Ruffin B. Cordell, Esq.  
Jeffrey R. Whieldon, Esq.  
**FISH & RICHARDSON PC**  
1425 K Street, NW  
Washington, DC 20005  
P-202-783-5070  
F-202-783-2331

- Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**ON BEHALF OF RESPONDENTS BEIJING  
FORBEST CHEMICAL CO., LTD., BEIJING  
FORBEST TRADE CO., LTD., AND FORBEST  
INTERNATIONAL USA, LLC:**

Marcia H. Sundeen, Esq.  
Michael M. Shen, Esq.  
**KENYON & KENYON LLP**  
1500 K Street, NW  
Washington, DC 20005  
P-202-220-4200  
F-202-220-4201

- Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**RESPONDENTS:**

AIDP, Inc.  
17920 East Ajax Circle  
City of Industry, California 91748  
P-626-964-6910  
F-626-964-6739

- Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**RESPONDENTS CONT'D:**

CJ America, Inc.  
3470 Wilshire Blvd., Suite 930  
Los Angeles, California 90010  
P-213-427-5566  
F-213-380-5433

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Fortune Bridge Co., Inc.  
137 Meacham Ave  
Elmont, New York 11003

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Hebei Province Chemical Industry Academe,  
No. 18, Jianhua South Street  
Shijiazhuang City, Hebei Province  
People's Republic of China  
P-+86-311-85685290  
F-+86-311-85685290

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Hebei Research Institute of Chemical Industry,  
No. 18 South Jianhua Street  
Shijiazhuang, Hebei  
People's Republic of China  
P-+0086-0311-5085419  
F-+0086-0311-5051096

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Lianyungang Natiprol (Intl'l) Co., Ltd.  
17/F, Building A, Longhe Mansion No. 6,  
Cangwu Road, Xinpu, Lianyungang, Jiangsu  
People's Republic of China  
P+86-518-5836888  
F+86-518-5805599

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Nu-Scaan Nutraceuticals, Ltd.  
Waterside House, Waterside  
Macclesfield, Cheshire, SK11 7HG  
United Kingdom  
P-44-1625 574430  
F-44-1625-57613

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

ProFood International, Inc.  
40 Shuman Boulevard, Suite 160 Naperville, Illinois 60563  
P-630-428-2386  
F-630-527-9905

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**RESPONDENTS CONT'D:**

Shanghai Aurisco International  
Trading Co., Ltd.  
1603, 3 Building  
1555 North Kaixuan Road  
Shanghai, 200063  
People's Republic of China

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Vivion, Inc.  
929 Bransten Road  
San Carlos, California 94070  
P-650-595-3600  
F-650-595-2094

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Zhongjin Pharmaceutical (Hong Kong) Co., Ltd.  
RmB 12.F Wing On Cheong Bldg.  
5 Wing Lok Street  
Central, Hong Kong  
Hong Kong  
P-+852 25414983  
F-+852 25810771

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Gremount International Co., Ltd  
Rm. 2107, Plaza A, Freetown Center, No. 58  
South Road Dongsanhuan  
Chaoyang District, Beijing 100022  
People's Republic of China

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

Ruland Chemistry Co., Ltd.  
Rm. 1201 Heping Mansion  
No. 22 East Beijing Road  
Nanjing 210018  
People's Republic of China

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

