

## **APPENDIX F**

### **Certificates of Analysis for Steviol Glycoside Mixtures**



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## CERTIFICATE OF ANALYSIS

**NAME OF PRODUCT:** Steviol Glycoside A95  
**BATCH #:** PT010915  
**MANUFACTURING DATE:** 1<sup>st</sup> September 2015  
**SHELF LIFE:** 2 years from manufacturing date  
**MANUFACTURING CONDITIONS:** FSSC 22000  
**STORAGE CONDITIONS:** Cool, dry and ventilated area

PARAMETER	METHODS	SPECIFICATION	RESULT
Appearance	Sensory Evaluation	White to off-white powder	Approved
Taste and Odor	" "	Clean sweet taste with no abnormal odor	Approved
Absorbance, (370nm)	GB 8270-1999	≤0.1	0.063
Total Steviol Glycosides, % (anhydrous basis)	HPLC*	>95.0	96.90
Loss on Drying, %	JECFA Vol.4	≤6.0	1.01
pH, 1% solution	" "	4.5 - 7.0	5.81
Residual Ethanol, %	USP<467>	<0.30	0.079
Residual Methanol, %	" "	<0.02	Not Detected
Ash, %	AOAC 945.46	<1.0	<0.005
Lead (as Pb), ppm	AOAC 993.14	<1.0	0.036
Arsenic (as As), ppm	" "	<1.0	<0.005
Cadmium (as Cd), ppm	" "	<1.0	<0.005
Mercury (as Hg), ppm	" "	<1.0	<0.005
Total Plate Count, CFU/g	AOAC 966.23	<1000	Not Detected
Yeast, CFU/g	AS 1766.2.2	Not Detected	Not Detected
Mould, CFU/g	" "	Not Detected	Not Detected
Total Coliforms, MPN/g	ISO 4831	Not Detected	Not Detected
<i>E.coli</i> count, MPN/g	ISO 7251	Not Detected	Not Detected
Thermophilic acidophilic bacteria, CFU/g	JFJA 2007**	Not Detected	Not Detected
Guaiacol producing bacteria, CFU/g	" "	Negative in 1g	Negative
<i>S.aureus</i> , CFU/g	Chapter 12, FDA	Not Detected	Not Detected
<i>Salmonella</i> sp.	ISO 6579	Absent in 25g	Absent
<i>Listeria</i>	Chapter 10, FDA	Absent in 25g	Absent
Particle size, % (through US mesh #20)	Sieve Analysis	>95	Passed

\* "Steviol Glycosides" specification of FAO JECFA Monographs 10 (2010) additional Rebaudioside E, Rebaudioside O, Rebaudioside N and Rebaudioside M.

\*\*United Test Method for Thermo-Acidophilic Bacilli, Japan Fruit Juice Association, Jan-2007

Quality Assurance Department  
Date: 7<sup>th</sup> October 2015

Quality Assurance Department  
Date: 7<sup>th</sup> October 2015





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## CERTIFICATE OF ANALYSIS

**NAME OF PRODUCT:** Steviol Glycoside A95  
**BATCH #:** PT040915  
**MANUFACTURING DATE:** 4<sup>th</sup> September 2015  
**SHELF LIFE:** 2 years from manufacturing date  
**MANUFACTURING CONDITIONS:** FSSC 22000  
**STORAGE CONDITIONS:** Cool, dry and ventilated area

PARAMETER	METHODS	SPECIFICATION	RESULT
Appearance	Sensory Evaluation	White to off-white powder	Approved
Taste and Odor	" "	Clean sweet taste with no abnormal odor	Approved
Absorbance, (370nm)	GB 8270-1999	≤0.1	0.069
Total Steviol Glycosides, % (anhydrous basis)	HPLC*	>95.0	95.76
Loss on Drying, %	JECFA Vol.4	≤6.0	1.00
pH, 1% solution	" "	4.5 - 7.0	5.77
Residual Ethanol, %	USP<467>	<0.30	0.071
Residual Methanol, %	" "	<0.02	Not Detected
Ash, %	AOAC 945.46	<1.0	<0.005
Lead (as Pb), ppm	AOAC 993.14	<1.0	0.041
Arsenic (as As), ppm	" "	<1.0	<0.005
Cadmium (as Cd), ppm	" "	<1.0	<0.005
Mercury (as Hg), ppm	" "	<1.0	<0.005
Total Plate Count, CFU/g	AOAC 966.23	<1000	Not Detected
Yeast, CFU/g	AS 1766.2.2	Not Detected	Not Detected
Mould, CFU/g	" "	Not Detected	Not Detected
Total Coliforms, MPN/g	ISO 4831	Not Detected	Not Detected
<i>E.coli</i> count, MPN/g	ISO 7251	Not Detected	Not Detected
Thermophilic acidophilic bacteria, CFU/g	JFJA 2007**	Not Detected	Not Detected
Guaiacol producing bacteria, CFU/g	" "	Negative in 1g	Negative
<i>S.aureus</i> , CFU/g	Chapter 12, FDA	Not Detected	Not Detected
<i>Salmonella</i> sp.	ISO 6579	Absent in 25g	Absent
<i>Listeria</i>	Chapter 10, FDA	Absent in 25g	Absent
Particle size, % (through US mesh #20)	Sieve Analysis	>95	Passed

\* "Steviol Glycosides" specification of FAO JECFA Monographs 10 (2010) additional Rebaudioside E, Rebaudioside O, Rebaudioside N and Rebaudioside M.

\*\*United Test Method for Thermo-Acidophilic Bacilli, Japan Fruit Juice Association, Jan-2007

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## CERTIFICATE OF ANALYSIS

<b>NAME OF PRODUCT:</b>	<b>Steviol Glycoside A95</b>
<b>BATCH #:</b>	<b>PT180815</b>
<b>MANUFACTURING DATE:</b>	<b>18<sup>th</sup> August 2015</b>
<b>SHELF LIFE:</b>	<b>2 years from manufacturing date</b>
<b>MANUFACTURING CONDITIONS:</b>	<b>FSSC 22000</b>
<b>STORAGE CONDITIONS:</b>	<b>Cool, dry and ventilated area</b>

PARAMETER	METHODS	SPECIFICATION	RESULT
Appearance	Sensory Evaluation	White to off-white powder	Approved
Taste and Odor	" "	Clean sweet taste with no abnormal odor	Approved
Absorbance, (370nm)	GB 8270-1999	≤0.1	0.072
Total Steviol Glycosides, % (anhydrous basis)	HPLC*	>95.0	95.44
Loss on Drying, %	JECFA Vol.4	≤6.0	0.99
pH, 1% solution	" "	4.5 - 7.0	5.75
Residual Ethanol, %	USP<467>	<0.30	0.091
Residual Methanol, %	" "	<0.02	Not Detected
Ash, %	AOAC 945.46	<1.0	<0.005
Lead (as Pb), ppm	AOAC 993.14	<1.0	0.049
Arsenic (as As), ppm	" "	<1.0	<0.005
Cadmium (as Cd), ppm	" "	<1.0	<0.005
Mercury (as Hg), ppm	" "	<1.0	<0.005
Total Plate Count, CFU/g	AOAC 966.23	<1000	Not Detected
Yeast, CFU/g	AS 1766.2.2	Not Detected	Not Detected
Mould, CFU/g	" "	Not Detected	Not Detected
Total Coliforms, MPN/g	ISO 4831	Not Detected	Not Detected
<i>E.coli</i> count, MPN/g	ISO 7251	Not Detected	Not Detected
Thermophilic acidophilic bacteria, CFU/g	JFJA 2007**	Not Detected	Not Detected
Guaiacol producing bacteria, CFU/g	" "	Negative in 1g	Negative
<i>S.aureus</i> , CFU/g	Chapter 12, FDA	Not Detected	Not Detected
<i>Salmonella</i> sp.	ISO 6579	Absent in 25g	Absent
<i>Listeria</i>	Chapter 10, FDA	Absent in 25g	Absent
Particle size, % (through US mesh #20)	Sieve Analysis	>95	Passed

\* "Steviol Glycosides" specification of FAO JECFA Monographs 10 (2010) additional Rebaudioside E, Rebaudioside O, Rebaudioside N and Rebaudioside M.

\*\*United Test Method for Thermo-Acidophilic Bacilli, Japan Fruit Juice Association, Jan-2007

Quality Assurance Department  
Date: 7<sup>th</sup> October 2015

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## CERTIFICATE OF ANALYSIS

NAME OF PRODUCT: Steviol Glycoside A95  
BATCH #: PT240815  
MANUFACTURING DATE: 24<sup>th</sup> August 2015  
SHELF LIFE: 2 years from manufacturing date  
MANUFACTURING CONDITIONS: FSSC 22000  
STORAGE CONDITIONS: Cool, dry and ventilated area

PARAMETER	METHODS	SPECIFICATION	RESULT
Appearance	Sensory Evaluation	White to off-white powder	Approved
Taste and Odor	" "	Clean sweet taste with no abnormal odor	Approved
Absorbance, (370nm)	GB 8270-1999	≤0.1	0.025
Total Steviol Glycosides, % (anhydrous basis)	HPLC*	>95.0	95.03
Loss on Drying, %	JECFA Vol.4	≤6.0	1.26
pH, 1% solution	" "	4.5 - 7.0	5.87
Residual Ethanol, %	USP<467>	<0.30	0.072
Residual Methanol, %	" "	<0.02	Not Detected
Ash, %	AOAC 945.46	<1.0	<0.005
Lead (as Pb), ppm	AOAC 993.14	<1.0	0.039
Arsenic (as As), ppm	" "	<1.0	<0.005
Cadmium (as Cd), ppm	" "	<1.0	<0.005
Mercury (as Hg), ppm	" "	<1.0	<0.005
Total Plate Count, CFU/g	AOAC 966.23	<1000	Not Detected
Yeast, CFU/g	AS 1766.2.2	Not Detected	Not Detected
Mould, CFU/g	" "	Not Detected	Not Detected
Total Coliforms, MPN/g	ISO 4831	Not Detected	Not Detected
<i>E.coli</i> count, MPN/g	ISO 7251	Not Detected	Not Detected
Thermophilic acidophilic bacteria, CFU/g	JFJA 2007**	Not Detected	Not Detected
Guaiacol producing bacteria, CFU/g	" "	Negative in 1g	Negative
<i>S.aureus</i> , CFU/g	Chapter 12, FDA	Not Detected	Not Detected
<i>Salmonella</i> sp.	ISO 6579	Absent in 25g	Absent
<i>Listeria</i>	Chapter 10, FDA	Absent in 25g	Absent
Particle size, % (through US mesh #20)	Sieve Analysis	>95	Passed

\* "Steviol Glycosides" specification of FAO JECFA Monographs 10 (2010) additional Rebaudioside E, Rebaudioside O, Rebaudioside N and Rebaudioside M.

\*\*United Test Method for Thermo-Acidophilic Bacilli, Japan Fruit Juice Association, Jan-2007

Quality Assurance Department  
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## CERTIFICATE OF ANALYSIS

<b>NAME OF PRODUCT:</b>	<b>Steviol Glycoside A95</b>
<b>BATCH #:</b>	<b>PT280815</b>
<b>MANUFACTURING DATE:</b>	<b>28<sup>th</sup> August 2015</b>
<b>SHELF LIFE:</b>	<b>2 years from manufacturing date</b>
<b>MANUFACTURING CONDITIONS:</b>	<b>FSSC 22000</b>
<b>STORAGE CONDITIONS:</b>	<b>Cool, dry and ventilated area</b>

PARAMETER	METHODS	SPECIFICATION	RESULT
Appearance	Sensory Evaluation	White to off-white powder	Approved
Taste and Odor	" "	Clean sweet taste with no abnormal odor	Approved
Absorbance, (370nm)	GB 8270-1999	≤0.1	0.087
Total Steviol Glycosides, % (anhydrous basis)	HPLC*	>95.0	96.66
Loss on Drying, %	JECFA Vol.4	≤6.0	1.27
pH, 1% solution	" "	4.5 - 7.0	5.79
Residual Ethanol, %	USP<467>	<0.30	0.104
Residual Methanol, %	" "	<0.02	Not Detected
Ash, %	AOAC 945.46	<1.0	<0.005
Lead (as Pb), ppm	AOAC 993.14	<1.0	0.039
Arsenic (as As), ppm	" "	<1.0	<0.005
Cadmium (as Cd), ppm	" "	<1.0	<0.005
Mercury (as Hg), ppm	" "	<1.0	<0.005
Total Plate Count, CFU/g	AOAC 966.23	<1000	Not Detected
Yeast, CFU/g	AS 1766.2.2	Not Detected	Not Detected
Mould, CFU/g	" "	Not Detected	Not Detected
Total Coliforms, MPN/g	ISO 4831	Not Detected	Not Detected
<i>E.coli</i> count, MPN/g	ISO 7251	Not Detected	Not Detected
Thermophilic acidophilic bacteria, CFU/g	JFJA 2007**	Not Detected	Not Detected
Guaiacol producing bacteria, CFU/g	" "	Negative in 1g	Negative
<i>S.aureus</i> , CFU/g	Chapter 12, FDA	Not Detected	Not Detected
<i>Salmonella</i> sp.	ISO 6579	Absent in 25g	Absent
<i>Listeria</i>	Chapter 10, FDA	Absent in 25g	Absent
Particle size, % (through US mesh #20)	Sieve Analysis	>95	Passed

\* "Steviol Glycosides" specification of FAO JECFA Monographs 10 (2010) additional Rebaudioside E, Rebaudioside O, Rebaudioside N and Rebaudioside M.

\*\*United Test Method for Thermo-Acidophilic Bacilli, Japan Fruit Juice Association, Jan-2007

Quality Assurance Department  
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## CERTIFICATE OF ANALYSIS

( Report No.: SG90F2015-0007/2 )

PRODUCT NAME: Steviol Glycosides ( SG95 )

BATCH NO. : C1-002-0115-0007

MANUFACTURE DATE: Jan 06, 2015

EXPIRY DATE: 2 years from manufacturing date

STORAGE CONDITION: Keep in dry & ventilated place

PARAMETER	TEST METHOD	SPECIFICATION	TEST RESULT
Appearance	Sensory Evaluation	Off-white to white powder	Approved
Total Steviol Glycosides*, % (anhydrous basis)	JECFA 2010	≥95.0	96.39
—Rebaudioside A, %	JECFA 2010	≥50.0	57.88
Loss on Drying, %	JECFA Vol.4	≤6.0	4.59
Ash,%	JECFA Vol.4	<1.0	0.05
Solubility, %	JECFA Vol.4	Freely soluble	Approved
pH,1% in water	JECFA Vol.4	4.5~7.0	5.76
Residual Ethanol, %	USP<467>	<0.50	0.13
Residual Methanol, %	USP<467>	<0.02	Not Detected
Lead (as Pb)**, ppm	AOAC 993.14	<1.0	0.007
Arsenic (as As)**, ppm	AOAC 993.14	<1.0	0.015
Cadmium (as Cd)**, ppm	AOAC 993.14	<1.0	<0.005
Mercury (as Hg) **, ppm	AOAC 993.14	<1.0	<0.005
Total Plate Count***, CFU/g	Chapter 3, FDA	<1000	<250
Yeast & Mold***, CFU/g	Chapter 18, FDA	<200	Not Detected
Total Coliform***, MPN/g	Chapter 4, FDA	Not Detected	Not Detected
E. coli count***, MPN/g	Chapter 4, FDA	Not Detected	Not Detected
Salmonella sp.***	Chapter 5, FDA	Negative/25 g	Not Detected

**Note:**

\*15 Glycosides defined in "Steviol Glycosides"

\*\*Analyzed by ALS HK

\*\*\*Analyzed by SGS Xiamen, China.

Prepared by: [Redacted]

QC Department

Report Date: Aug 26, 2015



Reviewed by: [Redacted]



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## CERTIFICATE OF ANALYSIS

( Report No.: SG90F2015-0011/2 )

PRODUCT NAME: Steviol Glycosides ( SG95 )

BATCH NO. : C1-002-0115-0011

MANUFACTURE DATE: Jan 07, 2015

EXPIRY DATE: 2 years from manufacturing date

STORAGE CONDITION: Keep in dry & ventilated place

PARAMETER	TEST METHOD	SPECIFICATION	TEST RESULT
Appearance	Sensory Evaluation	Off-white to white powder	Approved
Total Steviol Glycosides*, % (anhydrous basis)	JECFA 2010	≥95.0	96.33
—Rebaudioside A, %	JECFA 2010	≥50.0	59.18
Loss on Drying, %	JECFA Vol.4	≤6.0	4.78
Ash,%	JECFA Vol.4	<1.0	0.04
Solubility, %	JECFA Vol.4	Freely soluble	Approved
pH,1% in water	JECFA Vol.4	4.5~7.0	6.08
Residual Ethanol, %	USP<467>	<0.50	0.17
Residual Methanol, %	USP<467>	<0.02	Not Detected
Lead (as Pb)**, ppm	AOAC 993.14	<1.0	0.008
Arsenic (as As)**, ppm	AOAC 993.14	<1.0	0.011
Cadmium (as Cd)**, ppm	AOAC 993.14	<1.0	<0.005
Mercury (as Hg) **, ppm	AOAC 993.14	<1.0	<0.005
Total Plate Count***, CFU/g	Chapter 3, FDA	<1000	<250
Yeast & Mold***, CFU/g	Chapter 18, FDA	<200	Not Detected
Total Coliform***, MPN/g	Chapter 4, FDA	Not Detected	Not Detected
E. coli count***, MPN/g	Chapter 4, FDA	Not Detected	Not Detected
Salmonella sp.***	Chapter 5, FDA	Negative/25 g	Not Detected

**Note:**

\*15 Glycosides defined in "Steviol Glycosides"

\*\*Analyzed by ALS HK

\*\*\*Analyzed by SGS Xiamen, China.

Prepared by: [REDACTED]

Reviewed by: [REDACTED]

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## CERTIFICATE OF ANALYSIS

( Report No.: SG90F2015-0026/2 )

PRODUCT NAME: Steviol Glycosides ( SG95 )

BATCH NO. : C1-002-0115-0026

MANUFACTURE DATE: Jan 21, 2015

EXPIRY DATE: 2 years from manufacturing date

STORAGE CONDITION: Keep in dry & ventilated place

PARAMETER	TEST METHOD	SPECIFICATION	TEST RESULT
Appearance	Sensory Evaluation	Off-white to white powder	Approved
Total Steviol Glycosides*, % (anhydrous basis)	JECFA 2010	≥95.0	96.32
—Rebaudioside A, %	JECFA 2010	≥50.0	58.71
Loss on Drying, %	JECFA Vol.4	≤6.0	4.89
Ash,%	JECFA Vol.4	<1.0	0.02
Solubility, %	JECFA Vol.4	Freely soluble	Approved
pH,1% in water	JECFA Vol.4	4.5~7.0	5.87
Residual Ethanol, %	USP<467>	<0.50	0.12
Residual Methanol, %	USP<467>	<0.02	Not Detected
Lead (as Pb)**, ppm	AOAC 993.14	<1.0	<0.005
Arsenic (as As)**, ppm	AOAC 993.14	<1.0	<0.005
Cadmium (as Cd)**, ppm	AOAC 993.14	<1.0	<0.005
Mercury (as Hg) **, ppm	AOAC 993.14	<1.0	<0.005
Total Plate Count***, CFU/g	Chapter 3, FDA	<1000	Not Detected
Yeast & Mold***, CFU/g	Chapter 18, FDA	<200	Not Detected
Total Coliform***, MPN/g	Chapter 4, FDA	Not Detected	Not Detected
E. coli count***, MPN/g	Chapter 4, FDA	Not Detected	Not Detected
Salmonella sp.***	Chapter 5, FDA	Negative/25 g	Not Detected

**Note:**

\*15 Glycosides defined in "Steviol Glycosides"

\*\*Analyzed by ALS HK

\*\*\*Analyzed by SGS Xiamen, China.

Prepared by: [REDACTED]

Reviewed by: [REDACTED]

QC Department

Report Date: Aug 26, 2015

