

d-Biotin

CERTIFICATE OF ANALYSIS

Productcode : 5011655
Lot No. : UE01501003
Analysis No. : 04419244

Test	Result	Limits / Specification	Dimension / Units
Appearance			
Appearance Visual inspection	crystalline powder	crystalline powder	
Visual Colour			
Colour Visual inspection	white	white	
Visual Colour of a solution 1pc			
in NaOH 0.1N Visual inspection	colourless	colourless	
Visual Clarity of a solution 1pc			
in NaOH 0.1N Visual inspection	clear	clear	
Melting Point			
Melting Point Ph. Eur.	231	229 to 232	°C
Specific Optical Rotation, 589 nm, 20°C			
C=1 in NaOH 0.1N (dried) Ph. Eur.	90.5	89.0 to 93.0	°
Identity			
Identity IR / Ph. Eur.	corresponds	corresponds	
Sulphated Ash			
Sulphated Ash Ph. Eur.	<0.1	max. 0.1	%
Heavy Metals			
Heavy metals ICP-AES / Ph. Eur.	<10	<10	ppm
Lead			
Lead ICP-AES / Ph. Eur.	<2	<2	ppm
Loss on drying			

d-Biotin

CERTIFICATE OF ANALYSIS

Productcode : 5011655
Lot No. : UE01501003
Analysis No. : 04419244

Test	Result	Limits / Specification	Dimension / Units
Loss on drying Ph. Eur.	0.25	max. 1.0	%
Residual solvents			
Ethanol GC / Ph. Eur.	229	max. 5000	ppm
Cyclohexane GC / Ph. Eur.	10	max. 50	ppm
Related substances			
Diamino derived HPLC I	0.08	max. 0.20	%
Biotinyl biotin HPLC I	<0.05	max. 0.50	%
Monobenzyl biotin HPLC I	<0.05	max. 0.50	%
Any unspecified impurity HPLC I and II	<0.10	max. 0.10	%
Total of the impurities HPLC I and II	0.08	max. 1.5	%
Assay (dried)			
d-Biotin HPLC I	100.0	98.5 to 100.5	%
Powder fineness			
Through sieve 20 USP Laser diffraction	100	100	%
Chlorides			
Chlorides Ph. Eur.	<0.047	<0.047	%
Sulphates			
Sulphates Ph. Eur.	<0.032	<0.032	%

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:

D-Biotin

GMO Statement

We hereby confirm that the product D-Biotin is manufactured by conventional processes** and therefore does not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

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Registration No: 827964482

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The Halal Food Council of Europe hereby certifies that the products listed below have met the Halal requirements in accordance with Islamic laws.

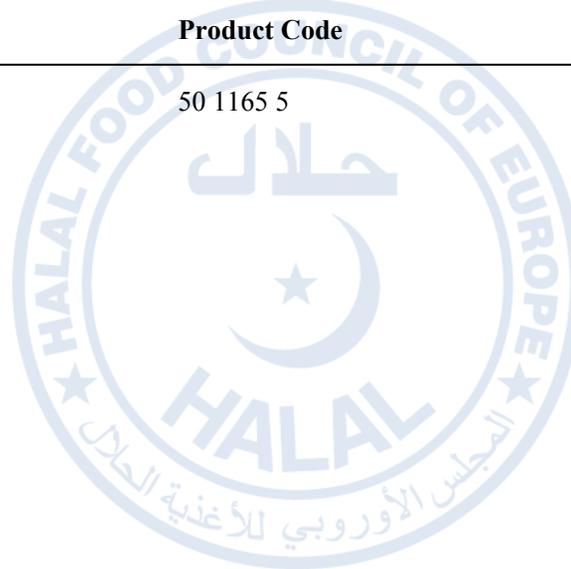
Date: November 16, 2016

Document #: 5256.5296.IH165718

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland

Plant Name & Address: **DSM Nutritional Products** 1 Boulevard d'Alsace Village Neuf, Alsace 68305 France

Product Name	Product Code	Halal-ID	Product Certificate #
D- Biotin	50 1165 5	A64117	HC-16DSW194




Iqbal Ahmed Qureshi
Director & Halal Administrator



This certificate is valid until **November 30, 2018** and subject to renewal at that time.



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D160129302HCP1E

Thu Jul 27 15:06:21 AST 2017

FOLIC ACID FOOD GRADE

CERTIFICATE OF ANALYSIS

Productcode : 5004357
 Lot No. : UT17010034
 Analysis No. : 03C00625

Test	Result	Limits / Specifications	Dimension / Units
Appearance visual	yellow powder	yellow powder yellowish-orange powder	
Identität HPLC	corresponds	corresponds	
Water KFR	7.4	5.0 to 8.5	%
Lead FCC	corresponds*	max. 2	ppm
Sulphated ash (residue on ignition) Ph.Eur.	0.0	max. 0.3	%
Related substances:			
- N-(4-aminobenzoyl)-L-glutamic acid HPLC	0.1	max. 0.5	%
- 2,5,6-Triaminopyrimidin-4(1H)-one HPLC	0.0	max. 0.5	%
- Pteric acid HPLC	0.0	max. 1.0	%
- Any other impurity HPLC	<0.5	max. 0.5	%
- Total of other impurities HPLC	0.5	max. 3.0	%
Assay (on anhydrous material) HPLC	99.7	95.0 to 102.0	%

*) checked at regular intervals

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

DSM Nutritional Products Ltd
 The Quality Assurance Manager



Zoehner Juergen

Folic Acid Food Grade

GMO Statement

We hereby confirm that the product Folic Acid Food Grade is manufactured by conventional processes** and therefore does not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

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Registration No: 827964482

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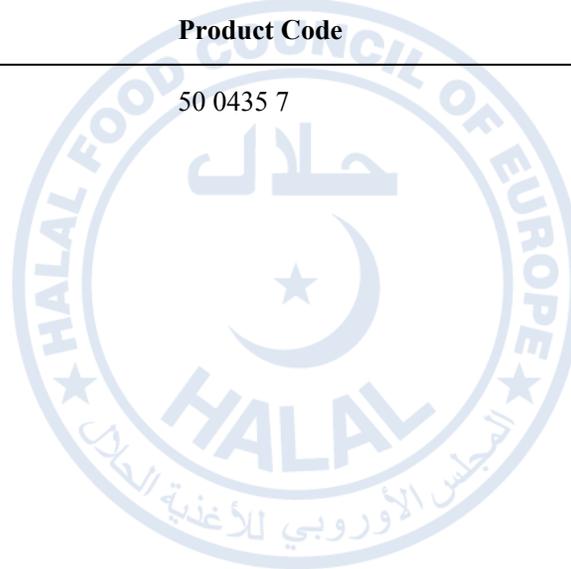
Date: November 16, 2016

Document #: 5256.5257.IH160731

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland

Plant Name & Address: **DSM Nutritional Products** Hauptstrasse 4 Sisseln, Aargau CH 4334 Switzerland

Product Name	Product Code	Halal-ID	Product Certificate #
Folic Acid Food Grade	50 0435 7	A95998	HC-16DS6E15




Iqbal Ahmed Qureshi
Director & Halal Administrator



This certificate is valid until **November 30, 2018** and subject to renewal at that time.



MEMBER

Page 1 of 1

D160129302HCP1E

Thu Jul 27 15:08:07 AST 2017

NIACINAMIDE

CERTIFICATE OF ANALYSIS

Productcode : 0487848
 Lot No. : OP11408005
 Analysis No. : 03A43491

Test	Result	Limits / Specifications	Dimension / Units
Heavy Metals USP (method II) of Niacinamide	<20	<= 20	ppm
Chloride Limit test JP	<70	<= 70	mg/kg
Sulfate Limit test JP	<190	<= 190	mg/kg
Readily carbonizable substances USP of Niacinamide	passes test	passes test	
Identification UV, JP/EP/USP of Niacinamide	corresponds	corresponds	
Identification NaOH, JP/EP of Niacinamide	corresponds	corresponds	
Identification IR, JP/EP/USP of Niacinamide	corresponds	corresponds	
Loss on drying Ph.Eur. of Nicotinamide	0.1	<= 0.5	% w/w
Lead Flame AAS	corresponds*	<= 2	ppm
Residual Solvents USP <467>	conforms	conforms	

*) checked at regular intervals

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:

USP,FCC,Ph.Eur.

DSM Nutritional Products Ltd
 The Quality Assurance Manager



Kreutzer Andrea

Niacinamide

GMO Statement

We hereby confirm that the product Niacinamide is manufactured by conventional processes** and therefore does not contain GMO-DNA.

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قد إستوفت شروط الحلال وفقاً للشريعة الإسلامية

The Halal Food Council of Europe hereby certifies that the products listed
below have met the Halal requirements in accordance with Islamic laws.

Date Document Issued:
December 1, 2016

Document No:
DSM.EN.5256.10052.160003.CN

Company Name & Address: **DSM Nutritional Products, Ltd.**
PO Box 2676
Postfach, Basel SWITZERLAND

Manufactured at: Lonza Guangzhou Nansha Ltd.
68 Huangge Dadaobei, Nansha District
511455 Guangzhou, Guangdong CHINA

Name of Product(s):
1. 04 8784 8 Niacinamide


Iqbal Ahmed Qureshi
Director & Halal Administrator



Valid until: **November 17, 2017**



D160129301HCP1E

CALCIUM D-PANTOTHENATE

CERTIFICATE OF ANALYSIS

Productcode : 0412678
 Lot No. : TL01408722
 Analysis No. : 06172544

Test	Result	Limits / Specifications	Dimension / Units
Appearance visual	free flowing powder	free flowing powder	
Colour visual	white	white	
Solution in Water (c = 5) visual	clear and colourless	clear and colourless	
pH (c = 5 in water) of 5% solution in water	6.8	6.8 to 8.0	
Alkalinity visual	corresponds*	no pink colouration	
Identity Calcium, rotation and chromatography Ca, rotation, chromatography	corresponds*	corresponds	
Identity Copper Sulphate	corresponds*	complies	
Specific Rotation (as dry) 589nm, 20deg, c=5	26.8	+25.5 to +27.5	deg.
Loss on Drying Ph. Eur.	2.3	0.0 to 3.0	%
Heavy Metals colourimetric comparison to Pb standard	corresponds*	0 to 10	ppm
Lead atomic absorption	corresponds*	0 to 2	ppm
Chloride turbidimetric comparison to standard	corresponds*	0 to 200	ppm
Alkaloids visual	corresponds*	no turbidity produced	
3-Aminopropionic Acid non-aqueous titration	0.17	0 to 0.5	%
Nitrogen content digestion/titration	5.9	5.7 to 6.0	%
Calcium content titration	8.3	8.2 to 8.6	%
Assay (as dry) non-aqueous titration	98.6	98.0 to 101.0	%
Dichloromethane Headspace GC	corresponds*	0 to 600	ppm
Methanol Headspace GC	corresponds*	0 to 3000	ppm

CALCIUM D-PANTOTHENATE

CERTIFICATE OF ANALYSIS

Productcode : 0412678
 Lot No. : TL01408722
 Analysis No. : 06172544

Test	Result	Limits / Specifications	Dimension / Units
Calcium Pantoate HPLC	0.77	0.0 to 0.80	%
Pantolactone HPLC	0.05	0.0 to 0.20	%
Methyl Pantothenate HPLC	0.02	0.0 to 0.15	%
Impurity 1 HPLC	0.07	0.0 to 0.15	%
Impurity 2 HPLC	0.13	0.0 to 0.15	%
Unspecified Impurities >0.10 percent HPLC	not present	not present	
Total Impurities HPLC	1.2	0.0 to 1.5	%
Microbiology			
Total Aerobic Microbial Count adapted Ph. Eur. 2.6.12	less than 10 ³ cfu/g	less than 10 ³ cfu/g	
Total combined Yeasts/Moulds adapted Ph. Eur. 2.6.12	less than 10 ² cfu/g	less than 10 ² cfu/g	
Enterobacteria Ph. Eur. 2.6.13	less than 10 ¹ cfu/g	less than 10 ¹ cfu/g	
Escherichia coli Ph. Eur. 2.6.13	negative in 10g	negative in 10g	
Salmonella spp. adapted Ph.Eur. 2.6.13	negative in 25g	negative in 25g	
Staphylococcus aureus Ph. Eur. 2.6.13	negative in 10g	negative in 10g	
Pseudomonas aeruginosa Ph. Eur. 2.6.13	negative in 10g	negative in 10g	

CALCIUM D-PANTOTHENATE

CERTIFICATE OF ANALYSIS

Productcode : 0412678
Lot No. : TL01408722
Analysis No. : 06172544

*) checked at regular intervals

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:

Ph.Eur. + USP + FCC

DSM Nutritional Products (UK) Ltd.
The Quality Assurance Manager



Strachan Fraser

Calcium D-Pantothenate

GMO Statement

We hereby confirm that the product Calcium D-Pantothenate is manufactured by conventional processes** and therefore does not contain GMO-DNA.

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**THE ASSESSMENT INSTITUTE FOR FOODS, DRUGS AND COSMETICS
INDONESIAN COUNCIL OF ULAMA**

Majelis Ulama Indonesia Building 3rd floor, Jl. Proklamasi No. 51, Lt. 3 Menteng Jakarta Pusat, Telp. 021 391.8890, 31902666, Fax. 3918915
Global Halal Centre, Jl. Pemuda no.5 Bogor 16161, Telp. 0251 8358748 (Hunting), Fax. 8358747



LETTER OF NOTIFICATION

KPP0105/SH/LPPOM MUI/VII/2017

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

The Assessment Institute for Foods, Drugs, and Cosmetics, the Indonesian Council of Ulama (AIFDC-ICU) / (LP POM MUI), hereby declare that the mentioned products below :

Kind of Product	Vitamin, Mineral and Other Nutrient
Name of Product	Attached
Name of Company	DSM Nutritional Products Ltd

are on going process to renewal halal certificate (number of 00180055730810) which expired in March 31, 2017. This statement is valid for **three (3) months** and it is stated truthfully to be used properly.

Date of Issue : July 20, 2017

Jakarta, July 20, 2017

Dr. Lukmanul Hakim, Msi

Director

** This letter doesn't require signature since automatically generated from the system*

Facility Name : **DSM NUTRITIONAL PRODUCTS UK LTD DALRY SITE**
Address : **DALRY AYRSHIRE**
KA24 5JJ SCOTLAND

No	Nama Produk
1	ASCORBIC ACID 0408050
2	ASCORBIC ACID FINE GRANULAR 0408093
3	ASCORBIC ACID ULTRA FINE POWDER 0408107
4	SODIUM ASCORBATE CRYSTALLINE 0408174
5	CALCIUM D-PANTOTHENATE 0412678
6	D-PANTHENOL 0413852
7	D-PANTHENOL 75 L 0416118
8	ASCORBIC ACID FINE POWDER 0422460
9	COATED ASCORBIC ACID TYPE EC 0425117
10	COATED ASCORBIC ACID TYPE FC 0440809
11	ETHYL PANTHENOL 0483575
12	SODIUM ASCORBATE 250 5006201
13	ASCORBIC ACID ULTRA FINE POWDER 5009766
14	DL PANTHENOL 50L 0480746

Jakarta, July 20, 2017

Dr. Lukmanul Hakim, Msi

Director

** This letter doesn't require signature since automatically generated from the system*

PYRIDOXINE HYDROCHLORIDE



CERTIFICATE OF ANALYSIS

Productcode : 0411604
Lot No. : UQ60613166
Analysis No. : 01A17988

Test	Result	Limits / Specifications	Dimension / Units
Appearance visual	Powder	Powder	
Colour visual	White	White Almost white	
Clarity of a solution 5 pc in water Ph.Eur.	Clear	Clear	
Colour of a solution 5 pc in water Ph.Eur.	Not more than Y7	Not more than Y7	
pH of a solution 5 pc in water Ph.Eur.	2.7	2.4 to 3.0	
Identity Ph.Eur.(test B,D)	Corresponds	Corresponds	
Loss on drying Ph.Eur.	0.03	max. 0.50	%
Sulphated ash Ph.Eur.	0.00	0.00 to 0.10	%
Heavy metals Ph.Eur.	≤20	≤20	ppm
Related substances (HPLC)			
Impurity A Ph.Eur.	<0.05	max. 0.10	%
Impurity B Ph.Eur.	<0.05	max. 0.10	%
Unspecified impurities (each) Ph.Eur.	<0.05	max. 0.10	%
Total impurities (disregard limit 0.05) Ph.Eur.	<0.05	max. 0.2	%
Chloride content (dried) USP	17.1	16.9 to 17.6	%
Assay (dried) Ph.Eur.	99.6	99.0 to 100.5	%
Residual solvents			
Acetone GC-Headspace	Corresponds*	≤5000	ppm
Lead AAS	Corresponds*	≤2	ppm

*)Checked at regular intervals

PYRIDOXINE HYDROCHLORIDE



CERTIFICATE OF ANALYSIS

Productcode : 0411604
Lot No. : UQ60613166
Analysis No. : 01A17988

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:

Ph.Eur. + USP + FCC

DSM Nutritional Products GmbH

The Quality Assurance Manager

A handwritten signature in black ink, appearing to read "Polley". The signature is written in a cursive, flowing style.

Rainer Polley

Pyridoxine Hydrochloride

GMO Statement

We hereby confirm that the product Pyridoxine Hydrochloride is manufactured by conventional processes** and therefore does not contain GMO-DNA.

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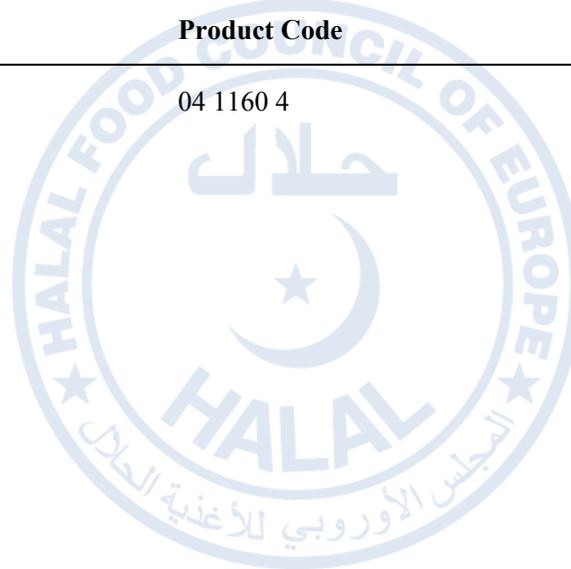
The Halal Food Council of Europe hereby certifies that the products listed below have met the Halal requirements in accordance with Islamic laws.

Date: November 16, 2016

Document #: 5256.5295.IH160384

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland
Plant Name & Address: **DSM Nutritional Products** Emil Barell Str. 3 Grenzach Wyhlen, Baden Wuerttemberg 79639 Germany

Product Name	Product Code	Halal-ID	Product Certificate #
Pyridoxine Hydrochloride	04 1160 4	B60217	HC-16DSZJ01




Iqbal Ahmed Qureshi
Director & Halal Administrator



This certificate is valid until **November 30, 2018** and subject to renewal at that time.



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D160129302HCP1E

Thu Jul 27 15:12:35 AST 2017

VITAMIN B12 0.1% WS

CERTIFICATE OF ANALYSIS

Productcode : 0429090
 Lot No. : UT16120034
 Analysis No. : 03B95607

Test	Result	Limits / Specifications	Dimension / Units
Appearance visual	powder	powder	
Colour visual	pink	pink	
Fineness (US Standard sieve) - through Sieve No. 40 / USP jet sieving	100	min. 98	%
Loss on drying 4h / 105°C	4	max. 4	%
Assay Vitamin B12 Photometer	0.11	min. 0.1	%
Identity for Vitamin B12 Photometer	corresponds	corresponds	
Solubility in water Solubility in water at 50°C	soluble	soluble	
Microbiological purity Total aerobic microbial count Ph.Eur.	<10 ³	<10 ³ 10 ³	CFU/g
Total combined yeast/moulds count Ph.Eur.	<10 ²	<10 ² 10 ²	CFU/g
Enterobacteria Ph.Eur.	<10	<10	CFU/g
Escherichia coli Ph.Eur.	negative in 10g	negative in 10g	
Salmonella spp. Ph.Eur.	negative in 25g	negative in 25g	
Staphylococcus aureus Ph.Eur.	negative in 10g	negative in 10g	
Pseudomonas aeruginosa Ph.Eur.	negative in 10g	negative in 10g	

VITAMIN B12 0.1% WS

CERTIFICATE OF ANALYSIS

Productcode : 0429090
Lot No. : UT16120034
Analysis No. : 03B95607

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

DSM Nutritional Products Ltd
The Quality Assurance Manager



BARTH GABRIELE

Vitamin B12 0.1% WS

GMO Statement

We hereby confirm that the active substance used for Vitamin B12 0.1% WS is manufactured by fermentation using a genetically modified micro-organism (GMM) under containment. It has been purified and does not contain any GMM or GMO-DNA.

With regard to the ingredients used in the application form of the active substance we hereby confirm that they are manufactured by conventional processes** and are not produced from GMOs. They do not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

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Registration No: 827964482

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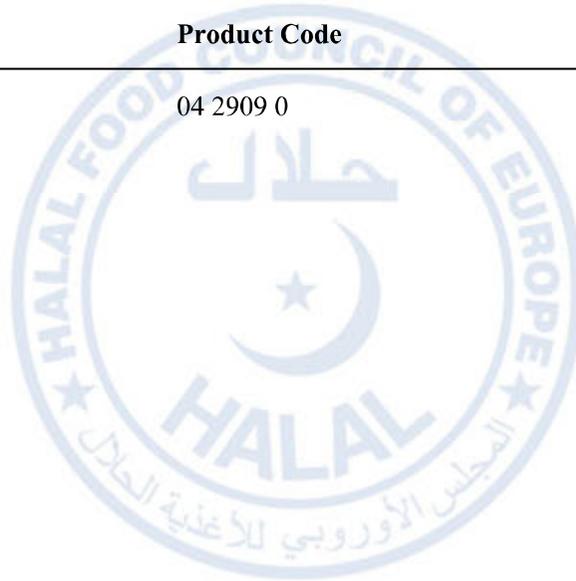
Date: November 16, 2016

Document #: 5256.5257.IH160822

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland

Plant Name & Address: **DSM Nutritional Products** Hauptstrasse 4 Sisseln, Aargau CH 4334 Switzerland

Product Name	Product Code	Halal-ID	Product Certificate #
Vitamin B12 0.1% WS	04 2909 0	A96039	HC-16DS6P16




Iqbal Ahmed Qureshi
Director & Halal Administrator



This certificate is valid until **November 30, 2018** and subject to renewal at that time.



Page 1 of 1

ASCORBIC ACID

CERTIFICATE OF ANALYSIS

Productcode : 0408050
 Lot No. : TL01701285
 Analysis No. : 06191442

Test	Result	Limits / Specifications	Dimension / Units
Appearance visual	powder	powder	
Colour visual	white	white slightly yellow	
Solution in Water (c = 5) visual	clear and colourless	clear and colourless	
pH (c = 5 in water) of 5% solution in water	2.4	2.2 to 2.5	
Specific Rotation(c=10 in Water) (589nm, 20 deg.C, c=10)	20.9	20.5 to 21.5	0
Loss on Drying 105 deg, 4 hours	0.03	0.0 to 0.1	%
Identity IR, pH and Reduction of Cupric Tartrate	corresponds*	complies	
Sulfated Ash sulfated ash	corresponds*	max. 0.1	%
Heavy Metals colourimetric comparison to Pb standard	corresponds*	max. 10	ppm
Iron Atomic Absorption	corresponds*	max. 2	ppm
Copper Atomic Absorption	corresponds*	max. 5	ppm
Lead Atomic Absorption	corresponds*	max. 2	ppm
Zinc Atomic Absorption	corresponds*	max. 25	ppm
Arsenic colourimetric comparison to As standard	corresponds*	max. 3	ppm
Mercury Atomic Absorption	corresponds*	max. 1	ppm
Oxalic Acid turbidimetric comparison to standard	corresponds*	max. 0.2	%
Assay iodine titration	99.4	99.0 to 100.5	%
Sieve Test through USP 20 (850u) air jet sieve	100	100 to 100	%

ASCORBIC ACID

CERTIFICATE OF ANALYSIS

Productcode : 0408050

Lot No. : TL01701285

Analysis No. : 06191442

Test	Result	Limits / Specifications	Dimension / Units
through USP 100 (150u) air jet sieve	19	0 to 70	%
through USP 200(75u) air jet sieve	2	0 to 20	%
Ethanol headspace GC	corresponds*	max. 120	ppm
Methanol headspace GC	corresponds*	max. 60	ppm
Related Impurities			
Impurity C by HPLC	0.04	max. 0.15	%
Impurity D by HPLC	0.01	max. 0.15	%
Unspecified Impurities >0.10 percent by HPLC	not present	not present	
Total Other than C and D by HPLC	0.10	max. 0.2	%

*) checked at regular intervals

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:

USP + FCC + Ph. Eur.

DSM Nutritional Products (UK) Ltd.

The Quality Assurance Manager



Strachan Fraser

Ascorbic Acid

GMO Statement

We hereby confirm that the product Ascorbic Acid is manufactured by conventional processes** and therefore does not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

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The Halal Food Council of Europe hereby certifies that the products listed below have met the Halal requirements in accordance with Islamic laws.

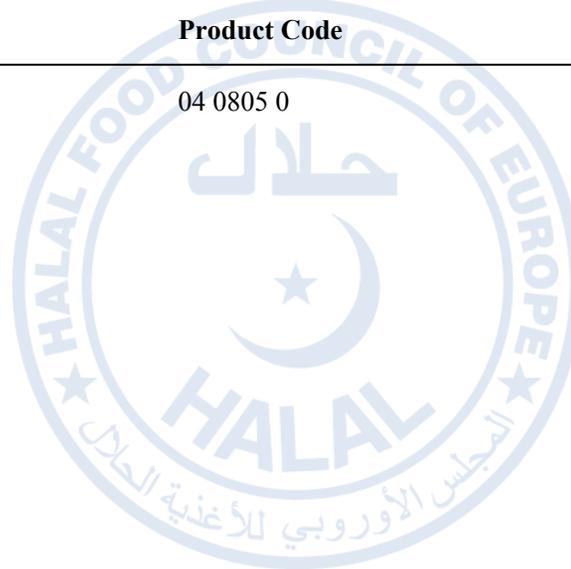
Date: November 16, 2016

Document #: 5256.5293.IH162679

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland

Plant Name & Address: **DSM Nutritional Products Ltd.** Drakemyre Dalry, Scotland KA24 5JJ UK

Product Name	Product Code	Halal-ID	Product Certificate #
Ascorbic Acid	04 0805 0	B15678	HC-16DSX410




Iqbal Ahmed Qureshi
Director & Halal Administrator



This certificate is valid until **November 30, 2018** and subject to renewal at that time.



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D160129302HCP1E

Thu Jul 27 15:28:18 AST 2017

NIACINAMIDE

CERTIFICATE OF ANALYSIS

Productcode : 0487848
 Lot No. : OP11408005
 Analysis No. : 03A43491

Test	Result	Limits / Specifications	Dimension / Units
Appearance visual	crystalline powder	crystalline powder	
Colour visual	white	white	
Assay HPLC	99.7	99.0 to 101.0	% w/w
Related Substances:			
Nicotinic acid HPLC	<0.03	max. 0.10	% w/w
3-cyanopyridine HPLC	<0.03	max. 0.10	% w/w
Any unknown impurity HPLC	<0.05	max. 0.10	% w/w
Total impurity HPLC	<0.0	< 1.0	% w/w
pH of solution Ph.Eur. of Nicotinamide	6.4	6.0 to 7.5	
Clarity of solution Ph.Eur. of Nicotinamide	0.22	<= 3.00	NTU
Colour values (CIELAB) L* Colour Instrument Measurement	100.1	90.0 to 101.0	
Colour values (CIELAB) a* Colour Instrument Measurement	0.0	-10.0 to 10.0	
Colour values (CIELAB) b* Colour Instrument Measurement	0.1	-10.0 to 10.0	
Colour of solution (calc./BY) Ph.Eur. of Nicotinamide	>7	>= 7	
Water Karl Fischer	0.04	<= 0.10	% w/w
melting range start.point Ph.Eur. of Nicotinamide	129.3	128.0 to 131.0	°C
melting range end.point Ph.Eur. of Nicotinamide	129.5	128.0 to 131.0	°C
Particle Size Fraction			
min. 50 µm sieve analysis	100	>= 90.0	% w/w
min. 250 µm sieve analysis	1	<= 8.0	% w/w
Sulphated ash Ph.Eur. of Nicotinamide	0.05	<= 0.10	% w/w

Niacinamide

GMO Statement

We hereby confirm that the product Niacinamide is manufactured by conventional processes** and therefore does not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

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قد إستوفت شروط الحلال وفقاً للشريعة الإسلامية

The Halal Food Council of Europe hereby certifies that the products listed
below have met the Halal requirements in accordance with Islamic laws.

Date Document Issued:
December 1, 2016

Document No:
DSM.EN.5256.10052.160003.CN

Company Name & Address: **DSM Nutritional Products, Ltd.**
PO Box 2676
Postfach, Basel SWITZERLAND

Manufactured at: Lonza Guangzhou Nansha Ltd.
68 Huangge Dadaobei, Nansha District
511455 Guangzhou, Guangdong CHINA

Name of Product(s):
1. 04 8784 8 Niacinamide


Iqbal Ahmed Qureshi
Director & Halal Administrator



Valid until: **November 17, 2017**



D160129301HCP1E

DRY VITAMIN A PALMITATE 250 S/N

CERTIFICATE OF ANALYSIS

Productcode : 5012554
Lot No. : UE01605073
Analysis No. : 04456869

Test	Result	Limits / Specification	Dimension / Units
Salmonella spp.	negative	negative	in 25g
Staphylococcus aureus	negative	negative	in 10g
Pseudomonas aeruginosa	negative	negative	in 10g

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:
USP, FCC and Ph.Eur.

DSM Nutritional Products France SAS
The Quality Assurance Manager



Philippe Duclos

DRY VITAMIN A PALMITATE 250 S/N

CERTIFICATE OF ANALYSIS

Productcode : 5012554
Lot No. : UE01605073
Analysis No. : 04456869

Test	Result	Limits / Specification	Dimension / Units
Appearance			
Appearance	fine powder	fine powder	
Visual Colour			
Colour	light yellow	light yellow beige light brown	
Dispersibility in water at 20°C			
Test	dispersible	dispersible	
Loss on drying			
Loss on drying	3	max. 5	%
Sulphated Ash			
Residue on ignition	1	max. 5	%
Fineness (US standard)			
through sieve 30 USP	100	min. 100	%
through sieve 50 USP	100	min. 98	%
through sieve 60 USP	99	min. 90	%
through sieve 100 USP	88	min. 45	%
Assay Vitamin A			
HPLC	284000	min. 250000	IU/g
Identity for Vitamin A Palmitate			
HPLC	corresponds	corresponds	
Identity for BHT			
TLC	corresponds	corresponds	
Microbiological purity			
Total aerobic microbial count	<10 ³	<10 ³ 10 ³	CFU/g
Total combined yeast/moulds count	<10 ²	<10 ² 10 ²	CFU/g
Enterobacteria	<10	<10	CFU/g
Escherichia coli	negative	negative	in 10g

Product Information

Dry Vitamin A Palmitate 250 S/N

GMO Statement

We hereby confirm that the active substance is manufactured by conventional processes¹ and does not contain GM organisms. It does not fall under the scope of Regulation (EC) 1829/2003² or under the scope of Regulation (EC) 1830/2003².

The active substance in the above-named product does not require labelling as a GMO as defined in the regulations mentioned above, either as a food or feed ingredient in its own right or when incorporated into intermediate or final products.

With regard to the formulation ingredients used in the application form of this product, we hereby confirm that they are manufactured using conventional processes¹ and that they are not produced from GMOs. The ingredients do not contain GMOs. They do not fall under the scope of Regulations (EC) 1829/2003² and 1830/2003².

Traceability is established for all ingredients for which genetically modified counterparts exist.

¹ The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

² The following legislation, including its subsequent amendments, is important in the control of the use of Genetically Modified Organisms in food and feed:

Regulation (EC) 1829/2003 on Genetically Modified Food and Feed.

Regulation (EC) 1830/2003 concerning the traceability and labelling of GMOs and the traceability of food and feed products produced from GMOs.

Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms and repealing Council

Directive 90/220/EEC.

Directive 2009/41/EC on the contained use of genetically modified micro-organisms.

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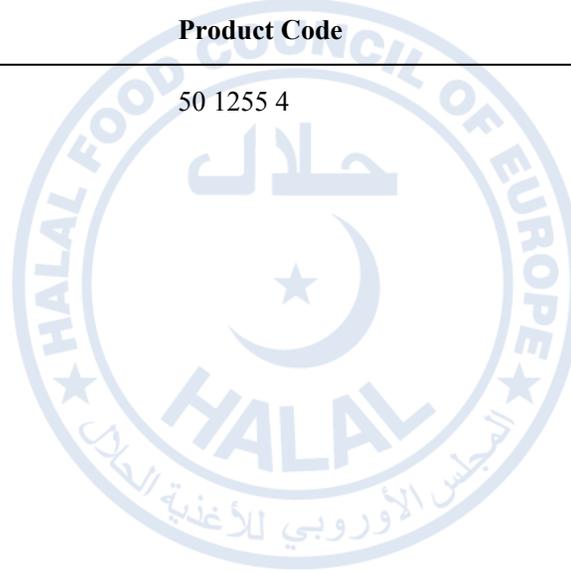
Date: November 16, 2016

Document #: 5256.5296.IH165732

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland

Plant Name & Address: **DSM Nutritional Products** 1 Boulevard d'Alsace Village Neuf, Alsace 68305 France

Product Name	Product Code	Halal-ID	Product Certificate #
Dry Vitamin A Palmitate 250 S/N	50 1255 4	A18176	HC-16DSFN19




Iqbal Ahmed Qureshi
Director & Halal Administrator



This certificate is valid until **November 30, 2018** and subject to renewal at that time.



Page 1 of 1

DRY VITAMIN D3 100 SD/S

CERTIFICATE OF ANALYSIS

Productcode : 5010950
 Lot No. : UT17010022
 Analysis No. : 03C01159

Test	Result	Limits / Specifications	Dimension / Units
Appearance visual	free flowing particles	free flowing particles	
Colour visual	yellowish	off-white yellowish	
Fineness (US Standard sieve): - through sieve No. 80 / USP jet sieving	99	min. 95	%
Dispersibility in water Dispersibility in water at 20°C	passes test	passes test	
Loss on drying Halogen moisture Analysis	4	max. 6	%
Identity for Vitamin D3 TLC	corresponds	corresponds	
Identity for Tocopherol TLC	corresponds	corresponds	
Identity for Sodium Ascorbate HPLC	corresponds	corresponds	
Assay Vitamin D3 HPLC	106679	100000 to 110000	I.U./g
Microbiological purity			
Total aerobic microbial count Ph.Eur.	<10 ³	<10 ³ 10 ³	CFU/g
Total combined yeast/moulds count Ph.Eur.	<10 ²	<10 ² 10 ²	CFU/g
Enterobacteria Ph.Eur.	<10	<10	CFU/g
Escherichia coli Ph.Eur.	negative in 10g	negative in 10g	
Salmonella spp. Ph.Eur.	negative in 25g	negative in 25g	
Staphylococcus aureus Ph.Eur.	negative in 10g	negative in 10g	
Pseudomonas aeruginosa Ph.Eur.	negative in 10g	negative in 10g	

DRY VITAMIN D3 100 SD/S

CERTIFICATE OF ANALYSIS

Productcode : 5010950
Lot No. : UT17010022
Analysis No. : 03C01159

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:
USP, FCC and Ph.Eur.

DSM Nutritional Products Ltd
The Quality Assurance Manager



BARTH GABRIELE

Dry Vitamin D3 100 SD/S

GMO Statement

We hereby confirm that the active substance used for Dry Vitamin D3 100 SD/S is manufactured by conventional processes** and does not contain GMO-DNA.

With regard to the ingredients used in the application form of the active substance we hereby confirm that they are manufactured by conventional processes** and are not produced from GMOs. They do not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

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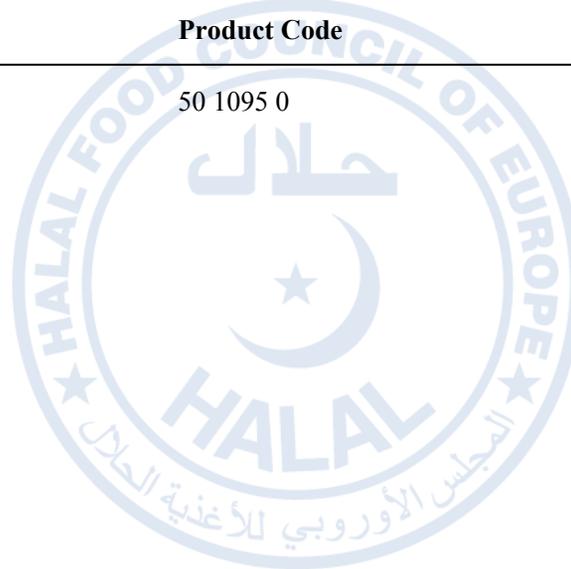
Date: November 16, 2016

Document #: 5256.5257.IH160711

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland

Plant Name & Address: **DSM Nutritional Products** Hauptstrasse 4 Sisseln, Aargau CH 4334 Switzerland

Product Name	Product Code	Halal-ID	Product Certificate #
Dry Vitamin D3 100 SD/S	50 1095 0	B79113	HC-16DSYJ16




Iqbal Ahmed Qureshi
Director & Halal Administrator



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D160129302HCP1E

Thu Jul 27 15:30:03 AST 2017

VITAMINE E 50% CWS/S

CERTIFICATE OF ANALYSIS

Productcode : 5012740
Lot No. : UE01612235
Analysis No. : 04472054

Test	Result	Limits / Specification	Dimension / Units
Appearance			
Appearance	powder	powder	
Visual Colour			
Colour	slightly yellowish	white slightly yellowish	
Loss on drying			
Loss on drying	2	max. 3	%
Dispersibility in water at 5°C			
Test	satisfactory	satisfactory	
Fineness (laser diffraction)			
through sieve 80 USP	87	min. 60	%
Vitamin E assay (GC)			
DI-alpha-tocopheryl acetate assay	53.3	min. 50	%
Microbiological purity			
Total aerobic microbial count	<10 ³	<10 ³ 10 ³	CFU/g
Total combined yeast/moulds count	<10 ²	<10 ² 10 ²	CFU/g
Enterobacteria.	<10	<10 10	CFU/g
Escherichia coli	negative	negative	in 10g
Salmonella spp.	negative	negative	in 25g
Staphylococcus aureus	negative	negative	in 10g
Pseudomonas aeruginosa	negative	negative	in 10g

This lot was analysed and released by our authorized Quality Control Department and was found to meet the specifications as given above.

The product meets all requirements of the following valid compendia when tested accordingly:
USP and Ph.Eur.

DSM Nutritional Products France SAS
 The Quality Assurance Manager

VITAMINE E 50% CWS/S

CERTIFICATE OF ANALYSIS

Productcode : 5012740
Lot No. : UE01612235
Analysis No. : 04472054



Davullu Sevcan

Dry Vitamin E 50% CWS/S

GMO Statement

We hereby confirm that the active substance used for Dry Vitamin E 50% CWS/S is manufactured by conventional processes** and does not contain GMO-DNA.

With regard to the ingredients used in the application form of the active substance we hereby confirm that they are manufactured by conventional processes** and are not produced from GMOs. They do not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

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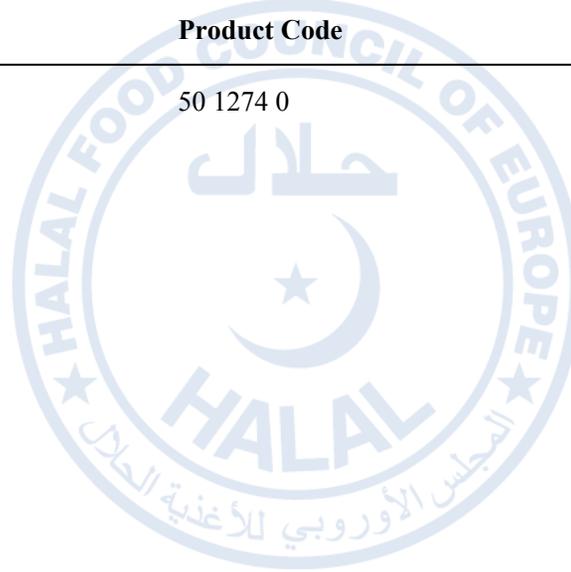
Date: November 16, 2016

Document #: 5256.5296.IH165740

Company Name & Address: **DSM Nutritional Products, Ltd.** PO Box 2676 Postfach, Basel City CH 40020 Switzerland

Plant Name & Address: **DSM Nutritional Products** 1 Boulevard d'Alsace Village Neuf, Alsace 68305 France

Product Name	Product Code	Halal-ID	Product Certificate #
Dry Vitamin E 50% CWS/S	50 1274 0	A25711	HC-16DSDM49




Iqbal Ahmed Qureshi
 Director & Halal Administrator



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