

ASCORBIC ACID

CERTIFICATE OF ANALYSIS

Productcode : 0408050
 Lot No. : TL01609121
 Analysis No. : 06188336

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)	20.8	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	100.1	99.0 to 100.5	%
Sieve Test through USP 20 (850u) air jet sieve	100	100 to 100	%

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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	0.02	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	0.00	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



Allied Biotech Corporation

13th Fl., No. 71, Tun Hwa S. Rd., Sec. 2,
Taipei, Taiwan 106
Tel: 886-2-2703-0209
Fax: 886-2-2703-0289

Certificate of Analysis

Product: Altratene 10% WSC/S
Lot No.: 8BP10S231608
Manufacturing Date: Aug. 16, 2016
Expiration Date: Aug. 16, 2019
Storage: In a Cool Place (Below 15°C)
Issue Date: Aug. 29, 2016

Test Items	Specification	Results
Appearance	Fine Redish Orange Powder	Fine Redish Orange Powder
β-Carotene Content	Min. 10%	10.8%
Color Intensity	Min. 100	118
Loss on Drying	Max. 5%	3.6%
Heavy Metals (as Pb)	Max. 5ppm	< 5ppm
Total Plate Count	Max. 1.0 x 10 ³ CFU/g	< 100CFU/g

The product is safe for its intended purpose.

Approved by:

Shih-Ying Sun

Quality Assurance

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.

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <http://webshop.dsm.com> for latest version of this document or the latest information.



HFCE

Halal Food Council of Europe المجلس الأوروبي للأغذية الحلال

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Registration No: 827964482

HALAL CERTIFICATE شهادة حلال

المجلس الأوروبي للأغذية الحلال يشهد بأن المنتجات المذكورة أدناه 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.

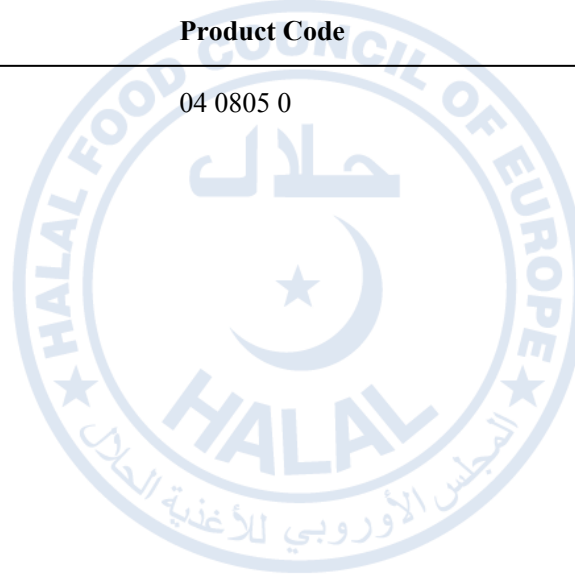
Date: November 16, 2016

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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