SAFETY DATA SHEET

1. Identification

Product identifier **CENTRUM AGE DEFY MEN'S MULTIVITAMIN (FN-2357-0003)**

Other means of identification

Product code FN-2357-0003

Synonyms FN-2357-0003

Recommended use This safety data sheet is written to provide health, safety and environmental information for people handling this formulated product in the workplace. It is not intended to provide information relevant to medicinal use of the product. In this instance patients should consult prescribing information/package insert/product label or consult their pharmacist or physician. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate safety data sheet for each ingredient.

Consumer Healthcare Product

Dietary Supplement

Recommended restrictions No other uses are advised.

Manufacturer/Importer/Supplier/Distributor information

COMPANY NAME Haleon PLC

Address: 184 Liberty Corner Road, Suite 200
Warren, NJ 07059 USA

Telephone: +1-908-293-4000 (General Inquiries)

Email: msds@haleon.com

Website: www.haleon.com

EMERGENCY CONTACTS

3E GLOBAL INCIDENT RESPONSE

Telephone: +(1) 760 476 3971 (In country)
+(1) 760 476 3962 or +(1) 866 519 4752 (International)
24/7; multi-language response

Contract Number: 335879

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 3
Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Avoid release to the environment.

Response Not available.

Storage Not available.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	32.9927% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 32.9927% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
CALCIUM CARBONATE	CARBONIC ACID, CALCIUM SALT CALCIUM MONOCARBONATE PRECIPITATED CALCIUM CARBONATE CHALK	471-34-1	50 - < 60
MAGNESIUM OXIDE	GI197895X MAGNESIA MAGNESIUM MONOXIDE CALCINED MAGNESIA CALCINATED MAGNESIA CAUSTIC MAGNESITE MAGNESA PREPRATA MAGNESIUM (II) OXIDE SYNTHETIC PERICLASE BURNT MAGNESIA LIGHT MAGNESIA OXIDO DE MAGNESIO ÓXIDO DE MAGNESIO,	1309-48-4	10 - < 20
MICROCRYSTALLINE CELLULOSE	AVICEL PH MICROCRYSTALLINE CELLULOSE ALPHA-CELLULOSE AVICEL PH101 AVICEL PH102 AVICEL PH103 AVICEL PH105 AVICEL PH112 AVICEL PH200 AVICEL 1030W CELLULOSE (8CI9CI) CELLULOSE CRYSTALLINE CELLULOSE, FOOD GRADE CELPHERE CP203 CEOLUS KG-802 CRYSTALLINE CELLULOSE VIVAPUR VIVAPUR 101 VIVAPUR 102 VIVAPUR 112 VIVAPUR 200	9004-34-6	10 - < 20
L-ASCORBIC ACID	VITAMIN C L-XYLOASCORBIC ACID ASCORBUTINA ANTISCORBUTIC VITAMIN CEVITAMIC ACID ASCORIN (+)-ASCORBIC ACID L-(+)-ASCORBIC ACID L-LYXOASCORBIC ACID 3-KETO-L-GULOFURANOLACTONE L-THREO-HEX-2-ENONIC ACID, GAMA-LACTONE L-3-KETOTHREOHEXURONIC ACID LACTONE 3-OXO-L-GULOFURANOLACTONE	50-81-7	3 - < 5
RESVERATROL	RESVERATROL TRANS-3,4',5-TRIHYDROXYSTILBENE 5-[(E)-2-(4-HYDROXYPHENYL)ETHENYL]-1,3-BENZENEDIOL GR184072X	501-36-0	3 - < 5

Chemical name	Common name and synonyms	CAS number	%
CROSCARMELLOSE SODIUM	AC-DI-SOL (R) SODIUM CROSCARMELLOSE AC-DI-SOL (R) CROSCARMELLOSE SODIUM AC-DI-SOL (R) SD-711	74811-65-7	1 - < 3
HYDROXYPROPYL CELLULOSE	CELLULOSE, 2-HYDROXYPROPYL ETHER CELLULOSE HYDROXYPROPYL ETHER 2-HYDROXYPROPYL CELLULOSE HYDROXYPROPYL CELLULOSE ETHER HYDROXYPROPYL ETHER OF CELLULOSE OXYPROPYLATED CELLULOSE KLUCEL HYDROPROPYL CELLULOSE	9004-64-2	1 - < 3
STARCH	ARROWROOT STARCH CORN STARCH CORN STARCH 400-L NF MAIZE STARCH POTATO STARCH PREGELATINIZED STARCH NF RICE STARCH STARCH 1500	9005-25-8	1 - < 3
TOCOPHEROL ACETATE	VITAMIN E ACETATE ALFACOL COMBINAL E CONTOPHERON ECOFROL E-FEROL EPHYNAL ACETATE TOCOPHEREX D-ALPHA-TOCOPHEROL ACETATE (R,R,R)-ALPHA-TOCOPHEROL ACETATE (+)-ALPHA-TOCOPHEROL ACETATE TOCOPHRIN TOFAXIN D-ALPHA-TOCOPHERYL ACETATE	58-95-7	1 - < 3
DL-ALPHA-TOCOPHERYL ACETATE	DL-ALPHA TOCOPHERYL ACETATE VITAMIN E ACETATE D,L-ALPHA-TOCOPHEROLACETAT DL-VITAMINE E ACETATE DL-.ALPHA.-TOCOPHERYL ACETATE DL--ALPHA-TOCOPHEROL ACETATE DL-.ALPHA.-TOCOPHEROL ACETATE 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-yl acetate [ENTRY 2]	7695-91-2	< 1
FERROUS FUMARATE	IRON FUMARATE	141-01-5	< 1
HYDROXYPROPYL METHYL CELLULOSE	2-Hydroxypropyl cellulose methyl ether METHOCEL K4M GONIOSOL ISOPRO ALKALINE METHOCEL E,F,K METHOCEL HG METHYL CELLULOSE PROPYLENE GLYCOL ETHER HYPROMELLOSE CELLULOSE, 2-HYDROXYPROPYL METHYL ESTER METHYLHYDROXYPROPYLCELLULOSE PHARMACOAT 603	9004-65-3	< 1
MAGNESIUM STEARATE	STEARIC ACID, MAGNESIUM SALT MAGNESIUM DISTEARATE DIBASIC MAGNESIUM STEARATE MAGNESIUM DISTEARATE, PURE	557-04-0	< 1

Chemical name	Common name and synonyms	CAS number	%
NICOTINAMIDE	AMINICOTIN 3-CARBOAMOYLPYRIDINE NIACINAMIDE NICOTONIC AMIDE VITAMIN B3	98-92-0	< 1
ZINC OXIDE	ZINC MONOXIDE	1314-13-2	< 1
BETA-CAROTENE	BETA, BETA-CAROTENE ß,ß-carotene PROVITAMIN A CI FOOD ORANGE 5 FOOD ORANGE 5 NATURAL YELLOW 26 C.I. Food Orange 5	7235-40-7	< 0.3
MANGANESE SULFATE	MANGANESE SULPHATE MANGANESE MONOSULFATE MANGANESE(II) SULFATE MANGANESE(II) SULPHATE MANGANESE SULFATE (1:1) MANGANESE SULFATE (MnSO4) MANGANESE(2+) SULFATE (1:1) MANGANESE(2+) SULFATE (MnSO4) SULFURIC ACID, MANGANESE(2+) SAL T OHS13650 RTECS OP1050000	7785-87-7	< 0.3
SILICON DIOXIDE	SILICA SILICA GEL AMORPHOUS SILICA DIATOMACEOUS EARTH SIDENT COLLOIDAL SILICON DIOXIDE SILICON DIOXIDE, CRYSTALLINE SILICON DIOXIDE, AMORPHOUS SILICA, AMORPHOUS HYDRATED	7631-86-9	< 0.3
BIOTIN	VITAMIN B7 VITAMIN H	58-85-5	< 0.1
CHOLECALCIFEROL (VITAMIN D3)	CALCIOL VITAMIN D3	67-97-0	< 0.1
CHROMIC CHLORIDE	CHROMIUM(III) CHLORIDE CHROMIUM TRICHLORIDE CHROMIUM CHLORIDE TRICHLOROCHROMIUM C.I. 77295 CHROMIUM CHLORIDE, ANHYDROUS CHROMIUM CHLORIDE (CrCl3) CHROMIC CHLORIDE (CrCl3) CHROMIC TRICHLORIDE CHROMIUM TRICHLORIDE (CrCl3) CHROMIUM (3+) CHLORIDE Cl3Cr OHS04950 RTECS GB5425000	10025-73-7	< 0.1
CUPRIC SULFATE	COPPER(II) SULFATE COPPER MONOSULFATE CUPRIC SULFATE ANHYDROUS CUPRIC SULPHATE RTECS GL8800000	7758-98-7	< 0.1
CYANOCOBALAMIN	VITAMIN B12 B-12	68-19-9	< 0.1

Chemical name	Common name and synonyms	CAS number	%
FERRIC OXIDE RED	IRON OXIDE (Fe2O3) C.I. 77491 C.I. PIGMENT RED 101 SICOVET RED 30 DIIRON TRIOXIDE IRON(III) OXIDE IRON OXIDE IRON(3+) OXIDE IRON OXIDE RED IRON SESQUIOXIDE IRON TRIOXIDE RED IRON OXIDE HEMATITE GAMMA-IRON OXIDE (Fe2O3)	1309-37-1	< 0.1
FOLIC ACID	BP-864 N-(4-(((2-AMINO-1,4-DIHYDRO-4-OXO-6 -PTERIDINYL)METHYL)AMINO)BENZOY L)-L -GLUTAMIC ACID PTEROYL-L-GLUTAMIC ACID PTEROYL-L-MONOGLUTAMIC ACID PGA	59-30-3	< 0.1
LUTEIN	BETA,EPSILON-CAROTENE-3,3'-DIOL, (3R,3'R,6'R)-	127-40-2	< 0.1
LYCOPENE	ALL-TRANS-LYCOPENE	502-65-8	< 0.1
MICA		12001-26-2	< 0.1
PHYLLOQUINONE	PHYTONADIONE VITAMIN K1 2-METHYL-3-(3,7,11,15-TETRAMETHYL- 2-HEXADECENYL)-1,4-NAPHTHALENE DIONE 2',3'-TRANS-VITAMIN K1 2-METHYL-3-PHYTYL-1,4-NAPHTHOQU INONE 3-PHYTYLMENADIONE ALPHA-PHYLLOQUINONE ANTIHEMORRHAGIC VITAMIN AQUAMEPHYTON PHYTOMENADIONE PHYTYLMENADIONE SYNTHEX P TRANS-PHYLLOQUINONE VITAMIN K1 (20) COMBINAL K1 K-JECT KATIV N KINADION KONAKION BP-872	84-80-0	< 0.1
POTASSIUM IODIDE	POTASSIUM MONOIODIDE IODIC ACID, POTASSIUM SALT	7681-11-0	< 0.1
PYRIDOXINE HYDROCHLORIDE	5-HYDROXY-6-METHYL-3,4-PYRIDINED IMETHANOL, HYDROCHLORIDE PYRIDOXOL, HYDROCHLORIDE PYRIDOXINE HYDROGEN CHLORIDE PYRIDOXINE MONOHYDROCHLORIDE VITAMIN B6 HYDROCHLORIDE	58-56-0	< 0.1
RIBOFLAVIN	RIBOFLAVINE VITAMIN B2 VITAMIN G FOOD YELLOW 15	83-88-5	< 0.1
SODIUM MOLYBDATE		7631-95-0	< 0.1
SODIUM SELENATE	SELENIC ACID, SODIUM SALT SELENIC ACID, DISODIUM SALT DISODIUM SELENATE P-40 SEL-TOX SSO2	13410-01-0	< 0.1
SPIRULINA EXTRACT	SPIRULINA PLATENSIS EXTRACT SPIRULINA PLATENSIS, EXT. SPIRULINA PLATENSIS POWDER	223751-80-2	< 0.1

Chemical name	Common name and synonyms	CAS number	%
STEARIC ACID	1-HEPTADECANECARBOXYLIC ACID OCTADECANOIC ACID STEAROPHANIC ACID N-OCTADECANOIC ACID	57-11-4	< 0.1
TALC, NON-ASBESTOS FORM	AGALITE CIRCRON MP CRYSTALITE CRS 6002 CROWN TALC W 83 CROWN TALC Z CUBIC MASTER DESERTALC 57 EMTAL 500 EMTAL 549 EMTAL 596 EMTAL 599 FIBRENE C 400 FINNTALC PF IT EXTRA MICRO ACE K1 MICRO ACE L1 MICRON WHITE 5000A MICRON WHITE 5000P MICRON WHITE 5000S MICROTALCO IT EXTRA MISTRON FROST P MISTRON STAR MISTRON SUPER FROST MUSSOLINITE NYTAL 200 NYTAL 400 POLYTAL 4641 POLYTAL 4725 SILICATE: TALC, CONTAINING NO ASBESTOS (OSHA) STEAWHITE SUPREME TALC (ACGIH) TALCAN PK-P TALCRON CP 44-31 TALCUM TALC - NON-ASBESTOS FORM	14807-96-6	< 0.1
THIAMINE MONONITRATE	THIAZOLIUM, 3-((4-AMINO-2-METHYL-5-PYRIMIDINYL)METHYL)-5-(2-HYDROXYETHYL)-4-METHYL-, NITRATE (SALT) 3-((4-AMINO-2-METHYL-5-PYRIMIDINYL)METHYL)-5-(2-HYDROXYETHYL)-4-METHYL -THIAZOLIUM NITRATE (SALT) VITAMIN B1 MONONITRATE	532-43-4	< 0.1
TITANIUM DIOXIDE	TITANIUM OXIDE TITANIUM(IV) OXIDE TITANIUM PEROXIDE (TiO2) PIGMENT WHITE 6	13463-67-7	< 0.1
Other components below reportable levels			1 - < 3

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Coughing.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent product from entering drains. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Haleon Exposure Limits

Components	Type	Value	Form
BETA-CAROTENE (CAS 7235-40-7)	OHC	2	>100 - ≤1000 mcg/m3 SKIN
BIOTIN (CAS 58-85-5)	OHC	1	
CALCIUM CARBONATE (CAS 471-34-1)	OHC	1	>1000 - </=5000 mcg/m3
CHOLECALCIFEROL (VITAMIN D3) (CAS 67-97-0)	8 HR TWA	0.2 mcg/m3	SKIN
	OHC	5	SKIN
CROSCARMELLOSE SODIUM (CAS 74811-65-7)	OHC	1	>1000 - </=5000 mcg/m3 PROVISIONAL
CUPRIC SULFATE (CAS 7758-98-7)	8 HR TWA	200 mcg/m3	
	OHC	2	
CYANOCOBALAMIN (CAS 68-19-9)	8 HR TWA	5 mg/m3	
	OHC	1	
DL-ALPHA-TOCOPHERYL ACETATE (CAS 7695-91-2)	OHC	1	>1000 - ≤5000 mcg/m3
FERRIC OXIDE RED (CAS 1309-37-1)	OHC	1	

Haleon Exposure Limits

Components	Type	Value	Form
FERROUS FUMARATE (CAS 141-01-5)	8 HR TWA	1000 mcg/m3	
	OHC	1	
FOLIC ACID (CAS 59-30-3)	OHC	3	>10 - ≤100 mcg/m3
HYDROXYPROPYL CELLULOSE (CAS 9004-64-2)	OHC	1	
HYDROXYPROPYL METHYL CELLULOSE (CAS 9004-65-3)	OHC	1	
L-ASCORBIC ACID (CAS 50-81-7)	8 HR TWA	5000 mcg/m3	
	OHC	1	
	PDE	8000 mcg/day	Parenteral, inhalation, oral
LUTEIN (CAS 127-40-2)	8 HR TWA	200 mcg/m3	
	OHC	2	
	PDE	2000 mcg/day	
LYCOPENE (CAS 502-65-8)	OHC	2	>100 - ≤1000 mcg/m3 SKIN
	PDE	600 mcg/day	Oral, Parenteral, Inhalation
MAGNESIUM OXIDE (CAS 1309-48-4)	OHC	1	
MANGANESE SULFATE (CAS 7785-87-7)	OHC	3	
NICOTINAMIDE (CAS 98-92-0)	8 HR TWA	1000 mcg/m3	
	OHC	1	
PHYLLOQUINONE (CAS 84-80-0)	8 HR TWA	20 mcg/m3	
	OHC	3	
	PDE	110 mcg/day	
POTASSIUM IODIDE (CAS 7681-11-0)	OHC	3	REPRODUCTIVE HAZARD
		3	PROVISIONAL
PYRIDOXINE HYDROCHLORIDE (CAS 58-56-0)	8 HR TWA	400 mcg/m3	
	OHC	2	
RESVERATROL (CAS 501-36-0)	OHC	3	PROVISIONAL
RIBOFLAVIN (CAS 83-88-5)	OHC	1	>1000 - </=5000 mcg/m3
SPIRULINA EXTRACT (CAS 223751-80-2)	8 HR TWA	560 mcg/m3	
	OHC	2	
	PDE	2800 mcg/day	Oral
THIAMINE MONONITRATE (CAS 532-43-4)	OHC	1	
TOCOPHEROL ACETATE (CAS 58-95-7)	OHC	1	>1000 - ≤5000 mcg/m3
ZINC OXIDE (CAS 1314-13-2)	OHC	2	

US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
FERRIC OXIDE RED (CAS 1309-37-1)	PEL	10 mg/m3	Fume.
MAGNESIUM OXIDE (CAS 1309-48-4)	PEL	15 mg/m3	Total particulate.
MANGANESE SULFATE (CAS 7785-87-7)	Ceiling	5 mg/m3	
MICROCRYSTALLINE CELLULOSE (CAS 9004-34-6)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
SODIUM MOLYBDATE (CAS 7631-95-0)	PEL	5 mg/m3	
SODIUM SELENATE (CAS 13410-01-0)	PEL	0.2 mg/m3	
STARCH (CAS 9005-25-8)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
TITANIUM DIOXIDE (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.
ZINC OXIDE (CAS 1314-13-2)	PEL	5 mg/m3	Respirable fraction.
		5 mg/m3	Fume.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 Permissible Exposure Limits (PEL) for Mineral Dusts (29 CFR 1910.1000)

Components	Type	Value	Form
FERRIC OXIDE RED (CAS 1309-37-1)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
MICA (CAS 12001-26-2)	TWA	20 mppcf	
SILICON DIOXIDE (CAS 7631-86-9)	TWA	0.8 mg/m3	
		20 mppcf	
TALC, NON-ASBESTOS FORM (CAS 14807-96-6)	TWA	0.1 mg/m3	Respirable.
		20 mppcf	
		2.4 mppcf	Respirable.
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
ZINC OXIDE (CAS 1314-13-2)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.

US. OSHA Table Z-3 Permissible Exposure Limits (PEL) for Mineral Dusts (29 CFR 1910.1000)

Components	Type	Value	Form
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
CUPRIC SULFATE (CAS 7758-98-7)	TWA	1 mg/m3	Dust and mist.
		0.2 mg/m3	Fume.
FERRIC OXIDE RED (CAS 1309-37-1)	TWA	5 mg/m3	Respirable fraction.
FERROUS FUMARATE (CAS 141-01-5)	TWA	1 mg/m3	
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m3	Inhalable fraction.
MAGNESIUM STEARATE (CAS 557-04-0)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
MANGANESE SULFATE (CAS 7785-87-7)	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction.
MICA (CAS 12001-26-2)	TWA	3 mg/m3	Respirable fraction.
MICROCRYSTALLINE CELLULOSE (CAS 9004-34-6)	TWA	10 mg/m3	
POTASSIUM IODIDE (CAS 7681-11-0)	TWA	0.01 ppm	Inhalable fraction and vapor.
SODIUM MOLYBDATE (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.
SODIUM SELENATE (CAS 13410-01-0)	TWA	0.2 mg/m3	
STARCH (CAS 9005-25-8)	TWA	10 mg/m3	
STEARIC ACID (CAS 57-11-4)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
TALC, NON-ASBESTOS FORM (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	2.5 mg/m3	Respirable finescale particles
		0.2 mg/m3	Respirable nanoscale particles
ZINC OXIDE (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
CHROMIC CHLORIDE (CAS 10025-73-7)	IDLH	25 mg/m3
MAGNESIUM OXIDE (CAS 1309-48-4)	IDLH	750 mg/m3
MANGANESE SULFATE (CAS 7785-87-7)	IDLH	500 mg/m3
SODIUM SELENATE (CAS 13410-01-0)	IDLH	1 mg/m3
ZINC OXIDE (CAS 1314-13-2)	IDLH	500 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
CUPRIC SULFATE (CAS 7758-98-7)	TWA	1 mg/m3	Dust and mist.
		0.1 mg/m3	Fume.
FERRIC OXIDE RED (CAS 1309-37-1)	TWA	5 mg/m3	Dust and fume.
FERROUS FUMARATE (CAS 141-01-5)	TWA	1 mg/m3	
MANGANESE SULFATE (CAS 7785-87-7)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.
MICA (CAS 12001-26-2)	TWA	3 mg/m3	Respirable.
MICROCRYSTALLINE CELLULOSE (CAS 9004-34-6)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
SILICON DIOXIDE (CAS 7631-86-9)	TWA	6 mg/m3	
SODIUM SELENATE (CAS 13410-01-0)	TWA	0.2 mg/m3	
STARCH (CAS 9005-25-8)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
TALC, NON-ASBESTOS FORM (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.
ZINC OXIDE (CAS 1314-13-2)	Ceiling	15 mg/m3	Dust.
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Dust.
		5 mg/m3	Fume.

Biological limit values

ACGIH Biological Exposure Indices (BEI)

Components	Value	Determinant	Specimen	Sampling Time
CHROMIC CHLORIDE (CAS 10025-73-7)	0.7 µg/l	Total chromium	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form	Not available.
Color	Silver. Blue.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Chlorine. Fluorine. Phosphorus.
Hazardous decomposition products	Toxic gas.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Coughing.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
BIOTIN (CAS 58-85-5)		
Acute		
Oral		
LD50	Mouse	> 10 g/kg

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
Acute		
Oral		
LD50	Rat	6450 mg/kg
CHOLECALCIFEROL (VITAMIN D3) (CAS 67-97-0)		
Acute		
Dermal		
LD50	Rat	61 mg/kg
Oral		
LD50	Dog	80 mg/kg ; RTECS data
	Mouse	42.5 mg/kg ; RTECS data
	Rat	42 mg/kg ; RTECS data
CROSCARMELLOSE SODIUM (CAS 74811-65-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LCLo	Rat	> 0.1 mg/l
Oral		
LD50	Rat	5050 mg/kg
CUPRIC SULFATE (CAS 7758-98-7)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	481 mg/kg
FERROUS FUMARATE (CAS 141-01-5)		
Acute		
Oral		
LD50	Rat	3850 mg/kg
FOLIC ACID (CAS 59-30-3)		
Acute		
Oral		
LD50	Mouse	10000 mg/kg
L-ASCORBIC ACID (CAS 50-81-7)		
Acute		
Oral		
LD50	Rat	11.9 g/kg
Subchronic		
Oral		
NOAEL	Rat	2000 mg/kg/day
MICROCRYSTALLINE CELLULOSE (CAS 9004-34-6)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 2000 mg/kg
NICOTINAMIDE (CAS 98-92-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
Oral		
LD50	Rat	> 2500 mg/kg
PYRIDOXINE HYDROCHLORIDE (CAS 58-56-0)		
Acute		
Oral		
LD50	Rat	4000 mg/kg
RIBOFLAVIN (CAS 83-88-5)		
Acute		
Oral		
LD50	Rat	> 10 g/kg
SODIUM SELENATE (CAS 13410-01-0)		
Acute		
Inhalation		
Dust		
LC50	Rat	0.052 - 0.51 mg/L, 4 hours
Oral		
LD50	Rat	7 mg/kg
STEARIC ACID (CAS 57-11-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 6000 mg/kg
TALC, NON-ASBESTOS FORM (CAS 14807-96-6)		
Acute		
Inhalation		
NOAEL	Rat	10.8 mg/m3
THIAMINE MONONITRATE (CAS 532-43-4)		
Acute		
Oral		
LD50	Rat	3710 mg/kg
TITANIUM DIOXIDE (CAS 13463-67-7)		
Acute		
Inhalation		
LC50	Rat	6820 mcg/m3
Oral		
LD50	Rat	> 24 g/kg
Chronic		
Inhalation		
LOEC	Rat	8.6 mg/m3, 1 years TiO2 accumulated in interstitial macrophages, aggregated interstitial cells and particle laden macrophrages in lymphoid tissue.
NOAEC	Rat	250 mg/m3, 2 years Highest dose 5 mg/m3, 24 months
Subacute		
Inhalation		
LOEL	Rat	0.1 - 35 mg/m3, 4 weeks Mild macrophage hyperplasia, no change in bronchio-alveolar lavage fluid.
NOAEC	Guinea pig	26 mg/m3, 3 weeks No evidence of significant inflammation in respiratory tract.

Components	Species	Test Results
Oral		
NOAEL	Rat	100000 ppm, 14 Day Dietary study, highest dose tested.
Subchronic		
Inhalation		
LOEC	Rat	3.2 - 20 mg/m3, 8 min Accumulation of TiO2 in macrophages and evidence of pulmonary inflammation.
ZINC OXIDE (CAS 1314-13-2)		
Acute		
Inhalation		
LC50	Rat	> 200 mg/l
Oral		
LD50	Rat	> 8437 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Irritation Corrosion - Skin

TITANIUM DIOXIDE	0, Literature data Result: Non-irritant Species: Guinea pig 0, Literature data Result: Non-irritant Species: Human
L-ASCORBIC ACID	Acute dermal irritation; OECD 404 Result: Non-irritant Species: Rabbit Notes: EU SCC Review 1986-1990
TITANIUM DIOXIDE	Acute dermal irritation; OECD 404, Literature data Result: Non-irritant Species: Rabbit

Irritation Corrosion - Skin: P.I.I. value

MAGNESIUM STEARATE	0

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Eye

L-ASCORBIC ACID	Acute ocular irritation; OECD 405 Result: Slight irritant Species: Rabbit Notes: EU SCC Review 1986-1990
TITANIUM DIOXIDE	OECD 405, Literature data Result: Mild irritant Species: Rabbit

Eye / Kay and Calandra class - Intact

MAGNESIUM STEARATE	4 Recovery Period: 2 days

Respiratory or skin sensitization

ACGIH sensitization

Trivalent chromium water soluble inorganic compounds, including Chromite ore processing, as Cr (III), inhalable fraction (CAS 10025-73-7)	Dermal sensitization Respiratory sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Maximisation assay (Magnusson and Kligman)

HYDROXYPROPYL METHYL CELLULOSE	Result: Negative Species: Guinea pig

Sensitization

TITANIUM DIOXIDE	5 % Optimisation Test, Literature data - Vehicle: petrolatum Result: Negative Species: Guinea pig Test Duration: 48 hour exposure
CYANOCOBALAMIN	Epidemiology Result: Hypersensitvity reactions can occur rarely.

Sensitization

TITANIUM DIOXIDE	Patch test, Literature data Result: Negative Species: Human
CHOLECALCIFEROL (VITAMIN D3)	SAR / QSAR, DEREK, Lhasa, UK Result: No structural alerts identified.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Mutagenicity

CHOLECALCIFEROL (VITAMIN D3)	Ames Assay, GLP assay; Literature data Result: Negative
TITANIUM DIOXIDE	Ames, Literature data Result: Negative Micronucleus Assay in vitro, CHO cells, Literature data Result: Negative Micronucleus Assay in vitro, cultured human peripheral lymphocytes, Literature data Result: Positive Syrian Hamster Embryo (SHE) cell transformation assay Result: Negative WIL2-NS HPRT/ t-Thioguanidine - Human B-Cell lymphoblastoid, Literature data Result: Positive

Carcinogenicity Carcinogenic effects are not expected as a result of occupational exposure. Contains a material (TITANIUM DIOXIDE) classified as a carcinogen by external agencies.

L-ASCORBIC ACID	< 6000 mg/kg/day Result: Negative Species: Mouse Notes: UN SIDS Dossier
TITANIUM DIOXIDE	0.5 mg/m3, Literature data Result: Negative Species: Rat Test Duration: 24 months 0.72 - 14.8 mg/m3, Literature data Result: Negative Species: Mouse 10 - 250 mg/m3, Dietary study - Literature data. Result: Inflammation at all doses with alveolar/bronchiolar adenoma at the highest concentration. Species: Rat Test Duration: 24 months
L-ASCORBIC ACID	1000 - 2000 mg/kg/day Result: Negative Species: Rat Notes: UN SIDS Dossier
TITANIUM DIOXIDE	25000 - 50000 ppm, Dietary study - Literature data. Result: Negative Species: Rat 25000 - 50000 ppm, Dietary study Result: Negative Species: Mouse 7.2 - 14.8 mg/m3, Literature data Result: Lung tumour Species: Rat Test Duration: 24 months
CHOLECALCIFEROL (VITAMIN D3)	SAR / QSAR, DEREK, Lhasa, UK Result: No structual alerts identified.

IARC Monographs. Overall Evaluation of Carcinogenicity

CHROMIC CHLORIDE (CAS 10025-73-7)	3 Not classifiable as to carcinogenicity to humans.
FERRIC OXIDE RED (CAS 1309-37-1)	3 Not classifiable as to carcinogenicity to humans.
PHYLLOQUINONE (CAS 84-80-0)	3 Not classifiable as to carcinogenicity to humans.
SILICON DIOXIDE (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
TALC, NON-ASBESTOS FORM (CAS 14807-96-6)	2B Possibly carcinogenic to humans. 3 Not classifiable as to carcinogenicity to humans.
TITANIUM DIOXIDE (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

CYANOCOBALAMIN (CAS 68-19-9)	Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Reproductivity

L-ASCORBIC ACID	1.5 - 100 mg/kg/day Embryo-foetal development Result: No adverse foetal effects observed Species: Guinea pig Notes: EU SCC Review 1986-1990 200 - 2000 mg/kg/day Embryo-foetal development Result: No adverse foetal effects observed Species: Rat Notes: EU SCC Review 1986-1990 5.2 - 520 mg/kg/day Embryo-foetal development Result: No adverse foetal effects observed Species: Mouse Notes: EU SCC Review 1986-1990
CHOLECALCIFEROL (VITAMIN D3)	SAR / QSAR, DEREK, Lhasa, UK Result: As a class vitamin D analogs are suspected of causing foetal malfomation at very high doses; physiological doses are not suspected of causing reproductive hazard

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

CHOLECALCIFEROL (VITAMIN D3)	Repeat dose non-clinical studies; clinical observation, Literature data Organ: Kidney, bone
L-ASCORBIC ACID	Species: Human Organ: Red blood cells, kidneys. Notes: EU SCC Review 1986-1990

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
BETA-CAROTENE (CAS 7235-40-7)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	81 mg/l, 72 hours
	NOEC	Green algae (Selenastrum capricornutum)	< 10 mg/l, 72 hours
Fish	NOEC	Rainbow trout (Adult Oncorhyncus mykiss)	1000 mg/l
CALCIUM CARBONATE (CAS 471-34-1)			
Aquatic			
Acute			
Fish	LC50	Western mosquitofish (Gambusia affinis)	> 56000 mg/l, 24 hours
CHOLECALCIFEROL (VITAMIN D3) (CAS 67-97-0)			
Aquatic			
Acute			
Algae	NOEC	Green algae (Selenastrum capricornutum)	100 mg/l, 96 hours
Crustacea	NOEC	Water flea (Daphnia magna)	100 mg/l, 48 hours
Fish	NOEC	Golden ide/orfe (Adult Leuciscus idus)	> 10000 mg/l, 96 hours
CYANOCOBALAMIN (CAS 68-19-9)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	> 100 mg/l, 48 hours

Components		Species	Test Results
DL-ALPHA-TOCOPHERYL ACETATE (CAS 7695-91-2)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	> 25.5 mg/l, 72 hours
	NOEC	Green algae (Selenastrum capricornutum)	25.5 mg/l, 72 hours
Fish	EC50	Rainbow trout (Adult Oncorhyncus mykiss)	> 91.1 mg/l, 96 hours
	NOEC	Rainbow trout (Adult Oncorhyncus mykiss)	91.1 mg/l, 96 hours
FERRIC OXIDE RED (CAS 1309-37-1)			
Aquatic			
Acute			
Fish	EC50	Golden ide/orfe (Adult Leuciscus idus)	> 1000 mg/l, 48 hours Static test
Chronic			
Other	EC50	Bacteria	> 5000 mg/l, 24 hours
HYDROXYPROPYL METHYL CELLULOSE (CAS 9004-65-3)			
Aquatic			
Acute			
Fish	EC50	Fish	> 100 mg/L, 96 hours
L-ASCORBIC ACID (CAS 50-81-7)			
Aquatic			
Acute			
Fish	EC50	Rainbow trout (Adult Oncorhyncus mykiss)	1020 mg/l, 96 hours
MAGNESIUM STEARATE (CAS 557-04-0)			
Aquatic			
Acute			
Fish	EC50	Orange-red killfish (Adult Oryzias latipes)	130 mg/l, 96 hours
NICOTINAMIDE (CAS 98-92-0)			
Aquatic			
Acute			
Algae	EC50	Algae	> 1000 mg/l, 72 hours
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	EC50	Guppy (Juvenile Poecilia reticulata)	> 1000 mg/l, 96 hours
PYRIDOXINE HYDROCHLORIDE (CAS 58-56-0)			
Aquatic			
Acute			
Algae	EC50	Green algae (Desmodesmus subspicatus)	72 mg/L, 72 hours
RESVERATROL (CAS 501-36-0)			
Aquatic			
Acute			
Algae	EC50	Algae	> 1 to < 10 mg/l, 96 hours QSAR Estimate
Crustacea	EC50	Daphnia	> 10 to < 100 mg/l, 48 hours QSAR Estimate
Fish	EC50	Fish	> 1 to < 10 mg/l, 96 hours QSAR Estimate

Components		Species	Test Results
SILICON DIOXIDE (CAS 7631-86-9)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	440 mg/l, 72 hours
	NOEC	Green algae (Selenastrum capricornutum)	60 mg/l, 72 hours
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 24 hours Static test
Fish	EC50	Common carp (Juvenile Cyprinus carpio)	> 10000 mg/l, 72 hours
		Zebra fish (Adult Brachydanio rerio)	5000 mg/l, 96 hours Static test
Microtox	EC50	Microtox	8700 mg/l, 15 minutes
SODIUM SELENATE (CAS 13410-01-0)			
Aquatic			
Acute			
Algae	EC50	Algae	0.245 mg/L, 96 hours
Crustacea	EC50	Daphnia	0.55 mg/L, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	2.06 mg/L, 96 hours
Chronic			
Algae	NOEC	Algae	0.197 mg/L, 96 hours
Crustacea	NOEC	Allorchestes compressa	0.044 mg/L, 28 days
Fish	NOEC	Bluegill (Lepomis macrochirus)	0.01 mg/L, 258 days
TALC, NON-ASBESTOS FORM (CAS 14807-96-6)			
Aquatic			
Acute			
Fish	EC50	Zebra fish (Adult Brachydanio rerio)	> 100 g/l, 24 hours Static renewal test
TITANIUM DIOXIDE (CAS 13463-67-7)			
Aquatic			
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours Static test
TOCOPHEROL ACETATE (CAS 58-95-7)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	> 28 mg/l, 72 hours
	NOEC	Green algae (Selenastrum capricornutum)	28 mg/l, 72 hours
Fish	EC50	Rainbow trout (Adult Oncorhyncus mykiss)	> 100 mg/l, 96 hours
	NOEC	Rainbow trout (Adult Oncorhyncus mykiss)	100 mg/l, 96 hours
ZINC OXIDE (CAS 1314-13-2)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	1 mg/l, 48 hours OECD Guideline 202
Fish	EC50	Rainbow trout (Adult Oncorhyncus mykiss)	1.1 mg/l, 96 hours Static test
	LC50	Striped bass (Morone saxatilis)	>= 0.25 to <= 2.46 mg/l, 48 hours

Persistence and degradability No data is available on the degradability of this product.

Photolysis

Half-life (Photolysis-aqueous)

FOLIC ACID	84 Days Estimated

Photolysis

Half-life (Photolysis-atmospheric)

FOLIC ACID	1.5 Hours Estimated
MAGNESIUM STEARATE	17 Hours Estimated
NICOTINAMIDE	7 Days Estimated
STEARIC ACID	17 Hours Estimated

UV/visible spectrum wavelength

CYANOCOBALAMIN	278 nm
FOLIC ACID	365 nm
MAGNESIUM STEARATE	210 nm
STEARIC ACID	210 nm

Biodegradability

Percent degradation (Aerobic biodegradation-inherent)

BETA-CAROTENE	100 %, 28 days Modified MITI (II) Test.
DL-ALPHA-TOCOPHERYL ACETATE	84 %, 28 days Modified MITI (II) Test.
L-ASCORBIC ACID	100 %, 15 days Zahn-Wellens
MAGNESIUM STEARATE	77 %, 28 days BOD
STEARIC ACID	77 %, 28 days BOD
TOCOPHEROL ACETATE	84 %, 28 days Modified MITI (II) Test.

Percent degradation (Aerobic biodegradation-ready)

CHOLECALCIFEROL (VITAMIN D3)	< 7 %, 28 days MITI test
CYANOCOBALAMIN	< 5 %
DL-ALPHA-TOCOPHERYL ACETATE	17 %, 28 days Manometric Respirometry Test
MAGNESIUM STEARATE	95 %, 22 days Sturm test
NICOTINAMIDE	96 %, 28 days Modified OECD Screening Test (OECD 301E)
STEARIC ACID	95 %, 22 days Sturm test
TOCOPHEROL ACETATE	17 %, 28 days Manometric Respirometry Test

Percent degradation (Aerobic biodegradation-soil)

MAGNESIUM STEARATE	50 %, 13 days
STEARIC ACID	50 %, 13 days

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

CHOLECALCIFEROL (VITAMIN D3)	10.2
DL-ALPHA-TOCOPHERYL ACETATE	12.2 (Calculated).
HYDROXYPROPYL METHYL CELLULOSE	-5
L-ASCORBIC ACID	-2.15
NICOTINAMIDE	-0.37
RESVERATROL	3 (Calculated).
RIBOFLAVIN	-1.46 (Measured).
STEARIC ACID	8.23, (LogPow)

Bioconcentration factor (BCF)

CUPRIC SULFATE	> 100 Calculated
FOLIC ACID	474 Estimated
HYDROXYPROPYL METHYL CELLULOSE	3.2 Estimated
MAGNESIUM STEARATE	> 9999 Estimated
NICOTINAMIDE	< 1 Estimated
POTASSIUM IODIDE	> 1000 Measured
STEARIC ACID	> 9999 Estimated
ZINC OXIDE	> 1000

Mobility in soil No data available.

Adsorption

Soil/sediment sorption - log Koc

FOLIC ACID	3.53 Estimated
MAGNESIUM STEARATE	5.86 Estimated
NICOTINAMIDE	1.18 Estimated
STEARIC ACID	5.86 Estimated

Mobility in general

Volatility

Henry's law

FOLIC ACID	< 0 atm m^3/mol, 25 C Estimated
HYDROXYPROPYL METHYL CELLULOSE	0 atm m3/mol Estimated
NICOTINAMIDE	0 atm m^3/mol Estimated
RIBOFLAVIN	< 0 atm m^3/mol, 25 C Estimated
STEARIC ACID	0.000051 Estimated

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D007: Waste Chromium
D010: Waste Selenium
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as a dangerous good.

Read safety instructions, SDS and emergency procedures before handling.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

CUPRIC SULFATE (CAS 7758-98-7)	Listed.
CYANOCOBALAMIN (CAS 68-19-9)	Listed.
MANGANESE SULFATE (CAS 7785-87-7)	Listed.
ZINC OXIDE (CAS 1314-13-2)	Listed.

SARA 304 Emergency release notification

Chromic chloride (CAS 10025-73-7)	1 LBS
Sodium selenate (CAS 13410-01-0)	100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
CHROMIC CHLORIDE	10025-73-7	1		1	10000
SODIUM SELENATE	13410-01-0	100		100	10000

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
ZINC OXIDE	1314-13-2	< 1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

CHROMIC CHLORIDE (CAS 10025-73-7)
CYANOCOBALAMIN (CAS 68-19-9)
MANGANESE SULFATE (CAS 7785-87-7)
SODIUM SELENATE (CAS 13410-01-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

TALC, NON-ASBESTOS FORM (CAS 14807-96-6)
TITANIUM DIOXIDE (CAS 13463-67-7)

California Proposition 65

WARNING: This product can expose you to TITANIUM DIOXIDE, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

TALC, NON-ASBESTOS FORM (CAS 14807-96-6)	Listed: April 1, 1990
TITANIUM DIOXIDE (CAS 13463-67-7)	Listed: September 2, 2011

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 07-31-2025

Version # 01

HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 0
Flammability: 0
Instability: 0

Disclaimer Haleon cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.