1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Coated Ascorbic Acid, Type FC

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : For the fortification of foods

1.3 Details of the supplier of the safety data sheet

Company : DSM Nutritional Products Europe Ltd
PO Box 2676
CH-4002 Basel
Telephone : +41618157777
Telefax : +41618157770
E-mail address : sds.nutritionalproducts@dsm.com
Responsible/issuing person

1.4 Emergency telephone number

+41 848 00 11 77 (Carechem 24 International)

2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Classification (67/548/EEC, 1999/45/EC)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.3 Other hazards

Risk of dust explosion.

3. Composition/information on ingredients

Brief description of the product : Mixture (preparation) containing active ingredient and auxiliary substance

3.2 Mixtures

Remarks : No hazardous ingredients

Further ingredients

Chemical Name	CAS-No. EC-No. Registration number	Classification	GHS Classification	Concentration [%]

ascorbic acid (Vitamin C)	50-81-7 200-066-2			>= 94

4. First aid measures

4.1 Description of first aid measures

General advice : No hazards which require special first aid measures.

If inhaled : Move to fresh air.
If symptoms persist, call a physician.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No specific symptoms known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water
Foam

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : None known.

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Consider dust explosion hazard.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.
Avoid dust formation.

6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel.

6.4 Reference to other sections

For personal protection see section 8.
For disposal considerations see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Take measures to prevent the build up of electrostatic charge.
Advice on protection against fire and explosion	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Take precautionary measures against static discharges.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Protect from humidity. Keep container tightly closed and dry.
Advice on common storage	:	No special restrictions on storage with other products.
Storage temperature	:	< 25 °C

7.3 Specific end use(s)

Specific use(s)	:	not applicable

8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required. In case of high dust concentration use a dust mask applicable to local conditions.
Hand protection	:	Glove material: Chloroprene
	:	Glove material: Nitrile rubber
Eye protection	:	Safety glasses
Skin and body protection	:	Lightweight protective clothing
Hygiene measures	:	General industrial hygiene practice.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	powder
Colour	:	white - pale yellow
Odour	:	characteristic, fatty odour
Odour Threshold	:	No information available.
pH	:	no data available
Melting point/range	:	not determined
Boiling point/boiling range	:	not determined
Flash point	:	not applicable
Flammability (solid, gas)	:	Not classified as flammable as defined by the transport regulations.
Vapour pressure	:	not applicable
Relative vapour density	:	not applicable
Density	:	not determined
Water solubility	:	not determined
Partition coefficient: n-octanol/water	:	log Pow -2,15 (23 °C) Information refers to the main component.
Auto-ignition temperature	:	no data available
Thermal decomposition	:	Decomposes on heating. Potential for exothermic hazard Heating can release hazardous gases.
Explosive properties	:	no data available
Oxidizing properties	:	no data available

9.2 Other information

Combustibility index for deposited dust	:	3 (23 °C)
	:	3 (100 °C)

Dust explosion properties	:	KSt value: 168 m.bar/s (Milled sample, Median value of the tested sample 0,043 mm, Loss on drying 0,3 %; ISO 6184)
Dust explosion class	:	St1 (Milled sample, Median value of the tested sample 0,043 mm, Loss on drying 0,3 %; ISO 6184)
Maximum explosion overpressure	:	7,6 bar (Milled sample, Median value of the tested sample 0,043 mm, Loss on drying 0,3 %; ISO 6184)
Minimum ignition energy	:	3 - 10 mJ (Milled sample, Median value of the tested sample 0,043 mm, Loss on drying 0,3 %, EN 13821) The Minimum ignition energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE.
	:	General remark: The indicated dust explosion characteristics are only valid for this product and are sensitive to the sample's parameters.
Powder volume resistivity	:	ca. 1,8E+13 Ohmm (Median value of the tested sample 0,334 mm, Loss on drying 0,3 %)
Minimum ignition temperature of a dust/air mix	:	330 °C (Median value of the tested sample 0,334 mm) determined in the BAM oven, Product sample

10. Stability and reactivity

10.1 Reactivity

No hazards to be specially mentioned.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Exposure to air.
(as aqueous solution)
Heat.

10.5 Incompatible materials

Oxidizing agents
Bases

10.6 Hazardous decomposition products

No decomposition if used as directed.

11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity	:	LD50 (rat): 11 290 mg/kg Test substance: active ingredient

Skin corrosion/irritation	:	No skin irritation (rabbit, OECD Test Guideline 404, 4 h) Test substance: active ingredient
Serious eye damage/eye irritation	:	No eye irritation (rabbit, OECD Test Guideline 405) Test substance: active ingredient
	:	Dust contact with the eyes can lead to mechanical irritation.
Respiratory or skin sensitisation	:	Did not cause sensitization. (guinea pig, Optimization Test (Maurer)) Test substance: active ingredient
Genotoxicity in vivo	:	No indication for human genotoxicity known. Information refers to the main component.
Carcinogenicity	:	(several species) No indication for carcinogenicity known. Test substance: active ingredient
Reproductive toxicity	:	This information is not available.
Teratogenicity	:	not teratogenic not embryotoxic Test substance: active ingredient (several species)
STOT - repeated exposure	:	NOAEL (Oral, rat) : 2 000 mg/kg bw/d Chronic toxicity study (2 years) Test substance: active ingredient
Experience with human exposure	:	RDA (Recommended Daily Allowance) 60 mg Information refers to the main component.
Experience with human exposure: Skin contact	:	May be slightly irritating, especially on damp skin. Information refers to the main component.
Experience with human exposure: Ingestion	:	Oral intake up to 9 g ascorbic acid per day does not produce any serious toxic effects. However, diarrhoea can occur even with lower consumption levels.

12. Ecological information

12.1 Toxicity

Toxicity to fish	:	Oncorhynchus mykiss (rainbow trout) LC50 (96 h) 1 020 mg/l Information refers to the main component. (OECD Test Guideline 203)

12.2 Persistence and degradability

Biodegradability	:	Well inherently biodegradable. 100 % (15 d)

97 %, (5 d)
(OECD Test Guideline 302B)
Test substance: active ingredient

12.3 Bioaccumulative potential

Bioaccumulation	:	no data available
Partition coefficient: n-octanol/water	:	log Pow -2,15 (23 °C) Information refers to the main component.

12.4 Mobility in soil

Distribution among environmental compartments	:	no data available

12.5 Results of PBT and vPvB assessment

Assessment	:	not determined

12.6 Other adverse effects

Additional ecological information	:	There is no data available for this product.

13. Disposal considerations

13.1 Waste treatment methods

Product	:	Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

14.1 UN number

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.2 Proper shipping name

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.3 Transport hazard class

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.4 Packing group

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.5 Environmental hazards

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.6 Special precautions for user

Not classified as dangerous in the meaning of transport regulations.

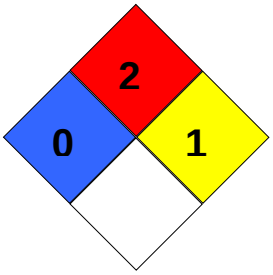
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

NFPA Classification : Health hazard: 0
Fire Hazard: 2
Reactivity Hazard: 1



15.2 Chemical Safety Assessment

not applicable

16. Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Abbreviations: 67/548/EEC= Dangerous Substances Directive. 1999/45/EC= Dangerous Preparations Directive. Regulation (EC) No. 1272/2008= Regulation on classification, labelling and packaging of substances and mixtures. DNEL= Derived No-Effect Level. PNEC= Predicted No-Effect Concentration. NFPA= National Fire Protection Association (USA). IATA= International Air Transport Association. IMDG= International Maritime Dangerous Goods. RID= International Rule for Transport of Dangerous Substances by Railway; ADR= European Agreement concerning the International Carriage of Dangerous Goods by Road. TWA= Time Weighted Average. STEL= Short term exposure limit.