

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## Ascorbic Acid Fine Powder

0422460

Version 1.1

Revision Date 17.09.2012

Print Date 12.11.2013

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

#### 1.1 Product identifier

Trade name : Ascorbic Acid Fine Powder

Substance name : L-Ascorbic acid  
CAS-No. : 50-81-7

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

Use of the Substance/Mixture : Additive for animal nutrition in premixes and compound feeds, For the fortification of foods, Ingredient/additive for dietary supplements, Ingredient for pharmaceutical products

Remarks : A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 and/or Annex IV or V of REACH regulation (EC) No 1907/2006.

#### 1.3 Details of the supplier of the safety data sheet

Company : DSM Nutritional Products (UK) Ltd.  
Heanor Gate  
αGB061EI0017  
Delves Road  
GB-DE75 7SG Heanor  
Telephone : +441773536500  
Telefax : +441773536600  
E-mail address : sds.nutritionalproducts@dsm.com  
Responsible/issuing person

#### 1.4 Emergency telephone number

+441773536623 / +41628662314

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

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

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

#### 2.3 Other hazards

Risk of dust explosion.

### 3. Composition/information on ingredients

Synonyms : Vitamin C

Brief description of the product : Substance

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**3.1 Substances**

Remarks : No dangerous ingredients according to Regulation (EC) No. 1907/2006

**Further ingredients**

Chemical Name	CAS-No. EC-No. Registration number	Classification	GHS Classification	Concentration [%]
ascorbic acid (Vitamin C)	50-81-7 200-066-2			>= 99 - <= 100

**4. First aid measures****4.1 Description of first aid measures**

- General advice : No hazards which require special first aid measures.
- If inhaled : Remove 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**

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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.  
No special handling advice required.

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

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### 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.<br>In case of high dust concentration use a dust mask applicable to local conditions. |
| Hand protection          | : Glove material: for example nitrile rubber  |
| Eye protection           | : Safety glasses  |
| Skin and body protection | : Protective suit   |
| 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                                  | : odourless   |
| Odour Threshold                        | : No information available.   |
| pH                                     | : 2,2 - 2,5 (5%)<br>(as aqueous solution)   |
| Melting point/range                    | : ca. 190 °C<br>with decomposition  |
| Boiling point/boiling range            | : not determined  |
| Flash point                            | : not applicable  |
| Flammability (solid, gas)              | : Not classified as supporting combustion according to the transport regulations. |
| Relative vapor density                 | : not applicable  |
| Density                                | : not determined  |
| Water solubility                       | : ca. 300 g/l (20 °C)   |
| Solubility in other solvents           | : Ethanol: ca.20 g/l<br>Glycerol: ca.10 g/l<br>Ether: practically insoluble       |
| Partition coefficient: n-octanol/water | : log Pow -2,15 ( 23 °C)  |
| Auto-ignition temperature              | : no data available   |
| Thermal decomposition                  | : Decomposes on heating.  |

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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 : 2 ( 23 °C)

: 2 ( 100 °C)

Dust explosion class : St(H)1 (Milled sample, Median value of the tested sample 0,017 mm, Loss on drying 0,3 %; The value was determined in the modified Hartmann tube.)

Minimum ignition energy : 10 - 30 mJ (Milled sample, Median value of the tested sample 0,017 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. 6E+10 Ohmm (Product sample, Median value of the tested sample 0,103 mm, Loss on drying 0,3 %)  
The material can accumulate static charge and can therefore cause electrical ignition.

Minimum ignition temperature of a dust/air mix :  $\geq 340$  °C (Median value of the tested sample 0,103 mm) determined in the BAM oven

Molecular Weight : 176,13 g/mol

Dissociation constant : pKa 4,17

: pKa 11,57

## 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)

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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
- Skin corrosion/irritation : No skin irritation (rabbit, OECD Test Guideline 404, 4 h)
- Serious eye damage/eye irritation : No eye irritation (rabbit, OECD Test Guideline 405)  
: Dust contact with the eyes can lead to mechanical irritation.
- Respiratory or skin sensitization : Did not cause sensitization. (guinea pig, Optimization Test (Maurer))
- Germ cell mutagenicity
- Genotoxicity in vivo : No indication for human genotoxicity known.
- Carcinogenicity : (several species )  
No indication for carcinogenicity known.
- Reproductive toxicity : This information is not available.
- Teratogenicity : not teratogenic  
not embryotoxic  
(several species)
- STOT - single exposure : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- STOT - repeated exposure : NOAEL (Oral, rat) : 2 000 mg/kg bw/d  
Chronic toxicity study (2 years)
- Aspiration toxicity : No aspiration toxicity classification
- Experience with human exposure : RDA (Recommended Daily Allowance) 60 mg

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- Experience with human exposure: Skin contact : May be slightly irritating, especially on damp skin.
- 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  
(OECD Test Guideline 203)

### 12.2 Persistence and degradability

- Biodegradability : Well inherently biodegradable.  
100 % (15 d)  
97 %, (5 d)  
(OECD Test Guideline 302B)

### 12.3 Bioaccumulative potential

- Partition coefficient: n-octanol/water : log Pow -2,15 ( 23 °C )

### 12.4 Mobility in soil

- Distribution among environmental compartments : no data available

### 12.5 Results of PBT and vPvB assessment

- Assessment : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
: This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

### 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.

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### 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



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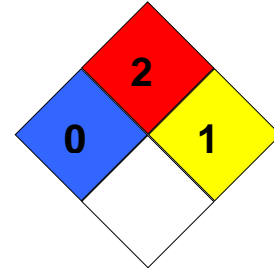
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no data available

### 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

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

### 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.