

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

Trade name : Sodium Ascorbate Crystalline

Substance name : 3-Oxo-L-gulofuranolactone sodium

CAS-No. : 134-03-2

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

Use of the Sub-  
stance/Mixture : For the fortification of foods, Additive for the stabilisation of  
foods, Ingredient/additive for dietary supplements, Ingredient  
for pharmaceutical products

**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 of person  
responsible for the SDS : sds.nutritionalproducts@dsm.com

**1.4 Emergency telephone number**

+41 848 00 11 77 (Carechem 24 International)

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

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

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.

**SECTION 3: Composition/information on ingredients**

Synonyms : L-Ascorbic acid, monosodium salt  
Vitamin C, sodium salt

Brief description of the prod-  
uct : Substance

Molecular formula : C6-H7-O6 .Na

**3.1 Substances**

**Hazardous components**

Remarks : No hazardous ingredients

**Further ingredients**

Chemical name	CAS-No.	GHS Classification	Concentration
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	EC-No. Registration number		[%]
sodium ascorbate	134-03-2 205-126-1 01-2119953729-21		>= 99 - <= 100

### SECTION 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.

### SECTION 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 fire-fighting : None known.

#### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Consider dust explosion hazard.

### SECTION 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 material for containment and cleaning up

Pick up and arrange disposal without creating dust.

### 6.4 Reference to other sections

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

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : For personal protection see section 8.
- 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.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of work-day.

### 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep container tightly closed and dry.

### 7.3 Specific end use(s)

- Specific use(s) : Not applicable

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Personal protective equipment

- Eye protection : Safety glasses with side-shields
- Hand protection : Glove material: for example nitrile rubber
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Respiratory protection : No personal respiratory protective equipment normally required.  
In case of high dust concentration use a dust mask applicable to local conditions.

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## SECTION 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	: 7.0 - 8.0 (10%) (as aqueous solution)
Melting point/range	: ca. 232 °C (OECD Test Guideline 102) Decomposes before melting.
Boiling point/boiling range	: Could not be determined due to decomposition.
Flash point	: Not applicable
Flammability (solid, gas)	: not highly flammable (Method: Flammability (solids)) May form combustible dust concentrations in air.
Vapour pressure	: < 0.000 hPa (25 °C; OECD Test Guideline 104)
Relative vapour density	: Not applicable
Relative density	: 1.88 (20 °C; OECD Test Guideline 109)
Water solubility	: 642.6 g/l (20 °C, pH 6.5; OECD Test Guideline 105) 780 g/l (75 °C)
Solubility in other solvents	: Ethanol: slightly soluble Ether: practically insoluble
Partition coefficient: n-octanol/water	: log Pow < -4.2 (21.9 °C, pH 6.6; OECD Test Guideline 117)
Auto-ignition temperature	: not auto-flammable (Tested according to Directive 92/69/EEC.)
Thermal decomposition	: Decomposes on heating. Potential for exothermic hazard
Explosive properties	: Not explosive
Oxidizing properties	: Not oxidizing

### 9.2 Other information

Combustibility index for deposited dust	: 2 (ca. 22 °C)
Dust explosion class	: St(H)1 (Milled sample, Median value of the tested sample 0.0196 mm; The value was determined in the modified Hartmann tube.)
Minimum ignition energy	: > 300 - 1,000 mJ (Milled sample, Median value of the tested sample 0.0196 mm) 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.
Minimum ignition temperature of a dust/air mix	: > 610 °C (Median value of the tested sample 0.0196 mm) determined in the BAM oven

Molecular weight	: 198.11 g/mol)
Impact sensitivity	: Not impact sensitive.
Surface tension	: 74 mN/m (0.1 %, ca. 20 °C, OECD Test Guideline 115)

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## SECTION 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

Heat

Exposure to air.  
(as aqueous solution)

### 10.5 Incompatible materials

Oxidizing agents  
Strong acids and strong bases

### 10.6 Hazardous decomposition products

No decomposition if used as directed.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute oral toxicity	: LD50 (Rat): 16,300 mg/kg
	: LD50 (Mouse): 17,531 mg/kg
Acute inhalation toxicity	: No data available
Skin irritation	: No skin irritation (Rabbit, 4 h) temporary redness
Eye irritation	: No eye irritation (Rabbit, Draize Test) temporary redness : Dust contact with the eyes can lead to mechanical irritation.
Sensitisation	: Does not cause skin sensitisation. (Mouse, Local Lymph Node Assay (LLNA), OECD Test Guideline 429)

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Genotoxicity in vivo	: No indication for human genotoxicity known.
Carcinogenicity	: No indication for carcinogenicity known.
Reproductive toxicity	: This information is not available.
Teratogenicity	: No indication for teratogenicity known.
STOT - single exposure (Acute exposure)	: The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT - repeated exposure	: This information is not available.
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.
Aspiration toxicity	: No aspiration toxicity classification

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish	: <i>Salmo gairdneri</i> (rainbow trout) LC50 (48 h) > 1,000 mg/l
Toxicity to daphnia and other aquatic invertebrates	: <i>Daphnia magna</i> (Water flea) EC50 (48 h) 74 mg/l (OECD Test Guideline 202)
Toxicity to algae	: <i>Pseudokirchneriella subcapitata</i> (microalgae) EC50 (72 h) > 74 mg/l (OECD Test Guideline 201) : NOEC (72 h) >= 74 mg/l
Toxicity to bacteria	: activated sludge (28 d) 80 mg/l No inhibition was observed under the biodegradation test conditions. (OECD Test Guideline 301A)

### 12.2 Persistence and degradability

Biodegradability	: Readily biodegradable. 99 % (28 d) (OECD Test Guideline 301A)
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### 12.3 Bioaccumulative potential

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Partition coefficient: n-octanol/water : log Pow < -4.2 ( 21.9 °C , pH 6.6; OECD Test Guideline 117)

### 12.4 Mobility in soil

Distribution among environmental compartments : No data available  
Surface tension : 74 mN/m (0.1 %, ca. 20 °C, OECD Test Guideline 115)

### 12.5 Results of PBT and vPvB assessment

Assessment : The substance does not fulfill the PBT criteria.  
: The substance does not fulfill the vPvB criteria.

### 12.6 Other adverse effects

Additional ecological information : Harmful to aquatic organisms.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Discharge into the environment must be avoided.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Dispose of as unused product.  
Do not re-use empty containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## SECTION 14: Transport information

### 14.1 UN number

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

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according to Regulation (EC) No. 1907/2006



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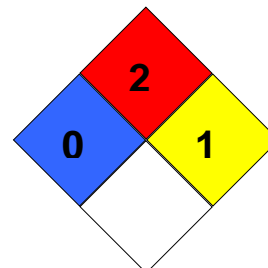
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### SECTION 15: Regulatory information

#### 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.

### SECTION 16: Other information

#### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### Further 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



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