Material safety data sheet

According to EU Regulation 1907/2006 in the current version

Ascorbyl palmitate (vitamin C)

1. Identification of the substance/mixture and company

Trade name:	Ascorbyl palmitate (vitamin C) Antioxidant
Chemical name	L-Ascorbic acid, 6-hexadecanoate
INCI	Ascorbyl palmitate
CAS No. :	137-66-6
EINESCS/EC No. :	205-305-4
REACH pre-registration No. :	01-2120769098-41-0000
Utilization:	Raw material for cosmetic or professional use
Supplier company identification:	**Elemental SRL**, Piața Cazărmii no.15, 410188-Oradea, jud.Bihor, Romania Tel/Fax: +40259-436.755, www.elemental.eu
Emergency:	RO: număr național pentru cazuri de urgență: 021 3183606 Institutul de Sănătate Publică București. International emergency number: +49 180 2273-112

2. Hazards Identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)
Eye irritation, Category 2
H319: Causes serious eye irritation.

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : 

Signal word : Warning
H319 Causes serious eye irritation.

Prevention:
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.

Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazard statements : Precautionary statements :
P337 + P313 If eye irritation persists: Get medical advice/attention.

2.3 Other hazards
Risk of dust explosion.

3. Declaration of ingredients

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Synonyms : 2,3-Didehydro-L-threo-hexono-1,4-lactone-6-palmitate
E 304
Brief description of the product: Substance
Molecular formula : C_{22} H_{38} O_7

3.1 Substances
Hazardous components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
6-O-palmitoylascorbic acid	137-66-6 205-305-4	>= 90 - <= 100

4. First aid measures

4.1 Description of first aid measures
General advice : Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
If inhaled : Move to fresh air. Consult a physician after significant exposure.
In case of skin contact : Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed : Rinse mouth with water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.

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. Fire fighting 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 : Consider dust explosion hazard.

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6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust.

6.2 Environmental precautions
Environmental precautions : Try to prevent the material from entering drains or water courses.

6.3 Methods and material for containment and cleaning up
Methods for 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.

7. Handling and storage

7.1 Precautions for safe handling
Advice on safe handling : Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
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: To maintain product quality, do not store in heat or direct sunlight. Keep container tightly closed and dry.

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
Eye protection : Safety glasses with side-shields
Hand protection: Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves.
Glove material: for example nitrile rubber

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Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

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 : No data available
Melting point/range : 107 - 117 °C
Boiling point/boiling range : > 250 °C
Decomposes on heating.
Flash point : Not applicable
Flammability (solid, gas) : May form combustible dust concentrations in air.
Relative vapour density : Not applicable
Density : not determined
Water solubility : < 10.3 mg/l (20 °C; OECD Test Guideline 105)
practically insoluble
Solubility in other solvents : Methanol: 183 g/l (ca. 22 °C)
Ethanol: 125 g/l (ca. 22 °C)
Peanut oil: 0.3 g/l (ca. 22 °C)
Partition coefficient: n-octanol/water: log Pow > 6.5 (OECD Test Guideline 117)
Auto-ignition temperature : No data available
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 (23 °C)
: 2 (100 °C)
Dust explosion properties : KSt value: 231 bar·m/s (Median value of the tested sample 0.018 mm; ISO 6184)
Dust explosion class : St2 (Product sample, Median value of the tested sample 0.018 mm; ISO 6184)
Maximum explosion over pressure: 8.7 bar (Median value of the tested sample 0.018 mm; ISO 6184)
Minimum ignition energy : 1 - 3 mJ (Milled sample, Median value of the tested sample 0.047 mm, Loss on drying 0.9 %, 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. 7E+11 Ohmm (Product sample, Median value of the test ed sample 0.153 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: ca. 250 °C (Median value of the tested sample 0.018 mm) determined in the BAM oven
Molecular weight : 414.54 g/mol

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Bulk density : ca. 240 kg/m^3

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

10.5 Incompatible materials
Strong acids and strong bases
Strong oxidizing agents

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): > 10,000 mg/kg : LD50 (Mouse): 25,000 mg/kg
Acute dermal toxicity : LD50 (Guinea pig): > 3,000 mg/kg
Skin irritation : No skin irritation (In vitro study, OECD Test Guideline 439)
Eye irritation : No eye irritation (Bovine cornea, OECD Test Guideline 437)
: Eye irritation (In vitro study, OECD Test Guideline 492)
: 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)
Genotoxicity in vitro : not mutagenic (Ames test)
Genotoxicity in vivo : No indication for mutagenicity known.
Carcinogenicity : No indication for carcinogenicity known.
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: Skin contact: May irritate skin.
Experience with human exposure: Ingestion: Oral intake up to 9 g ascorbic acid per day does not produce many serious toxic effects. However, diarrhoea can occur even with lower consumption levels.
Experience with human exposure: Eye contact: May irritate eyes.
Further information : May cause irritation of respiratory tract.
Aspiration toxicity : No aspiration toxicity classification

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12. Ecological information

12.1 Toxicity
Toxicity to daphnia and other aquatic invertebrates : Daphnia magna (Water flea) EC50 (48 h) > 0.1 mg/l No toxicity at the limit of solubility (OECD Test Guideline 202)
Toxicity to algae : Pseudokirchneriella subcapitata (green algae) EC50 (72 h) > 0.34 mg/l No toxicity at the limit of solubility (OECD Test Guideline 201) : NOEC (72 h) >= 0.34 mg/l No toxicity at the limit of solubility (OECD Test Guideline 201)

12.2 Persistence and degradability
Biodegradability : Readily biodegradable.
93 % (28 d)
(OECD Test Guideline 301B)

12.3 Bioaccumulative potential
Partition coefficient: n-octanol/water : log Pow > 6.5 (OECD Test Guideline 117)

12.4 Mobility in soil
Distribution among environmental compartments: No data available

12.5 Results of PBT and vPvB assessment
Assessment : The substance does not fullfill the PBT criteria. : The substance does not fullfill the vPvB criteria.

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 : 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.

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)

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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 73/78 and the IBC Code
Not applicable for product as supplied.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
NFPA Classification :
Health hazard: 2
Fire Hazard: 2
Reactivity Hazard: 1

15.2 Chemical safety assessment
Not applicable

16. Additional information

16.1 Abbreviations

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.
EINECS: European Inventory of Existing Commercial Chemical Substances.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
LTE: Long-term exposure.
PNEC: Predicted No Effect Concentration.
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE: Short-term exposure.
STEL: Short Term Exposure limit.

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STOT: Specific Target Organ Toxicity.

Disclaimer:
This material safety data sheet does not constitute a guarantee of the properties of the product and is not a contractual legal report. The information is given in good faith on the basis of our best knowledge of the product at the indicated time. However, we cannot accept responsibility or liability for any consequences arising from its use, no warranty for correctness and completeness is given. We caution the users against the incurred possible risks when the product is used at other ends than the use for which it was initially planned. It is the user's responsibility during handling, storage and product use to consult the main regulatory texts in force regarding workers and environment protection.