
REDOX CHEMICALS PTY LTD

MATERIAL SAFETY DATA SHEET

NOT Hazardous according to criteria of Worksafe Australia

Date of Issue : Nov 2003

1. IDENTIFICATION

General

Product Name : L(+)-ASCORBIC ACID

Other Names : L-ASCORBIC ACID ; VITAMIN C 3-KETO-L-GULOFURANOLACTONE

UN No. : N/A

Dangerous Goods Class : None Allocated

Subsidiary Risk : None Allocated

Hazchem Code : N/A

Pack Group : 0

EPG : N/A

Poisons Schedule : N/A

Uses :

For prophylactic and therapeutic use in pharmaceutical specialities, for vitamin C enrichment in food and feed industries as well as for antioxidant properties (E300) in food technology.

1.1 Physical Description / Properties

Appearance : White to yellowish crystalline powder, almost odourless, with sharp acidic, pleasant taste.

Formula : C₆H₈O₆

Boiling Point : Not available deg C

Melting Point : 190-192 deg C

Vapour Pressure : Not available

Specific Gravity : Not available (water = 1)

Flash Point : Not available

pH : see bellow ()

Solubility in water : see bellow g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : Not available

Upper Explosion Limit : Not available

1.2 Other Properties

pH value: 3(0.5% aqueous solution) 2(5% aqueous solution) Density: 1.65g/ cm³ Solubility: -300,000 mg/l water (20deg C) -400,000 mg/l water (40deg C) - 50,000 mg/l propylene glycol

1.3 Ingredients

Chemical Entity	CAS No.	Proportions (%)
ASCORBIC ACID	[50-81-7]	>99

2. HEALTH HAZARD INFORMATION

2.1 Health Effects - Acute

Swallowed

Adverse effects are not expected.

Eye

Eye contact with the dust or powder may cause irritations.

Skin

Skin contact with the dust or powder may cause irritations; particularly in conjunction with humidity (perspiration).

Inhaled

Inhalation of dust or powder may result in slight respiratory irritation.

2.2 Health Effects - Chronic

In predisposed individuals 4-12 g/d may cause urinary calculus.

2.3 First Aid

Swallowed

If swallowed, rinse out mouth then drink 1 - 3 cups of water. If effects occur/persist seek medical advice.

Eye

Rinse immediately with tap water for 10 minutes - open eyelids forcibly.

Skin

Remove contaminated clothes, wash affected skin with water and soap-do not use any solvents.

Inhaled

Remove the casualty to fresh air and keep him/her calm consult physician.

First Aid Facilities

Ensure an eye bath and safety shower are available and ready for use.

2.5 Advice to Doctor

Treat symptomatically based on judgement of doctor and individual reactions of patient.

2.6 Toxicity Data

LD50 : 11,900mg/kg (oral, rat) LD50 : 8,000mg/kg (oral, mouse) LD50 : 518mg/kg (i.v., mouse) Eye: may cause irritations Mucous membranes: may cause irritations Skin: may cause irritations; particularly in conjunction with humidity (perspiration) Oral uptake up to 9g per day does not produce any serious toxic effects, however, even lesser quantities may cause diarrhoea. RDA (recommended daily allowance): 60mg GRAS (generally recognized as safe for human consumption)

3. PRECAUTIONS FOR USE

3.1 Exposure Standards

An exposure standard has not been established for this product, however the following exposure limit is recommended : TWA 10 mg/m³.

3.2 Engineering Controls

Ensure workplace is well ventilated to maintain air concentrations below exposure standard, including the use of local; exhaust ventilation. Breathing must be protected when decanting large quantities of product without local exhaust ventilation.

3.3 Personal Protection

Respiratory protection: respiratory protection not necessary during normal operations. In case of open handling or accidental release: particle mask or respirator with independent air supply. Hand protection: protective gloves (eg made of neopren, nitrile or butyl) Eye protection: safety glasses.

3.4 Flammability

Stable at room temperature under exclusion of humidity.

4. SAFE HANDLING INFORMATION

4.1 Storage / Transport

Processing in closed systems, if possible superposed by inert gas (e.g. nitrogen). Local exhaust ventilation necessary. Take precautionary measures against electrostatic charging. Avoid dust formation, consider dust explosion hazard. Suitable materials are stainless steel, coated steel (protective lacquer), glass, polyethylene, polypropylene, enamel. Avoid materials such as, aluminium, copper and zinc. Protect from humidity. Store at room temperature. 24 months, < 25 deg C, in the unopened original container, see "best use before" date stated on the label. Keep tightly closed. Packaging material, coated steel (protective lacquer), glass, polyethylene, polypropylene, PVC.

4.2 Packaging / Labelling

UN No. N/A

Class None Allocated

Sub Risk None Allocated

Hazchem Code N/A

Pack Group 0

EPG No. N/A

Shipping Name L(+)-ASCORBIC ACID

Hazard

Risk Phrases

Safety Phrases

4.3 Spills and Disposal

Spills

Avoid dust formation. Sources of ignition should be kept clear. Clean up personnel should wear suitable clothing with protective glasses, gloves and approved dust mask.

Sweep or shovel up spills together with dust binding agent or use a vacuum cleaner. DO NOT let product directly enter drains or water courses. Place waste in labelled drums for disposal. Rinse with plenty of water.

Disposal

Incinerate in qualified installation with flue gas scrubbing. Drain very small quantities into wastewater treatment plant. Observe local/national regulations regarding waste disposal.

4.4 FIRE AND EXPLOSION HAZARD

Fire / Explosion

Stable at room temperature under exclusion of humidity. Avoid contact with humidity, light and warming. Avoid contact with the following materials: oxidising agents, atmospheric oxygen, bases, metals, metal salts. Consider dust explosion hazard.

Extinguishing Media

Fire-fighters should wear self-contained breathing apparatus for fire only. In case of fire, use water, foam,

carbon dioxide or dry chemical type extinguishers. Precipitate gases/vapours/mist with water spray.

5 OTHER INFORMATION

Other Information

Ecological information: Inherent biodegradability: Well inherently biodegradable 97%, 5d, 100%, 15d. (Zahn-Wellens test, OECD No. 302 B) Ecotoxicity: barely toxic for fish (rainbow trout) LC50 (99 h) 1020mg/l (OECD No. 203) The inhibitory concentration relates to re-attachment to substrate (*Dreissena polymorpha*) MIC (48h) > 50mg/l (nominal concentration)

5.1 Contact Points

Organisation	Location	Telephone	Ask For
Redox Chemicals Pty Ltd	Wetherill Park NSW	02-97255155	Technical Officer
Poisons Information Centre	Westmead	131126	
		1800-251525	