
MATERIAL SAFETY DATA SHEET

Hazardous according to criteria of Worksafe Australia

Date of Issue : Jun 2007

1. IDENTIFICATION

General

Product Name : CORROSIVE SOLID N.O.S. (IODINE)

Other Names : IODINE

UN No. : 1759

Dangerous Goods Class : 8

Subsidiary Risk : None Allocated

Hazchem Code : 2X

Pack Group : III

EPG : 37

Poisons Schedule : 6

Uses :

Dyes (aniline dyes, phthalein dyes), alkylation and condensation catalyst, iodides, iodates, antiseptics and germicides, x-ray contrast media, food and feed additive, stabilisers, photographic film, water treatment, pharmaceuticals, medicinal soaps, unsaturation indicator.

1.1 Physical Description / Properties

Appearance : Bluish-black flakes/plates/prills with metallic luster and typical odour.

Formula : I

Boiling Point : 184 deg C

Melting Point : 113.6 deg C

Vapour Pressure : 0.31 mm Hg (1 atmosphere)

Specific Gravity : 4.98 (water = 1)

Flash Point : N/A

pH : Saturated - 5.4 ()

Solubility in water : 0.3 g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : N/A

Upper Explosion Limit : N/A

1.2 Other Properties

Vapour density (air=1) = 11.27 g/l Solubility in water @ 20 deg C = 293 g/l

1.3 Ingredients

Chemical Entity	CAS No.	Proportions (%)
IODINE	[7553-56-2]	> 99.5

2. HEALTH HAZARD INFORMATION

2.1 Health Effects - Acute

Swallowed

May cause burning in the mouth and pharynx, metallic taste, nausea, vomiting, abdominal pain, diarrhoea, fever, hematuria, albuminuria, anuria, vascular collapse.

Eye

The material should not be allowed to contact the eyes. Contact of vapour with the eyes will cause irritation. May also cause conjunctivitis.

Skin

The material should not be allowed to come into contact with the skin. The product is corrosive.

Inhaled

Extremely irritative. Extremely corrosive to respiratory tract (including mucous membranes, throat and lungs). Avoid breathing vapour, dust, spray, fumes. May cause shortness of breath, coughing, rhinitis, pharyngitis, headache, vertigo, dyspnea, pulmonary oedema and swelling of parotid gland.

2.2 Health Effects - Chronic

Iodine vapours can severely irritate the respiratory tract, mucous membranes, eyes and skin. Excessive tears, sore throat, chest tightness, headache and delayed pulmonary oedema can result.

2.3 First Aid

Swallowed

If poisoning occurs, contact a Doctor or Poisons Information Centre. If more than 15 minutes from a hospital, induce vomiting, preferably using Ipecac syrup APF. Give plenty of water or milk to drink. Give 1% sodium thiosulphate in water to drink.

Eye

Seek immediate medical advice. Immediately rinse eyes thoroughly, including under eyelids, with running water for at least 15 minutes.

Skin

Seek immediate medical advice if effect persists after first-aid treatment. Immediately remove all contaminated clothing and footwear. Wash the skin thoroughly with soap and water.

Inhaled

Seek medical advice immediately. Remove from the source of vapour/dust/spray/ fumes. Remove to open space or fresh air. Restore and/or support breathing as required.

First Aid Facilities

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

2.5 Advice to Doctor

Iodine as solid, vapour or solution can stain, irritate, damage and penetrate skin. Allergic sensitisation can occur. Fatal dose by ingestion is 2-4g. Iodides can accumulate in thyroid gland, can be cleared by body. Treat symptomatically based on judgement of doctor and individual reactions of patient

2.6 Toxicity Data

Oral LDLo = 2-4 grams/adult

3. PRECAUTIONS FOR USE

3.1 Exposure Standards

Worksafe Australia recommends the following exposure standards : Iodine : TWA 0.1 ppm (1 mg/m³) - peak limitation.

3.2 Engineering Controls

Use only in well-ventilated areas. Local exhaust and general ventilation is recommended. Local exhaust may be needed to control vapours at elevated temperatures. Preclude from exposure those individuals with diseases of kidneys. Remove from exposure any employees that develop sensitisation to iodine.

3.3 Personal Protection

Eye protection - do not wear contact lenses. Wear safety goggles. Respiratory protection - wear approved gas mask. Skin protection - wear impervious gloves. Avoid skin contact. Contaminated clothes are to be laundered before reuse. Wash hands and face thoroughly after handling and before work breaks, eating, drinking, smoking and using toilet facilities.

3.4 Flammability

Product stable under normal conditions.

SAFE HANDLING INFORMATION

4.1 Storage / Transport

Protect against physical damage. Store in a cool, dry place, out of direct sunlight. Segregate from combustible, organic or other readily oxidisable materials. Wear protective gear including chemical goggles, rubber gloves, face shield and self contained breathing apparatus. Product may ignite in contact with combustible materials, metallic powder or concentrated ammonia. Avoid contact with incompatibles such as ammonia and ammonia solutions, acetaldehyde, powdered metals, alkali metals, metal acetylides and carbides, reducing agents, organic solvents, sulphur, iron, phosphorus, BrF₅, ClF₃, F₂.

4.2 Packaging / Labelling

UN No. 1759

Class 8

Sub Risk None Allocated

Hazchem Code 2X

Pack Group III

EPG No. 37

Shipping Name CORROSIVE SOLID N.O.S. (IODINE)

Hazard HARMFUL

Risk Phrases

R20/21 Harmful by inhalation and in contact with skin.

Safety Phrases

S2 Keep out of the reach of children.

S23 Do not breathe vapour.

S25 Avoid contact with eyes.

4.3 Spills and Disposal

Spills

Clean-up personnel should wear full protective clothing including self-contained breathing apparatus. Do not allow product to enter waste water, drains, rivers or creeks.

Cover with weak reducing agents such as hypo, bisulfites or ferrous salts. Bisulfites or ferrous salts need additional promoter of some 3M-H₂SO₄ for rapid reaction. Transfer the slurry into a large container of water and neutralise with sodium carbonate.

Disposal

Use vast volume of concentrated solution of reducing agent (bisulfites or ferrous with a 5% H₂SO₄ solution). Neutralise with soda ash or diluted HCl. Drain into sewer with abundant water.

4.4 FIRE AND EXPLOSION HAZARD

Fire / Explosion

Reaction can be violent with acetaldehyde and acetylene. Ammonium hydroxide reacts to form iodides which are shock-sensitive and explosive when dry. Material sublimes at temperatures greater than 100 deg C producing irritating vapours. Incompatible with ammonia and ammonia solutions, acetaldehyde, powdered metals, alkali metals, metal acetylides and carbides, reducing agents, organic solvents, sulphur, iron, phosphorus, BrF₅, BrF₃, ClF₃, F₂. Reacts violently with reducing materials, sulphur, iron, alkali metals, metal powders, phosphorus and causing fire and explosion hazards.

Extinguishing Media

Fire-fighters should wear protective clothing and self contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Use water to extinguish. Spray water on containers to keep them cool.

5 OTHER INFORMATION

Other Information

Do not allow product to enter waste water, drains, rivers or creeks.

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	