



MATERIAL SAFETY DATA SHEET

Iodine

Section 1 - Chemical Product and Company Identification

MSDS Name: Iodine

Catalog Numbers: G/0910/07, I/0450/48, I/0450/50, I/0450/53, I/0450/65, I/0450/70, I/0500/48, I/0500/50, I/0500/53

Synonyms: None.

Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG

For information in Europe, call: (01509) 231166

Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
7553-56-2	Iodine	>99	231-442-4

Hazard Symbols: XN N**Risk Phrases:** 20/21 50

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful by inhalation and in contact with skin. Very toxic to aquatic organisms.

Potential Health Effects

Eye: Causes severe eye irritation. May cause eye burns. Vapors cause eye irritation.

Skin: Harmful if absorbed through the skin. May cause severe irritation and possible burns. Rare instances of allergic reactions to topical iodine solutions characterized by fever and generalized skin eruptions have led to death. At least one death after topical application of a strong iodine tincture to one-third of the body has been recorded.

Ingestion: Harmful if swallowed. May cause burns to the digestive tract.

Inhalation: Harmful if inhaled. Causes severe respiratory tract irritation. Extreme exposures could result in a build-up of fluid in the lungs (pulmonary edema) that might be fatal in severe cases.

Chronic: Chronic exposure can lead to iodism characterized by headache, excess salivation, nasal discharge, conjunctivitis, laryngitis, bronchitis, stomatitis, enlarged submaxillary glands, and skin rashes. Chronic ingestion of iodides during pregnancy has resulted in fetal death, severe goiter, and cretinoid appearance of the newborn. Chronic exposure can affect thyroid function. Some references (e.g. Dreisbach's Handbook) say that iodine and iodine compounds are potent sensitizers and that repeated contact may cause sensitivity dermatitis, laryngeal edema, serum sickness with lymph node enlargement, and joint pain and swelling.

Section 4 - First Aid Measures

- Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.
- Skin:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
- Ingestion:** POISON material. If swallowed, get medical aid immediately. Only induce vomiting if directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Section 5 - Fire Fighting Measures

- General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible. Vapors may accumulate in confined spaces
- Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale.
- Storage:** Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

CAS# 7553-56-2:

United Kingdom, WEL - STEL: 0.1 ppm STEL; 1.1 mg/m³ STEL
United States OSHA: ; 0.1 ppm Ceiling; 1 mg/m³ Ceiling
Belgium - TWA: 0.1 ppm TWA; 1 mg/m³ TWA
France - VLE: 0.1 ppm VLCT; 1 mg/m³ VLCT
Japan: 0.1 ppm OEL; 1 mg/m³ OEL
Malaysia: 0.1 ppm Ceiling; 1.0 mg/m³ Ceiling
Netherlands: 0.1 ppm MAC; 1 mg/m³ MAC
Spain: 0.1 ppm VLA-EC; 1 mg/m³ VLA-EC

Personal Protective Equipment

- Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
- Skin:** Wear appropriate gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

- Physical State:** Solid
- Color:** black-violet
- Odor:** iodine-like
- pH:** Not available
- Vapor Pressure:** 0.3 mm Hg @ 20 deg C
- Viscosity:** Not available
- Boiling Point:** 184 deg C (363.20°F)
- Freezing/Melting Point:** 113 deg C (235.40°F)
- Autoignition Temperature:** Not applicable
- Flash Point:** Not applicable.
- Explosion Limits: Lower:** Not available
- Explosion Limits: Upper:** Not available
- Decomposition Temperature:**
- Solubility in water:** 0.034 g/100 ml @ 25°C
- Specific Gravity/Density:** 4.93
- Molecular Formula:** I₂
- Molecular Weight:** 253.81

Section 10 - Stability and Reactivity

- Chemical Stability:** Stable. Substance is sublimable, able to go directly from solid to vapor.
- Conditions to Avoid:** Dust generation, excess heat.
- Incompatibilities with Other Materials:** Active metals, ammonia, fluorine, liquid chlorine, acetaldehyde, acetylene, carbides, powdered aluminum.
- Hazardous Decomposition Products:** Hydrogen iodide.
- Hazardous Polymerization:** Will not occur.

Section 11 - Toxicological Information

- RTECS#:** CAS# 7553-56-2: NN1575000
- LD50/LC50:** RTECS:
CAS# 7553-56-2: Oral, mouse: LD50 = 22 gm/kg;
Oral, mouse: LD50 = 1000 mg/kg;
Oral, rabbit: LD50 = 10 gm/kg;
Oral, rat: LD50 = 14 gm/kg;
Other: Oral LDLo human: 28 mg/kg (RTECS).
- Carcinogenicity:** Iodine - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
- Other:** See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	CORROSIVE SOLID, TOXIC, N.O.S.*	CORROSIVE SOLID, TOXIC, N.O.S.	CORROSIVE SOLID, TOXIC, N.O.S.
Hazard Class:	8 (6.1)	8 (6.1)	8 (6.1)
UN Number:	2923	2923	2923
Packing Group:	II	II	II

Severe Marine Pollutant

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN N

Risk Phrases:

R 20/21 Harmful by inhalation and in contact with skin.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 25 Avoid contact with eyes.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 7553-56-2: 1

Canada

CAS# 7553-56-2 is listed on Canada's DSL List

US Federal

TSCA

CAS# 7553-56-2 is listed on the TSCA

Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/12/1997

Revision #11 Date 8/22/2007

Revisions were made in Sections: 14

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
