Material Safety Data Sheet
Iodine

ACC# 11400

Section 1 - Chemical Product and Company Identification

MSDS Name: Iodine
Catalog Numbers: S75028, S750282, S75139, I35-100, I35-500, I3550KG, I37-100, I37-500, NC9164795, NC9166347, NC9621796, NC9680460, NC9887523, XXI35100LB, XXI3525KG, XXI373.3KG, XXI375KG
Synonyms: None.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7553-56-2	Iodine	100	231-442-4

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

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: black-violet solid. **Danger!** Corrosive. Causes eye and skin burns. May cause severe respiratory and digestive tract irritation with possible burns. May cause allergic skin reaction. May cause kidney damage.
Target Organs: Kidneys, thyroid.

Potential Health Effects
Eye: Causes severe eye irritation. May cause eye burns. Vapor or mist may cause irritation and severe burns.
Skin: Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause burns to the digestive tract. May cause thyroid abnormalities.
Inhalation: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause epiphoria, which is an excessive flow of tears.
Chronic: Chronic exposure can lead to iodism characterized by salivation, nasal discharge,

sneezing, conjunctivitis, fever, laryngitis, bronchitis, stomatitis, and skin rashes. Chronic exposure can affect thyroid function. May cause kidney damage.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Rinse area with large amounts of water for at least 15 minutes. Remove contaminated clothing and shoes.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.
Notes to Physician: Treat symptomatically and supportively.

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. Material will not burn. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.
Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0; Special Hazard: OX

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. Use with adequate ventilation. Minimize dust generation and accumulation. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Do not ingest or inhale.
Storage: Do not store near combustible materials. Keep away from food and drinking water. Keep away from strong acids. Keep away from metals. Keep away from reducing agents.

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

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Iodine	0.1 ppm Ceiling	2 ppm IDLH	0.1 ppm Ceiling; 1 mg/m3 Ceiling

OSHA Vacated PELs: Iodine: No OSHA Vacated PELs are listed for this chemical.

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 impervious gloves.

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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Appearance: black-violet
Odor: iodine-like
pH: 5.4 (sat soln)
Vapor Pressure: 1 mm Hg @ 38.7
Vapor Density: 8.8 (air=1)
Evaporation Rate: Negligible (n-Butyl Acetate=1)
Viscosity: Not available.
Boiling Point: 184.35 deg C
Freezing/Melting Point:113.5 deg C
Decomposition Temperature: Sublimes
Solubility: Slightly soluble.
Specific Gravity/Density:4.93
Molecular Formula:I2
Molecular Weight:253.81

Section 10 - Stability and Reactivity

Chemical Stability: Stable.
Conditions to Avoid: Dust generation, excess heat.
Incompatibilities with Other Materials: Powdered aluminum, active metals. Acetylene, acetaldehyde cause explosive reactions. Iodine reacts with ammonium hydroxide to form shock sensitive compounds that are explosive when dry.
Hazardous Decomposition Products: Hydrogen iodide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 7553-56-2: NN1575000
LD50/LC50:
CAS# 7553-56-2:
Oral, mouse: LD50 = 22 gm/kg;
Oral, rabbit: LD50 = 10 gm/kg;
Oral, rat: LD50 = 14 gm/kg;
Carcinogenicity:
CAS# 7553-56-2: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: Experimental reproductive effects have been reported.
Teratogenicity: No information available.
Reproductive Effects: Reproductive effects have been reported in animals.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: No data available. Fish, LC50: 28.5 mg/kg
Environmental: No information available.
Physical: No information available.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	CORROSIVE SOLIDS, N.O.S.				CORROSIVE SOLID NOS (IODINE)
Hazard Class:	8				8(9.2)
UN Number:	UN1759				UN1759
Packing Group:	II				II

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7553-56-2 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 7553-56-2: acute, chronic, flammable.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 7553-56-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
California No Significant Risk Level: None of the chemicals in this product are listed.

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 - DSL/NDSL

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

Canada - WHMIS

This product has a WHMIS classification of E.

Canadian Ingredient Disclosure List

CAS# 7553-56-2 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 7553-56-2: OEL-ARAB Republic of Egypt:TWA 0.1 ppm (0.1 mg/m3) OEL-AUSTRALIA:TWA 0.1 ppm (1 mg/m3) OEL-BELGIUM:STEL 0.1 ppm (1 mg/m3) OEL-DENMARK:.STEL 1 ppm (1 mg/m3) OEL-FINLAND:STEL 0.1 ppm (1 mg/m 3);Skin OEL-FRANCE:STEL 0.1 ppm (1 mg/m3) OEL-GERMANY:TWA 0.1 ppm (1 mg/m3) OEL-HUNGARY:TWA 1 mg/m3;STEL 2 mg/m3 OEL-JAPAN:TWA 0.1 ppm (1 mg/m3);STEL 1 mg/m3 JAN9 OEL-THE NETHERLANDS:TWA 0.1 ppm (1 mg/m3) OEL-THE PHILIPPINES:TWA 0.1 ppm (1 mg/m3) OEL-POLAND:TWA 1 mg/m3 OE L-RUSSIA:TWA 0.1 ppm;STEL 1 mg/m3;Skin OEL-SWEDEN:STEL 0.1 ppm (1 mg/ m3) OEL-SWITZERLAND:TWA 0.1 ppm (1 mg/m3);STEL 0.2 pp (2 mg/m3) OEL-THAILAND:TWA 0.1 ppm (1 mg/m3) OEL-TURKEY:TWA 0.1 ppm (1 mg/m3) OEL-UNITED KINGDOM:STEL 0.1 ppm (1 mg/m3) OEL IN BULGARIA, COLOMBIA, JORD AN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM chec k ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997
Revision #7 Date: 3/22/2002

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