

Material Safety Data Sheet

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Iodine

Part Number: None

Chemical Family: Halogen

Manufacturer's Name: Siemens Industry, Inc. - Water Technologies Business Unit

Address: 181 Thorn Hill Road, Warrendale, PA 15086

Product/Technical Information Phone Number: 724-772-0044

Medical/Handling Emergency Phone Number: Call CHEMTREC at (800) 424-9300
24 hours a day

Transportation Emergency Phone Number: Call CHEMTREC at (800) 424-9300
24 hours a day

Issue Date: November 2005

Revision Date/Revision Number: April 2011/Rev 2

SECTION 2— COMPOSITION INFORMATION

<u>Chemical Name</u>	<u>Percent by Weight</u>	<u>CAS#</u>
Iodine	100 %	7553-56-2

SECTION 3— HAZARDS IDENTIFICATION

Appearance & Odor: Blue-black flakes with metallic luster.

Emergency Overview: Corrosive! Contact with the flakes will burn and may cause severe injury. This product is a severe lachrymator and a skin sensitizer. This product is very toxic to aquatic organisms so keep it out of bodies of water.

Fire & Explosion Hazards: During a fire, toxic fumes may be generated. May ignite some combustible materials on contact.

Primary Route(s) of Exposure: Skin and eye contact, inhalation.

Inhalation — Acute Effects: Destructive to mucous membranes and the respiratory tract. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Skin Contact — Acute Effects: Burns the skin. May be absorbed through the skin. May cause skin sensitization.

Eye Contact — Acute Effects: Burns the eyes.

Ingestion — Acute Effects: Burns the mouth and stomach. Symptoms of severe poisoning include stomach pain, vomiting, diarrhea, lethargy, bloody urine, and chemical pneumonia. High doses may be fatal.

Potential Chronic Health Effects: Long-term high level exposure will cause a reversible reduction in thyroid function. Chronic exposure can lead to iodism characterized by salivation, nasal discharge, sneezing, conjunctivitis, bronchitis, and skin rashes. May cause kidney damage.

Material Safety Data Sheet

SECTION 4—FIRST AID MEASURES

General: If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Inhalation First Aid: If symptoms are experienced, move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Obtain medical attention IMMEDIATELY.

Skin Contact First Aid: IMMEDIATELY flush skin with running water for at least 15 minutes while removing contaminated clothing. Get IMMEDIATE medical attention.

Eye Contact First Aid: Immediately flush eyes with running water for at least 20 minutes, occasionally lifting upper and lower lids, until no evidence of chemical remains. Obtain medical attention IMMEDIATELY.

Ingestion First Aid: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Seek IMMEDIATE medical attention.

Medical Conditions Aggravated: Unknown.

Note to Physician: Treat symptomatically. Observe for possible pulmonary edema which may be delayed. For ingestion, gastric lavage with a soluble starch or ; protein solution will remove iodine from the stomach.

SECTION 5— FIRE FIGHTING MEASURES

Flash Point/Method: Not applicable.

Upper/Lower Explosion Limits: Not applicable.

Extinguishing Media: Carbon dioxide or dry chemical. Cool any exposed containers with water.

Fire Fighting Procedures: Fire fighters should wear protective equipment and self-contained breathing apparatus with full face-piece operated in positive pressure mode. Move exposed containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Fire & Explosion Hazards: During a fire, toxic fumes may be generated.

Hazardous Products of Decomposition and/or Combustion: Hydrogen iodide.

NFPA Ratings: HEALTH - 3 FLAMMABILITY - 0 REACTIVITY - 0

HMIS Ratings: HEALTH - 3 FLAMMABILITY - 0 REACTIVITY - 0

Material Safety Data Sheet

SECTION 6— ACCIDENTAL RELEASE MEASURES

Restrict access to area until completion of clean up. Ensure trained personnel conduct clean up. Wear adequate personal protective equipment.

DO NOT TOUCH SPILLED MATERIAL.

Stop leak is possible without personal risk.

Small Spills: Sweep up spill and collect in appropriate container for disposal. Flush area with plenty of water.

Large Spills: Prevent entry into sewers and water bodies. Keep unnecessary people away, isolate hazard area and deny entry. Sweep up spill and collect in appropriate container for disposal. Flush area with lots of water.

DO NOT DUMP ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State, Local, and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 7—HANDLING AND STORAGE

Handling: Store in corrosion-proof area. Containers of this material may be hazardous when empty, since they retain product residues; observe all warnings and precautions listed for the product.

Storage: Store in tightly closed container, preferably the supplier container. Protect from damage. Keep dry. Read the label before use. Keep separated from incompatible substances.

SECTION 8 —PERSONAL PROTECTION/EXPOSURE CONTROL

Respiratory Protection: Wear OSHA-approved full-face or half-face cartridge respirator if workplace air concentrations exceed the PEL/TLV.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls as appropriate to prevent skin contact.

Eye Protection: Wear chemical goggles when handling this product. Maintain eye wash fountain and quick-drench facilities in work area.

Ventilation Protection: A ventilation system of local and/or general exhaust is recommended.

Other Protection: Ensure that eye wash stations and safety showers are in the workstation location.

Exposure Limits:

OSHA PEL = 0.1 ppm (ceiling)

ACGIH STEL = 0.1 ppm (ceiling)

Material Safety Data Sheet

SECTION 9—PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Blue-black flakes with metallic luster.

Vapor Pressure: nil

Vapor Density (Air=1): > 1

Boiling Point: 363° F

Melting Point: 113° C

Specific Gravity: 4.98

Solubility in Water: 0.3 g/l

Volatile Percentage: N/A*

pH: 5.4

Flash Point/method: N/A

Auto Ignition Temperature: N/A

*N/A=Not applicable

SECTION 10—STABILITY AND REACTIVITY

Stability: Stable at normal temperatures and pressure.

Incompatibilities: Metals, bases (alkaline materials), plastics, rubber, and combustible materials.

Polymerization: Will not occur.

Decomposition: Thermal decomposition: Toxic fumes.

Conditions to Avoid: Heat, flames, sparks, and other sources of ignition.

SECTION 11— TOXICOLOGICAL INFORMATION

Chronic Effects: Exposure to excessive amounts of iodine during pregnancy is capable of producing fetal hypothyroidism. Iodine-containing drugs have been associated with fetal goiter.

Toxicological Data: Oral LD₅₀ (rat) = 14 g/kg. Oral LDLo (Human) = 28 mg/kg.

Carcinogenicity/Mutagenicity: No data.

Reproductive Effects: Overexposure may cause reproductive disorders based on tests with laboratory animals.

Target Organs: Thyroid, kidneys.

SECTION 12— ECOLOGICAL INFORMATION

Ecotoxicological Information: Fish LC 50 = 28.5 mg/kg.

Persistence and Degradation: No data available.

Material Safety Data Sheet

SECTION 13— DISPOSAL CONSIDERATIONS

Material that cannot be used, or reprocessed for use, and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

SECTION 14— TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Corrosive solid, n.o.s. (Iodine)

Hazard Class/Division: 8 –

Identification Number: UN 1759

Packing Group: III

SECTION 15- REGULATORY INFORMATION

OSHA: Hazardous as a Corrosive Solid - 29 CFR 1920.1200

CERCLA: Hazardous substance - reportable quantity (RQ) = None

SARA Hazard Categories, SARA Sections 311/312 (40 CFR 370.21):

Acute: Y

Chronic: Y OSHA Process Safety (29 CFR 1910.119): N

Fire: Y

Reactive: N

Sudden Release: N

TSCA Inventory Status: Y

California Proposition 65: N

Right-To-Know Lists: Massachusetts, New Jersey, Pennsylvania, California, Minnesota.

SECTION 16— OTHER INFORMATION

Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial, and local laws.

Revision Indicator: April 2011, Revised Section 1 (Updated manufacturer's name)