

Common Name: **IODINE**

Synonyms: Diatomic Iodine

CAS No: 7553-56-2

Molecular Formula: I<sub>2</sub>

RTK Substance No: 1026

Description: Purple to black, crystalline solid with a sharp, strong odor

## HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<b>3 - Health</b> <b>0 - Fire</b> <b>0 - Reactivity</b> <b>DOT#:</b> UN 3085 <b>ERG Guide #:</b> 140 <b>Hazard Class:</b> 5.1 (Oxidizer)	<b>Iodine</b> is not combustible, but it is a STRONG OXIDIZER that enhances the combustion of other substances. Use water only. DO NOT USE CHEMICAL or CO <sub>2</sub> as extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Iodide</i> and other <i>Iodine compounds</i> . <b>Iodine</b> may ignite combustibles (wood, paper and oil).	<b>Iodine</b> reacts violently or explosively with ACETYLENE; ACETALDEHYDE; METAL AZIDES; METAL HYDRIDES; and METAL CARBIDES. <b>Iodine</b> forms explosive or shock-sensitive compounds when mixed with REDUCING AGENTS (such as LITHIUM, SODIUM, ALUMINUM and their HYDRIDES) and <i>liquid AMMONIA</i> . <b>Iodine</b> will ignite POWDERED METALS (such as ANTIMONY, MAGNESIUM and ZINC) in the presence of WATER. <b>Iodine</b> is not compatible with COMBUSTIBLES; STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); HALOGENS (such as CHLORINE, BROMINE and CHLORINE TRIFLUORIDE); and ETHANOL.

### SPILL/LEAKS

**Isolation Distance:**

Spill: 25 meters (75 feet)

Fire: 800 meters (1/2 mile)

Moisten spilled material first or use a HEPA-filter vacuum for clean-up and place into sealed containers for disposal.

DO NOT wash into sewer.

**Iodine** may be hazardous in the environment; especially to fish.

### PHYSICAL PROPERTIES

<b>Odor Threshold:</b>	Sharp, strong odor
<b>Flash Point:</b>	Noncombustible
<b>Vapor Density:</b>	8.8 (air = 1)
<b>Vapor Pressure:</b>	0.3 mm Hg at 77°F (25°C)
<b>Specific Gravity:</b>	4.93 (water = 1)
<b>Water Solubility:</b>	Slightly soluble
<b>Boiling Point:</b>	365°F (185°C)
<b>Melting Point:</b>	236°F (113°C)
<b>Ionization Potential:</b>	9.31 eV
<b>Molecular Weight:</b>	253.8

### EXPOSURE LIMITS

**OSHA:** 0.1 ppm, Ceiling

**NIOSH:** 0.1 ppm, Ceiling

**ACGIH:** 0.01 ppm, 8-hr TWA; 0.1 ppm, STEL

**IDLH:** 2 ppm

The Protective Action Criteria values are:

PAC-1 = 0.1 ppm; PAC-2 = 0.5 ppm; PAC-3 = 5 ppm

### PROTECTIVE EQUIPMENT

<b>Gloves:</b>	Butyl, Nitrile, Neoprene and Viton (>8-hr breakthrough)
<b>Coveralls:</b>	Tychem® BR, Responder® and TK (8-hr breakthrough)
<b>Respirator:</b>	> 0.01ppm SCBA

### HEALTH EFFECTS

**Eyes:** Irritation and burns

**Skin:** Irritation and burns

**Inhalation:** Nose, throat and lung irritation with coughing and severe shortness of breath (pulmonary edema)

Headache, nausea, vomiting, diarrhea and abdominal pain

### FIRST AID AND DECONTAMINATION

**Remove** the person from exposure.

**Flush** eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn. Seek medical attention.

**Quickly** remove contaminated clothing and wash contaminated skin with large amounts of soap and water.

**Begin** artificial respiration if breathing has stopped and CPR if necessary.

**Transfer** promptly to a medical facility.

**Medical** observation is recommended as symptoms may be delayed.