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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Iodine solution

Product Number : 318981  
Brand : Fluka

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

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**2. HAZARDS IDENTIFICATION****Emergency Overview****OSHA Hazards**

Target Organ Effect, Toxic by inhalation., Harmful by skin absorption., Skin sensitiser, Corrosive

**Target Organs**

Thyroid., Kidney, Endocrine system., Skin, Eyes, Reproductive system., Central nervous system

**GHS Classification**

Skin irritation (Category 2)

Eye irritation (Category 2A)

Skin sensitization (Category 1)

Acute aquatic toxicity (Category 3)

**GHS Label elements, including precautionary statements**

Pictogram



Signal word

Warning

Hazard statement(s)

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H402

Harmful to aquatic life.

Precautionary statement(s)

P280

Wear protective gloves.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**HMIS Classification****Health hazard:** 3**Chronic Health Hazard:** \***Flammability:** 0

**Physical hazards:** 0  
**NFPA Rating**  
**Health hazard:** 3  
**Fire:** 0  
**Reactivity Hazard:** 0

#### Potential Health Effects

**Inhalation** Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
**Skin** Causes skin burns.  
**Eyes** Causes eye burns.  
**Ingestion** May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : I<sub>2</sub>  
Molecular Weight : 253.81 g/mol

Component	Classification	Concentration
<b>Iodine</b>		
CAS-No.	7553-56-2	Acute Tox. 4; Aquatic Acute 1; H312, H332, H400
EC-No.	231-442-4	
Index-No.	053-001-00-3	

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Hydrogen iodide, Potassium oxides

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Iodine	7553-56-2	C	0.1 ppm 1 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		C	0.1 ppm 1 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Remarks	The value in mg/m <sup>3</sup> is approximate. Ceiling limit is to be determined from breathing-zone air samples.			
		C	0.1 ppm 1 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	0.01 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Upper Respiratory Tract irritation Hypothyroidism Not classifiable as a human carcinogen			
		STEL	0.1 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Upper Respiratory Tract irritation Hypothyroidism Not classifiable as a human carcinogen			

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid
Colour	no data available

### Safety data

pH	no data available
Melting point/freezing point	no data available
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	1.034 g/mL at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

no data available

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen iodide, Potassium oxides  
Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

no data available

#### Inhalation LC50

no data available

**Dermal LD50**  
no data available

**Other information on acute toxicity**  
no data available

**Skin corrosion/irritation**  
no data available

**Serious eye damage/eye irritation**  
Eyes: no data available

**Respiratory or skin sensitization**  
no data available

**Germ cell mutagenicity**  
no data available

### **Carcinogenicity**

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**  
no data available

### **Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**  
no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**  
no data available

**Aspiration hazard**  
no data available

### **Potential health effects**

<b>Inhalation</b>	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	Causes skin burns.
<b>Eyes</b>	Causes eye burns.

### **Signs and Symptoms of Exposure**

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration.

**Synergistic effects**  
no data available

**Additional Information**  
RTECS: Not available

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

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## 13. DISPOSAL CONSIDERATIONS

### Product

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## 15. REGULATORY INFORMATION

### OSHA Hazards

Target Organ Effect, Toxic by inhalation., Harmful by skin absorption., Skin sensitiser, Corrosive

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

Iodine

CAS-No.  
7553-56-2

Revision Date  
2007-03-01

### Pennsylvania Right To Know Components

Water  
Iodine

CAS-No.  
7732-18-5  
7553-56-2

Revision Date  
2007-03-01

## New Jersey Right To Know Components

Water  
Iodine  
Potassium iodide

CAS-No.  
7732-18-5  
7553-56-2  
7681-11-0

Revision Date  
2007-03-01

## California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## 16. OTHER INFORMATION

### Text of H-code(s) and R-phras(e)s mentioned in Section 3

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.

### Further information

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