

## MATERIAL SAFETY DATA SHEET

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Version 1.8

## Section 1 - Product and Company Information

Product Name IODINE, CHIPS, 99+%

Product Number 376558

Brand ALDRICH

Company Sigma-Aldrich

Street Address 3050 Spruce Street

City, State, Zip, Country SAINT LOUIS MO 63103 US

Technical Phone: 314 771 5765

Emergency Phone: 414 273 3850 Ext. 5996

Fax: 800 325 5052

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
IODINE	7553-56-2	No

Formula I<sub>2</sub>

Synonyms IODE (French) \* Iodine (ACGIH:OSHA) \* Iodine crystals \* Iodine sublimed \* Iodio (Italian) \* Jod (German, Polish) \* Jood (Dutch)

RTECS Number: NN1575000

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Corrosive. Dangerous for the environment.  
Harmful by inhalation and in contact with skin. Causes burns. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms.  
Severe lachrymator. Target organ(s): Thyroid. Kidneys.

## HMIS RATING

HEALTH: 3\*  
FLAMMABILITY: 0  
REACTIVITY: 1

## NFPA RATING

HEALTH: 3  
FLAMMABILITY: 0  
REACTIVITY: 1

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting.

#### INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

#### EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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#### Section 5 - Fire Fighting Measures

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##### FLASH POINT

N/A

##### AUTOIGNITION TEMP

N/A

##### FLAMMABILITY

N/A

##### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

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#### Section 6 - Accidental Release Measures

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##### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

##### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

##### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

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#### Section 7 - Handling and Storage

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##### HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

##### STORAGE

Suitable: Keep tightly closed.

##### SPECIAL REQUIREMENTS

Handle and store under inert gas. Hygroscopic.

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#### Section 8 - Exposure Controls / PPE

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##### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

##### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.



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## STABILITY

Stable: Stable.

Materials to Avoid: Rubber, Plastics Iron and iron salts., Sulfur, Ammonia, Magnesium, Zinc, Aluminum, Metals Alkalies, antimony salts, arsenites, bromides, carbonates, chlorides, iodides, thiocyanates, ferrous salts, hypophosphites, morphine salts, oils, creosote, phosphates, tannic acid, tartrates, vegetable extracts  
Mixing iodine, antimony, and ammonia resulted in an explosion. A violent reaction occurs between iodine and acetaldehyde.

## HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nature of decomposition products not known.

## HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Harmful if absorbed through skin.

Eye Contact: Causes burns. Severe lachrymator.

Inhalation: Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

### SENSITIZATION

Respiratory: May cause allergic respiratory reaction.

Skin: May cause allergic skin reaction.

### TARGET ORGAN(S) OR SYSTEM(S)

Thyroid. Kidneys. Endocrine system.

### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. 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.

### TOXICITY DATA

Oral

Human

28 mg/kg

LDLO

Subcutaneous

Rat

10,500 mg/kg

LD50

Subcutaneous  
Mouse  
> 8,650 mg/kg  
LD50  
Oral  
Rat  
14,000 mg/kg  
LD50  
Oral  
Mouse  
22,000 mg/kg  
LD50  
Oral  
Rabbit  
10,000 mg/kg  
LD50

Oral  
Human  
28 mg/kg  
LDLO  
Remarks: Gastrointestinal:Hypermotility, diarrhea.  
Gastrointestinal:Other changes.

Oral  
Rat  
14000 mg/kg  
LD50

Subcutaneous  
Rat  
10500 MG/KG  
LD50

Oral  
Mouse  
22000 mg/kg  
LD50

Subcutaneous  
Mouse  
>8650 MG/KG  
LD50

Oral  
Rabbit  
10000 mg/kg  
LD50

#### CHRONIC EXPOSURE - TERATOGEN

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

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 1100 MG/KG  
Route of Application: Oral  
Exposure Time: (1-22D PREG)  
Result: Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive).

Species: Rat  
Dose: 2750 MG/KG  
Route of Application: Oral  
Exposure Time: (1-22D PREG)  
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rabbit  
Dose: 15 MG/KG  
Route of Application: Oral  
Exposure Time: (30-31D PREG)  
Result: Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Growth statistics (e.g., reduced weight gain).

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## Section 12 - Ecological Information

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### ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish  
Time: 24 h  
Value: 0.44 mg/l

Test Type: LC50 Fish  
Species: Onchorhynchus mykiss (Rainbow trout)  
Time: 96 h  
Value: 1.7 mg/l

Test Type: EC50 Daphnia  
Species: Daphnia magna  
Time: 48 h  
Value: 0.33 mg/l

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## Section 13 - Disposal Considerations

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### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

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. Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: Corrosive solids, n.o.s.  
UN#: 1759  
Class: 8  
Packing Group: Packing Group II  
Hazard Label: Corrosive  
PIH: Not PIH

### IATA

Proper Shipping Name: Corrosive solid, n.o.s.  
IATA UN Number: 1759  
Hazard Class: 8  
Packing Group: II

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## Section 15 - Regulatory Information

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### EU DIRECTIVES CLASSIFICATION

Symbol of Danger: Xn N  
Indication of Danger: Harmful. Dangerous for the environment.  
R: 20/21 50  
Risk Statements: Harmful by inhalation and in contact with skin.  
Very toxic to aquatic organisms.  
S: 23 25 61  
Safety Statements: Do not breathe vapor. Avoid contact with eyes. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Corrosive. Dangerous for the environment.  
Risk Statements: Harmful by inhalation and in contact with skin.  
Causes burns. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms.  
Safety Statements: Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
US Statements: Severe lachrymator. Target organ(s): Thyroid. Kidneys.

#### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

#### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

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#### Section 16 - Other Information

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#### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

#### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.  
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