

Material Safety Data Sheet
acc. to OSHA and ANSI

Printing date 03/26/2007

Reviewed on 01/22/2007

Product name: Iodine

(Contd. of page 1)

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

The product is not flammable

Storage

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

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8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Iodine

	ppm
ACGIH TLV	0.1-Ceiling
Austria MAK	0.1
Belgium TWA	0.1-STEEL
Denmark TWA	0.1
Finland TWA	0.1-STEEL (skin)
France VME	0.1
Germany MAK	0.1-STEEL
Hungary TWA	1 mg/m ³ ; 2 mg/m ³ -STEEL
Korea TLV	0.1-Ceiling
Netherlands MAC-TGG	0.1
Norway TWA	0.1
Poland TWA	1 mg/m ³
Russia	0.1; 1-STEEL (skin)
Sweden TWA	0.1-Ceiling
Switzerland MAK-W	0.1
United Kingdom TWA	0.1-STEEL
USA PEL	0.0-Ceiling

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Solid
Color:	Violet
Odor:	Acrid

Change in condition

Melting point/Melting range:	113.6°C (236°F)
Boiling point/Boiling range:	184.35°C (364°F)
Sublimation temperature / start:	Not determined

Flash point: Not applicable

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Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure at 20°C (68°F):	0.35 hPa (0 mm Hg)
Density at 20°C (68°F):	4.93 g/cm ³

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided: Reducing agents, easily oxidized materials

Dangerous reactions No dangerous reactions known

Dangerous products of decomposition: Irritant gases/vapors

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral	LD50	22000 mg/kg (mus)
		14000 mg/kg (rat)

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Prolonged exposure to iodides may cause skin rash, running nose, headache and irritation of the mucous membranes. In severe cases the skin may show pimples, boils, redness, black and blue spots, hives and blisters. Iodides are readily diffused across the placenta.

Elemental iodine is highly irritating to the skin, eyes, and mucous membranes. Ingestion may cause abdominal pain, nausea, vomiting and diarrhea. Severe cases may cause circulatory failure.

Additional toxicological information:

Danger through skin absorption.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

Ecotoxicological effects:

Remark: Very toxic for fish

General notes:

Do not allow product to reach ground water, water course or sewage system.

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Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Do not allow material to be released to the environment without proper governmental permits.
Very toxic for aquatic organisms

13 Disposal considerations

Product:

Recommendation

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class: 8
Identification number: UN1759
Packing group: III
Proper shipping name (technical name): CORROSIVE SOLID, N.O.S. (Iodine)
Label: 8

Land transport ADR/RID (cross-border)



ADR/RID class: 8 (C10) Corrosive substances
Danger code (Kemler): 80
UN-Number: 1759
Packaging group: III
Description of goods: 1759 CORROSIVE SOLID, N.O.S. (Iodine)

Maritime transport IMDG:



IMDG Class: 8
UN Number: 1759
Label: 8
Packaging group: III
EMS Number: F-A, S-B

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Proper shipping name: CORROSIVE SOLID, N.O.S. (Iodine)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class:	8
UN/ID Number:	1759
Label	8
Packaging group:	III
Proper shipping name:	CORROSIVE SOLID, N.O.S. (Iodine)

15 Regulations

Product related hazard informations:

Hazard symbols:

Xn Harmful
N Dangerous for the environment

Risk phrases:

20/21 Harmful by inhalation and in contact with skin.
50 Very toxic to aquatic organisms.

Safety phrases:

23 Do not breathe fumes
25 Avoid contact with eyes.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

Information about limitation of use:

For use only by technically qualified individuals.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.
Contact: Darrell R. Sanders

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1 Identification of substance:

Product details:

Product name: Iodine

Stock number: 41955

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency information:

During normal hours the Health, Safety and Environmental Department.
After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

Iodine (CAS# 7553-56-2); 100%

Identification number(s):

EINECS Number: 231-442-4

EU Number: 053-001-00-3

3 Hazards identification

Hazard description:



Xn Harmful

N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 20/21 Harmful by inhalation and in contact with skin.

R 50 Very toxic to aquatic organisms.

Classification system

NFPA Ratings (scale 0-4)



Health = 2

Fire = 0

Reactivity = 0

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	3
FIRE	0
REACTIVITY	2

Health (acute effects) = 3

Flammability = 0

Reactivity = 2

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

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