

Mallinckrodt

IODINE

Material Safety Data Sheet

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Effective Date: 08-26-85

PRODUCT IDENTIFICATION:

Synonyms: Iodine crystals; Iodine sublimed

Formula CAS No.: 7553-56-2

Hazardous Ingredients:
Not applicable.

Molecular Weight: 253.81
Chemical Formula: I₂

PRECAUTIONARY MEASURES

DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. CAUSES SEVERE BURNS.
STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.

Do not breathe mist.
Keep container closed.
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.
Do not store near combustible materials.
Keep from contact with clothing and other combustible materials.
Remove and wash contaminated clothing promptly.

EMERGENCY/FIRST AID

If swallowed, give several glasses of water or milk to drink. Induce vomiting if medical help is not immediately available. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. In all cases call a physician.
SEE SECTION 5.

DOT Hazard Class: Not Regulated

Physical Data SECTION 1

Appearance: Bluish-black crystals; metallic luster

Odor: Pungent.

Solubility: Slight water solubility (0.03 g/100 g water @ 20°C).

Boiling Point: 184°C (363°F) (sublimes) Vapor Density (Air=1): 8.8

Melting Point: 114°C (237°F) Vapor Pressure (mm Hg): 0.3 @ 20°C

Specific Gravity: 4.98 Evaporation Rate: No information found.

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Fire and Explosion Information

SECTION 2

Fire:

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Explosion:

Contact with oxidizable substances may cause extremely violent combustion.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Reactivity Data

SECTION 3

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Toxic gases and vapors may be released if involved in a fire.

Hazardous Polymerization:

This substance does not polymerize.

Incompatibilities:

Incompatible with ammonia, powdered metals, alkali metals, or strong reducing agents. Reaction can be violent or explosive with acetaldehyde and acetylene. Reacts with ammonium hydroxide to form shock-sensitive iodides on drying.

Leak/Spill Disposal Information SECTION 4

Ventilate the area of the leak or spill. Clean-up personnel should wear protective clothing and respiratory equipment suitable for toxic or corrosive fluids or vapors. Dike and cover spill with ferrous sulfate, sodium sulfite or sodium chlorosulfate, then moisten and acidify, if necessary, to promote the reduction reaction. Neutralize slurry with soda ash. Collect by scooping, mopping or vacuuming as appropriate. Flush area of spill with dilute ferrous sulfate or sodium sulfite solution and discard to sewer. Neutralized waste may be transferred to a closed, preferably metal, container and sent to an approved waste disposal facility.

Ensure compliance with local, state and federal regulations.

Health Hazard Information

SECTION 3

Exposure/Health Effects

Inhalation:

Vapors severely irritate the mucous membranes and respiratory tract. Excessive tears, rhinitis, tightness in the chest, sore throat, headache and delayed pulmonary edema can result.

Ingestion:

May cause burning sensations, severe corrosive gastroenteritis, abdominal pain, diarrhea, fever, vomiting, stupor and shock. Probable lethal dose is 2 to 4 gm of free iodine.

Skin Contact:

The crystalline form or strong solutions are severe skin irritants. Lestons resemble thermal burns.

Eye Contact:

Vapors severely irritate the eyes. Causes tearing and inflammation of the eyelids.

Chronic Exposure:

May cause insomnia, conjunctivitis, inflammation of the nasal mucous, bronchitis, tremor, rapid heart beat, diarrhea and weight loss. Allergic sensitization can occur.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders, eye problems, impaired respiratory function, or disease of the thyroid, lungs, or kidney may be more susceptible to the effects of the substance.

B. FIRST AID

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. Observe for the development of pulmonary edema.

Ingestion:

Give water or milk to drink. Induce vomiting if medical help is not immediately available. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Exposure:

Remove any contaminated clothing. Wipe off excess from skin. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Exposure:

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY DATA

(RTECS, 1982)

Oral rat LD50: 14 gm/kg
Reproductive effects cited.
Mutation reference cited.

Occupational Control Measures

SECTION 6

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):
0.1 ppm (TWA) (ceiling)
-ACGIH Threshold Limit Value (TLV):
0.1 ppm (TWA) (ceiling)

Ventilation System:

A system of local exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the dust or vapor at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators:

(NIOSH Approved)

If the TLV is exceeded a full facemask chemical cartridge respirator may be worn, in general, up to 100 times the TLV or the maximum use concentration specified by the respirator supplier, whichever is less. Alternatively, a supplied air full facemask respirator or airline hood may be worn.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

Eye Protection:

Use chemical safety goggles. Contact lenses should not be worn when working with this material.

Maintain eye wash fountain and quick-drench facilities in work area.

Storage and Special Information

SECTION 7

Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight.

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