

School Material Safety Data Sheet

Genium Publishing Corporation
1145 Catalyn Street
Schenectady, NY 12303-1836 USA
(518) 377-8855



GENIUM PUBLISHING CORP.

No. 179
POTASSIUM IODATE
August 1988

SECTION 1. INTRODUCTORY INFORMATION

MATERIAL NAME AND FORMULA: POTASSIUM IODATE; KIO_3

SYNONYMS: Iodic Acid; Potassium Salt

CAS NUMBER: 7758-05-6

TYPICAL COMPOSITION: Potassium Iodate; ca 100%

DOT CLASSIFICATION: Not Found

EPA CLASSIFICATION: Not Found

MANUFACTURER'S INFORMATION: Always request material safety data sheets from your chemical supplier. These should indicate the manufacturer's emergency telephone number. See the Resources/Manufacturers Index for some of the larger manufacturers and available telephone numbers.



DESCRIPTION: Potassium iodate is available as a white crystalline powder. No odor.

PRELIMINARY INFORMATION: This material may be present in small quantities in the chemistry laboratory. It is a strong oxidizer that should be kept away from contact with combustible materials. Possible explosion hazard (see sect. 2). Low in toxicity.

SECTION 2. USE AND STORAGE INFORMATION

-- PRELIMINARY PLANNING CONSIDERATIONS --

- **PROVIDE FOR SAFE DISPOSAL OF ALL CHEMICAL WASTE** generated in the lab. Check applicable regulations prior to use.
- **Wear safety glasses or goggles** and appropriate protective clothing (rubberized apron, etc.) during all experiments.
- Be sure that eyewash station and safety shower are in good working order.
- Rubber gloves are recommended to minimize skin contact when working with this material.

-- USAGE PRECAUTIONS AND PROCEDURES --

- **READ THE LABEL** and follow all precautions.
- Practice good housekeeping to avoid unintentional mixing of incompatible materials. Do not allow residue or dust to build up in the lab or work area.
- For safety, **DO NOT WEAR CONTACT LENSES IN THE LABORATORY**; soft lenses may absorb irritants, and all lenses may concentrate them. Particles can also adhere to contact lens surfaces and cause corneal damage.
- After working with this material, always wash hands and face before eating, drinking, or smoking.
- Do not smoke in storage or use area.
- Keep potassium iodate away from strong reducing agents and combustibles.
- Remove contaminated clothing and launder it before wearing it again.
- Keep this material away from notebooks, textbooks, and personal belongings to avoid contamination and the transport of chemical residues out of the lab/work area.
- Do not let this material come into contact with eyes, skin, or clothing. Avoid inhaling the dust or solution mist from this chemical. Do not taste or swallow this substance.
- Clean up spilled material promptly and thoroughly.
- Potassium iodate can be an explosion hazard when heated or exposed to mechanical shock or friction, especially if contaminated with such materials as carbon or sulfur.

-- ADDITIONAL INFORMATION --

Potassium iodate does not polymerize. It is stable at room temperature under normal conditions of handling and storage.

- Incompatible materials include combustibles, reducing agents, aluminum, sulfur, carbon, sulfides, and organic materials.

-- PREFERRED STORAGE LOCATION AND METHODS --

- Storage area should be cool and well ventilated. Containers should be tightly closed.
- Do not store chemicals alphabetically by name; store them by chemical family, instead, to keep compatibles together.
- Protect all chemical containers from physical damage and keep them out of direct sunlight.
- Do not permit smoking in areas where chemicals are stored.
- Purchase only amounts equivalent to one year's needs.
- Store with compatible materials on sturdy shelving away from combustibles.

SECTION 3. SPILLS AND DISPOSAL PROCEDURES

IF MATERIAL IS SPILLED:

- Clean up spilled material promptly and thoroughly.
- Cleanup personnel should wear personal protective equipment to prevent skin or eye contact and inhalation of dust.
- For liquid (solution) spills, cover material with an inert solid absorbent (vermiculite, dry sand, etc.) and scoop it into an appropriate container (with a secure lid) for disposal in accordance with existing regulations. Dike the spill area with an inert absorbent material, as needed, to contain the spilled material.
- Sweep, vacuum, or scoop up spilled solid, avoiding generation of dust. Place it in a suitable container (with a secure lid) for later disposal.
- Avoid creating airborne dust conditions.

DISPOSAL OF SMALL QUANTITIES:

NOTE: Emptied containers could contain chemical residues; handle with care.

- Contact your supplier or a licensed disposal contractor for specific treatment/disposal procedures.

FOR THE DISPOSAL OF LARGER AMOUNTS contact a licensed disposal company.

-- FOLLOW ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS FOR ALL WASTE DISPOSAL --

SECTION 4: HEALTH HAZARDS

Potassium iodate has not been identified as a known or suspected carcinogen by the NTP, IARC, or OSHA.

Current OSHA PEL and ACGIH TLV: No TLV established.

- Animal experiments suggest a potential for kidney and blood cell damage.
- Mouse, Oral, LD₅₀: 0.531 mg/kg

Summary of Risks:

- Inhalation of airborne dust from potassium iodate may irritate the respiratory tract.
- Prolonged or repeated skin contact, particularly with moist skin, may cause reddening and irritation.
- Eye contact with KIO₃ dust or solution mist may cause irritation.
- Ingestion may produce gastrointestinal irritation, resulting in abdominal pain, vomiting, and diarrhea.

Acute Effects: Irritation of eyes, skin, respiratory tract.

Chronic Effects: Repeated ingestion may cause kidney impairment or failure and blood conditions such as hemolysis. Central nervous system effects may also be produced.

SECTION 5: FIRST AID PROCEDURES

Eye contact:

- Flush eyes promptly, including under the eyelids, with plenty of running water. Continue for at least 15 minutes.
- Get prompt medical attention.*

Skin contact:

- Remove contaminated clothing promptly.
- Flush affected area with large amounts of water, then wash exposed areas of skin with soap and water.
- Contact medical personnel.*

Inhalation:

- Remove victim to fresh air; restore/support his breathing as necessary.
- Get medical help if victim is breathing with difficulty or coughing.*

Ingestion:

- Rinse victim's mouth thoroughly with water.
- Give victim several glasses of water to drink to dilute ingested material. Induce vomiting, but **ONLY** if he is conscious and alert.
- Never give anything by mouth to someone who is unconscious or convulsing.
- Get prompt medical attention.*

*Get medical help (in school, paramedic, or community) for further treatment, observation, and support after first aid.

SECTION 6: FIRE PROCEDURES AND DATA

- Although not expected to be present in large quantities, potassium iodate is a strong oxidizing agent and is capable of releasing gaseous oxygen when heated.
- Extinguishing media: carbon dioxide, dry chemical, water, or water spray.
- For major fires, or if large quantities of this material are involved, fire fighters should wear appropriate protective clothing and use respiratory protection. Self-contained breathing apparatus is recommended.
- A water spray may be used to cool fire-exposed containers and disperse vapors. Use of a direct stream of water may not be effective and could scatter the fire.

HAZARDOUS PRODUCTS OF DECOMPOSITION MAY INCLUDE: Oxides of potassium and iodine; oxygen gas

FLASH POINT: Not Combustible

AUTOIGNITION TEMPERATURE: Not Combustible

FLAMMABILITY LIMITS IN AIR (Vol. %): Not Found

SECTION 7: PHYSICAL DATA

SOLUBILITY IN WATER (g/100ml): 5*

SPECIFIC GRAVITY (20°/4°C): 3.9

MELTING POINT: 1040°F (560°C) (With Partial Decomposition)

FORMULA WEIGHT: 214.02

*Also soluble in dilute sulfuric acid; insoluble in alcohol.

REFERENCES: Genium Industrial MSDS 214 (8/87) and references 1, 4-7, 10, 14, 34, 58, 82, 84, 509-11.
(see glossary for titles)

Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, Genium Publishing Corp. extends no warranties, makes no representations and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

Approvals:

Author

Indust. Hygiene/Safety

Medical Review