



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier Arsenic Iodide (AsI3)
Other means of identification
SDS number A-MSDS0075
Synonyms ARSENOUS IODIDE * ARSENOUS TRIIODIDE
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name Materion Advanced Chemicals Inc.
Address 407 N 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Telephone 414.212.0257
E-mail advancedmaterials@materion.com
Contact person Noreen Atkinson
Emergency phone number Chemtrec 800.424.9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Acute toxicity, oral Category 3
Acute toxicity, inhalation Category 3
Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Carcinogenicity Category 1
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 1
Hazardous to the aquatic environment, long-term hazard Category 1
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement Toxic if swallowed. Toxic if swallowed. May cause cancer. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic if inhaled. May cause cancer. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Precautionary statement
Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear eye protection/face protection. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Immediately call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
arsenic iodide	ARSENOUS IODIDE ARSENOUS TRIIODIDE	7784-45-4	100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
Skin contact	Take off immediately all contaminated clothing. Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms/effects, acute and delayed	Corrosive effects. Burning pain and severe corrosive skin damage. May cause temporary blindness and severe eye damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.

Fire fighting equipment/instructions

Use water spray to cool unopened containers. Water runoff can cause environmental damage.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Should not be released into the environment. Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Avoid breathing dust. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Material	Type	Value	Form
arsenic iodide (CAS 7784-45-4)	TWA	0.01 mg/m3	
		0.01 ppm	Inhalable fraction and vapor.

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
arsenic iodide (CAS 7784-45-4)	Ceiling	0.002 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
arsenic iodide (CAS 7784-45-4)	35 µg/l	Inorganic arsenic, plus methylated metabolites, as As	Urine	*

* - For sampling details, please see the source document.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear eye/face protection. Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Do not get in eyes. Do not get this material in contact with skin. Do not get this material on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Solid.

Color Not available.

Odor Not applicable.

Odor threshold Not available.

pH 1.1 0.1 N Aqueous solution

Melting point/freezing point 285.62 °F (140.9 °C)

Initial boiling point and boiling range 795.2 °F (424 °C)

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 0.0000001 kPa at 25 °C

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	4.69 g/cm ³ estimated at 25 °C
Explosive properties	Not explosive.
Molecular formula	As-I ₃
Molecular weight	455.64 g/mol
Oxidizing properties	Not oxidizing.
Specific gravity	4.69 at 25 °C

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Bases. Reducing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled.
Skin contact	Causes severe skin burns.
Eye contact	Causes severe eye burns. Causes serious eye damage.
Ingestion	Toxic if swallowed. Toxic if swallowed. Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
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Information on toxicological effects

Acute toxicity	Toxic if swallowed. Causes severe skin burns and eye damage. Toxic if inhaled. Toxic if swallowed.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes severe eye burns. Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Due to lack of data the classification is not possible.
Germ cell mutagenicity	Due to lack of data the classification is not possible.
Carcinogenicity	Cancer hazard.

IARC Monographs. Overall Evaluation of Carcinogenicity

arsenic iodide (CAS 7784-45-4) 1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

arsenic iodide (CAS 7784-45-4) Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

arsenic iodide (CAS 7784-45-4) Cancer

Reproductive toxicity	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Due to lack of data the classification is not possible.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity	Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	UN1557
UN proper shipping name	Arsenic compounds, solid, n.o.s. inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.
Transport hazard class(es)	
Class	6.1(PGI, II)
Subsidiary risk	-
Label(s)	6.1
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB8, IP2, IP4, T3, TP33
Packaging exceptions	153
Packaging non bulk	212
Packaging bulk	242
IATA	
UN number	UN1557
UN proper shipping name	Arsenic compounds, solid, n.o.s. inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.

Transport hazard class(es)**Class** 6.1(PGI, II)**Subsidiary risk** -**Label(s)** 6.1**Packing group** II**Environmental hazards** No.**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Other information****Passenger and cargo aircraft** Forbidden.**Cargo aircraft only** Forbidden.**IMDG****UN number** UN1557**UN proper shipping name** Arsenic compounds, solid, n.o.s. inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.**Transport hazard class(es)****Class** 6.1(PGI, II)**Subsidiary risk** -**Label(s)** 6.1**Packing group** II**Environmental hazards****Marine pollutant** No.**EmS** Not available.**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**DOT****IATA; IMDG****15. Regulatory information****US federal regulations**

All components are on the U.S. EPA TSCA Inventory List.

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

arsenic iodide (CAS 7784-45-4)

Cancer
Liver
Skin
Respiratory irritation
Nervous system
Acute toxicity

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
arsenic iodide	7784-45-4	100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

arsenic iodide (CAS 7784-45-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Priority pollutant
Toxic pollutant

Safe Drinking Water Act (SDWA) 0 mg/l
0.010 mg/l

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US - New Jersey RTK - Substances: Listed substance

arsenic iodide (CAS 7784-45-4)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

arsenic iodide (CAS 7784-45-4)

US. Pennsylvania RTK - Hazardous Substances

arsenic iodide (CAS 7784-45-4)

US. Pennsylvania Worker and Community Right-to-Know Law

arsenic iodide (CAS 7784-45-4)

US. Rhode Island RTK

arsenic iodide (CAS 7784-45-4)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

arsenic iodide (CAS 7784-45-4) Listed: February 27, 1987

16. Other information, including date of preparation or last revision

Issue date 05-17-2015

Revision date 07-14-2015

Version # 02

Disclaimer

Materion - Milwaukee cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

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