

# MATERIAL SAFETY DATA SHEET

Manufacturer: Strem Chemicals, Inc  
 7 Mulliken Way  
 Newburyport, MA 01950-4098 U.S.A.  
 www.strem.com

Strem Customer Service (978) 499-1600  
 CHEMTREC (Emergency Only) (800) 424-9300  
 Poison Center (800) 562-8236

## Section 1: Product Identification

Chemical Name: Arsenic (III) iodide, 98%  
 Product Number: 93-3312  
 CAS Registry Number: 7784-45-4  
 Formula: AsI<sub>3</sub>  
 EINECS Number: 232-068-4  
 Chemical Family: metal halide  
 Synonym: Arsenic triiodide, Triiodoarsine

## Section 2: Composition and Information on Ingredients

Ingredient	CAS Number	Percent	ACGIH (TWA)	OSHA (PEL)
Title Compound	7784-45-4	100%	0.01mg/m <sup>3</sup> (as As)	0.01mg/m <sup>3</sup> (as As)

## Section 3: Hazards Identification

Emergency Overview: Toxic by inhalation and if swallowed. Extremely destructive to respiratory tract, eyes and skin. Material hydrolyzes in contact with moisture releasing corrosive hydrogen iodide fumes. May cause cancer.

Primary Routes of Exposure: Ingestion, inhalation, skin, eyes

Eye Contact: Liquid and vapors cause burns to the eyes and blindness.

Skin Contact: Corrosive to skin. Causes severe irritation of the skin, ulceration, spotty pigmentation, dermatitis, and skin cancer.

Inhalation: Toxic by inhalation. Forms corrosive hydrogen iodide in the presence of moisture. Dust may cause arsenic poisoning.

Ingestion: Toxic by ingestion. Burns to the gastrointestinal system and arsenic poisoning may occur.

Acute Health Affects: Toxic through inhalation and if swallowed. Material is extremely destructive to body tissues. Arsenic poisoning may cause garlic breath odor, nausea, vomiting, bloody diarrhea, weakness, shock, coma. Iodides may cause skin rash, headache, and irritation of mucous membranes. Arsenic compounds may cause loss of appetite, dermatitis, diarrhea, kidney and liver damage, nervous disorders, and cancer of the skin, lungs, and liver. May cause heritable genetic damage.

Chronic Health Affects:

NTP: yes  
 IARC: Yes  
 OSHA: Yes

## SECTION 4: First Aid Measures

Eye Exposure: Immediately flush the eyes with copious amounts of water for at least 10-15 minutes. A victim may need assistance in keeping their eye lids open. Get immediate medical attention.

Skin Exposure: Wash the affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

Inhalation: Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.

Ingestion: Seek medical attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

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<b>SECTION 5: Fire Fighting Measures</b>	
Flash Point:	not applicable
Autoignition Temperature:	none
Explosion Limits:	none
Extinguishing Medium:	none required
Special Fire Fighting Procedures:	If involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products:	If involved in a fire this material may emit corrosive hydrogen iodide and toxic metal oxide fumes.
Unusual Fire or Explosion Hazards:	No unusual fire or explosion hazards.

<b>SECTION 6: Accidental Release Measures</b>	
Spill and Leak Procedures:	Small spills can be mixed with powdered sodium bicarbonate, lime, or calcium carbonate and swept up. Spillage in areas not adequately ventilated may require an evacuation of area. Emergency response teams will require self-contained breathing apparatus.

<b>SECTION 7: Handling and Storage</b>	
Handling and Storage:	Store material in a tightly sealed bottle away from moisture. If possible, handle material in an efficient fume hood. Prolonged exposure to the atmosphere may lead to degradation of the product.

<b>SECTION 8: Exposure Controls and Personal Protection</b>	
Eye Protection:	Always wear approved safety glasses when handling a chemical substance in the laboratory.
Skin Protection:	Wear protective clothing and gloves. Consult with glove manufacturer to determine the proper type of glove.
Ventilation:	If possible, handle the material in an efficient fume hood.
Respirator:	In the absence of adequate ventilation a respirator should be worn. The use of a respiratory requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.
Ventilation:	If possible, handle the material in an efficient fume hood.
Additional Protection:	No additional protection required.

<b>SECTION 9: Physical and Chemical Properties</b>	
Color and Form:	red powdr.
Molecular Weight:	455.62
Melting Point:	146°
Boiling Point:	403°C
Vapor Pressure:	no data
Specific Gravity:	4.39
Odor:	Pungent odor.
Solubility in Water:	

<b>SECTION 10: Stability and Reactivity</b>	
Stability:	moisture sensitive
Hazardous Polymerization:	no hazardous polymerization
Conditions to Avoid:	contact with moisture
Incompatibility:	Oxidizing agents, water, alcohols, active metals and halogens
Decomposition Products:	with moisture: hydrogen iodide and toxic arsenic oxide.

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**SECTION 11: Toxicological Information**

RTECS Data: No specific information available on this product.  
Carcinogenic Effects: Carcinogen (as inorganic As)  
Mutagenic Effects: no data  
Tetratogenic Effects: no data

**SECTION 12: Ecological Information**

Ecological Information: Avoid release to the environment. Very toxic to aquatic organisms. May cause long-term adverse effects in the environment.

**SECTION 13: Disposal Considerations**

Disposal: Dispose of according to local, state and federal regulations.

**SECTION 14: Transportation**

Shipping Name (CFR): Arsenic compounds, solid, N.O.S.  
Hazard Class (CFR): 6.1  
Additional Hazard Class (CFR): NA  
Packaging Group (CFR): II  
UN ID Number (CFR): UN# 1557  
Shipping Name (IATA): Arsenic compound, solid, N.O.S  
Hazard Class (IATA): 6.1  
Additional Hazard Class (IATA): NA  
Packaging Group (IATA): II  
UN ID Number (IATA): UN# 1557

**SECTION 15: Regulatory Information**

TSCA: Listed in the TSCA inventory.  
SARA (Title 313): Title compound: See category N020 for reporting.  
Second Ingredient: none  
Third Ingredient: none

**SECTION 16: Other Information**

Disclaimer: The information herein is believed to be accurate and reliable as of the date compiled. However, Strem Chemicals, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information.  
Preparation Date: 8/21/2001  
Revision Date: 8/01/2011

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