

Material Safety Data Sheet

Arsenic(III) chloride

ACC# 97353

Section 1 - Chemical Product and Company Identification

MSDS Name: Arsenic(III) chloride

Catalog Numbers: AC190480000, AC190480100

Synonyms: Arsenous chloride; Trichloroarsine; Arsenic trichloride.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7784-34-1	Arsenic(III) chloride	>98	232-059-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless, oily liquid.

Danger! May be fatal if inhaled, absorbed through the skin or swallowed. Arsenic trichloride forms hydrogen chloride and arsenic trioxide on contact with water. Cancer hazard. May cause severe eye, skin and respiratory tract irritation with possible burns. Contains inorganic arsenic. May cause central nervous system depression. Light sensitive. May cause cardiac disturbances. May cause liver and kidney damage. Moisture sensitive.

Target Organs: Kidneys, central nervous system, liver, lungs, cardiovascular system, eyes, skin.

Potential Health Effects

Eye: May cause eye irritation. May cause chemical conjunctivitis and corneal damage.

Skin: May cause skin irritation. Exposure to arsenic compounds may produce hyperpigmentation of the skin and hyperkeratoses of plantar and palmar surfaces as well as both primary irritation and sensitization types.

Ingestion: May be fatal if swallowed. May cause irritation of the digestive tract. Ingestion of arsenical compounds may cause burning of the lips, throat constriction, swallowing difficulties, severe abdominal pain, severe nausea, projectile vomiting, and profuse diarrhea. Ingestion of arsenic compounds can produce convulsions, coma, and possibly death within 24 hours.

Inhalation: Causes respiratory tract irritation. Inhalation of arsenic compounds may lead to irritation of the respiratory tract and to possible nasal perforation. Long-term exposure to arsenic compounds may produce impairment of peripheral circulation.

Chronic: May cause liver and kidney damage. Chronic exposure to arsenical dust may cause shortness of breath, nausea, chest pains, and garlic odor. Inorganic arsenic compounds may cause skin and lung cancers in humans.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. SPEED IS ESSENTIAL. A DOCTOR MUST BE NOTIFIED AT ONCE. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Containers may explode when heated. Reacts with most metals in the presence of moisture, liberating extremely flammable hydrogen gas. Use of water will produce irritating and toxic vapors of arsenic trioxide and hydrogen chloride. Hydrochloric acid solutions react with most metals, forming flammable hydrogen gas.

Extinguishing Media: Do NOT use water directly on fire. Use foam, dry chemical, or carbon dioxide. Do NOT get water inside containers. Use of water will produce irritating and toxic vapors of arsenic trioxide and hydrogen chloride.

Flash Point: Noncombustible

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 4; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Provide ventilation. Do not get water inside containers. Evacuate unnecessary personnel. Do not let this chemical enter the environment. Use of water will produce irritating and toxic vapors of arsenic trioxide and hydrogen chloride.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not breathe vapor or mist. Use only with adequate ventilation or respiratory protection. Systems and equipment must be scrupulously dry. Change contaminated clothing promptly. Do not take working clothes home.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Poison room locked. Store protected from moisture. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. See 29CFR 1910.1018 for regulatory requirements pertaining to all occupational exposures to inorganic arsenic.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Arsenic(III) chloride	0.01 mg/m ³ TWA (listed under Arsenic).	5 mg/m ³ IDLH (listed under Arsenic).5 mg/m ³ IDLH (as As) (listed under Arsenic, inorganic compounds).	0.5 mg/m ³ TWA (listed under Arsenic).5 æg/m ³ Action Level (as As); 10 æg/m ³ PEL (as As. Cancer hazard - see 29 CFR 1 910.1018. Arsine excepted) (listed under Arsenic, inorganic compounds).

OSHA Vacated PELs: Arsenic(III) chloride: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless, oily

Odor: unpleasant odor

pH: Not available.

Vapor Pressure: 10 mm Hg @ 23.5 deg C

Vapor Density: 6.3 (air=1)

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: 130.1 deg C @ 760 mm Hg

Freezing/Melting Point:-8.5 deg C

Decomposition Temperature:Not available.

Solubility: Decomposes.

Specific Gravity/Density:2.1600 g/cm³

Molecular Formula:AsCl₃

Molecular Weight:181.28

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Decomposes on exposure to light. Fumes in moist air.

Conditions to Avoid: Light, moisture, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, ammonia, halogens, Solutions attack some metals..

Hazardous Decomposition Products: Hydrogen chloride, oxides of arsenic.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 7784-34-1: CG1750000

LD50/LC50:

CAS# 7784-34-1:

- Oral, rat: LD50 = 48 mg/kg;
- Oral, rat: LD50 = 48 mg/kg;
- Skin, rat: LD50 = 80 mg/kg;

Inhalation LCLo mouse: 338 ppm/10M. ation LCLo cat: 200 mg/m3/20M.

Carcinogenicity:

CAS# 7784-34-1:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Arsenic').A1 - Confirmed Human Carcinogen (listed as 'Arsenic, inorganic compounds').
- **California:** carcinogen, initial date 2/27/87 (listed as Arsenic, inorganic compounds).
- **NTP:** Known carcinogen (listed as Arsenic, inorganic compounds).
- **IARC:** Group 1 carcinogen (listed as Arsenic).

Epidemiology: Epidemiological studies have demonstrated evidence of a causal relationship between environmental, occupational, and medicinal exposure of humans to inorganic arsenic and cancer of the skin and lungs.**Teratogenicity:** Teratogenic effects were noted in hamsters and rats exposed during the susceptible stages of gestation to near toxic levels of arsenic.**Reproductive Effects:** No information found**Mutagenicity:** See actual entry in RTECS for complete information.**Neurotoxicity:** No information found**Other Studies:****Section 12 - Ecological Information**

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.**Section 14 - Transport Information**

	US DOT	Canada TDG
Shipping Name:	ARSENIC TRICHLORIDE	ARSENIC TRICHLORIDE
Hazard Class:	6.1	6.1
UN Number:	UN1560	UN1560
Packing Group:	I	I

Section 15 - Regulatory Information**US FEDERAL****TSCA**

CAS# 7784-34-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 7784-34-1: 1 lb final RQ; 0.454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 7784-34-1: 500 lb TPQ

SARA Codes

CAS # 7784-34-1: immediate, delayed, sudden release of pressure.

Section 313

This material contains Arsenic(III) chloride (listed as Arsenic), >98%, (CAS# 7784-34-1) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 7784-34-1 (listed as Arsenic, inorganic compounds) is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 7784-34-1 is listed as a Hazardous Substance under the CWA. CAS# 7784-34-1 is listed as a Priority Pollutant under the Clean Water Act. CAS# 7784-34-1 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7784-34-1 can be found on the following state right to know lists: California, (listed as Arsenic), California, (listed as Arsenic compounds, n.o.s.), New Jersey, Pennsylvania, Minnesota, (listed as Arsenic), Minnesota, (listed as Arsenic, inorganic compounds), Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Arsenic(III) chloride, listed as 'Arsenic, inorganic compounds', a chemical known to the state of California to cause cancer.

California No Significant Risk Level: CAS# 7784-34-1: 0.06 æg/day NSRL (inhalation); 10 æg/day NSRL (except inhalation) (listed under Arsenic)

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T N

Risk Phrases:

R 23/25 Toxic by inhalation and if swallowed.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 20/21 When using do not eat, drink or smoke.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 28A After contact with skin, wash immediately with plenty of water

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 7784-34-1: No information available.

Canada - DSL/NDSL

CAS# 7784-34-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2A, E, F.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7784-34-1 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #7 Date: 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.