Material Safety Data Sheet
Cacodylic acid

ACC# 03710

Section 1 - Chemical Product and Company Identification

MSDS Name: Cacodylic acid
Catalog Numbers: AC318150000, AC318150100, BP324-100, BP324ME
Synonyms: Dimethylarsinic Acid; Hydroxydimethylarsine Oxide.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
75-60-5	Cacodylic acid	100	200-883-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless or white crystalline powder.
Warning! Cancer hazard. Harmful if inhaled or swallowed. May cause eye and skin irritation. May cause respiratory tract irritation. Hygroscopic (absorbs moisture from the air). May cause adverse reproductive effects based upon animal studies.
Target Organs: None known.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation. May be absorbed through the skin in harmful amounts. 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: Poison by ingestion. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. 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: May cause 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 cancer according to animal studies. Adverse reproductive effects have been reported in animals. Chronic exposure to arsenical dust may cause shortness of breath, nausea, chest pains, and garlic odor. Cacodylic acid may be partially reduced to inorganic arsenic in the body.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid.
Inhalation: Remove from exposure and move to fresh air immediately. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
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. Use water spray to keep fire-exposed containers cool. Use extinguishing media appropriate to the surrounding fire. Substance is noncombustible. Containers may explode when heated. Runoff from fire control or dilution water may cause pollution.
Extinguishing Media: Do NOT get water inside containers. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, or water spray. Cool containers with flooding quantities of water until well after fire is out. For large fires, use water spray, fog or regular foam. For large fires, flood fire area with water from a distance.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

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 ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cacodylic acid	0.01 mg/m3 TWA (listed under Arsenic).	5 mg/m3 IDLH (listed under Arsenic).	0.5 mg/m3 TWA (listed under Arsenic).

OSHA Vacated PELs: Cacodylic acid: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder
Appearance: colorless or white
Odor: stench
pH: Acidic.
Vapor Pressure: Not applicable.
Vapor Density: Not applicable.
Evaporation Rate: Not available.
Viscosity: Not applicable.
Boiling Point: 392 deg F
Freezing/Melting Point:378 deg F
Decomposition Temperature: Not available.
Solubility: 83% @ 20C
Specific Gravity/Density:>1.1
Molecular Formula:C2H7AsO2
Molecular Weight:138.01

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid: Incompatible materials, dust generation, moisture, excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents and strong bases.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, oxides of arsenic.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 75-60-5: CH7525000
LD50/LC50:
CAS# 75-60-5:
Oral, mouse: LD50 = 1200 mg/kg;
Oral, rat: LD50 = 644 mg/kg;
.

Carcinogenicity:
CAS# 75-60-5:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Arsenic').
- **California:** carcinogen, initial date 5/1/96
- **NTP:** Not listed.
- **IARC:** Group 1 carcinogen (listed as Arsenic).

Epidemiology: IARC has determined that there is sufficient evidence for carcinogenicity for arsenic compounds to humans.
Teratogenicity: No information found
Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.
Mutagenicity: Mutagenic effects have occurred in experimental animals.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Terrestrial: Degradation occurs primarily through biodegradation. The dominant degradation mechanism leads to the formation of inorganic arsenate, although some volatile arsenicals may be formed. Aquatic: Degrades in water primarily through biodegradation. Although the half-life in this study was about 30 days, sufficient data is not available to predict generalized aquatic half-lives. Atmospheric: Has been detected in the ambient atmosphere in the particulate, but not in the vapor phase. Particulate phase can be removed by wet and dry deposition. Expected slight bioconcentration.
Physical: No information available.
Other: For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

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:
CAS# 75-60-5: waste number U136.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CACODYLIC ACID	No information available.
Hazard Class:	6.1	
UN Number:	UN1572	
Packing Group:	II	

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 75-60-5 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# 75-60-5: 1 lb final RQ; 0.454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 75-60-5: immediate, delayed.
Section 313
This material contains Cacodylic acid (listed as Arsenic), 100%, (CAS# 75-60-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 75-60-5 is listed as a Priority Pollutant under the Clean Water Act. CAS# 75-60-5 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# 75-60-5 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), 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 Cacodylic acid, a chemical known to the state of California to cause cancer.
California No Significant Risk Level: CAS# 75-60-5: 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 45 May cause cancer.
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 53 Avoid exposure - obtain special instructions before use.
S 60 This material and its container must be disposed of as hazardou s 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# 75-60-5: 3
Canada - DSL/NDSL
CAS# 75-60-5 is listed on Canada's NDSL List.
Canada - WHMIS
This product has a WHMIS classification of D1A, D2B.
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# 75-60-5 (listed as Arsenic) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 7/14/1999
Revision #5 Date: 10/03/2005