

Material Safety Data Sheet

Diethylaluminium chloride, 0.9M solution in toluene

ACC# 10057

Section 1 - Chemical Product and Company Identification

MSDS Name: Diethylaluminium chloride, 0.9M solution in toluene

Catalog Numbers: AC381150000

Synonyms:

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
108-88-3	Toluene	88%	203-625-9
96-10-6	Diethylaluminum chloride	12%	202-477-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Not available.

Target Organs: Respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns.

Ingestion: Causes gastrointestinal tract burns. Ingestion causes severe burns of the mouth and stomach.

Inhalation: Harmful if inhaled. Causes chemical burns to the respiratory tract.

Chronic: Not available.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. 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. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Flammable liquid and vapor.

Extinguishing Media: Use foam, dry chemical, or carbon dioxide. DO NOT USE WATER!

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: 2 - health, 3 - flammability, 0 - instability

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. Remove all sources of ignition. Use a spark-proof tool. Do not expose spill to water.

Section 7 - Handling and Storage

Handling: Use spark-proof tools and explosion proof equipment. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area. Corrosives area. Water free area. Store under nitrogen.

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 explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Toluene	50 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	100 ppm TWA; 375 mg/m ³ TWA 500 ppm IDLH	200 ppm TWA; 300 ppm Ceiling
Diethylaluminum chloride	none listed	none listed	none listed

OSHA Vacated PELs: Toluene: 100 ppm TWA; 375 mg/m³ TWA Diethylaluminum chloride: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Not available.

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: Liquid

Appearance: colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Reacts.

Specific Gravity/Density: Not available.

Molecular Formula: C₄H₁₀AlCl

Molecular Weight: 120.56

Section 10 - Stability and Reactivity

Chemical Stability: Air sensitive. Moisture sensitive.

Conditions to Avoid: Incompatible materials, ignition sources, exposure to air, exposure to moist air or water.

Incompatibilities with Other Materials: Strong oxidizing agents, acids, alcohols, organic halides.

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide, ammonia and hydrochloric acid fumes, aluminum oxide, chloride fumes, aluminum fumes.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 108-88-3: XS5250000

CAS# 96-10-6: BD0558000

LD50/LC50:

CAS# 108-88-3:

Draize test, rabbit, eye: 870 ug Mild;

Draize test, rabbit, eye: 2 mg/24H Severe;

Draize test, rabbit, skin: 435 mg Mild;

Draize test, rabbit, skin: 500 mg Moderate;

Draize test, rabbit, skin: 20 mg/24H Moderate;

Inhalation, mouse: LC50 = 400 ppm/24H;

Inhalation, mouse: LC50 = 30000 mg/m³/2H;

Inhalation, mouse: LC50 = 19900 mg/m³/7H;

Inhalation, mouse: LC50 = 10000 mg/m³;

Inhalation, rat: LC50 = 49 gm/m³/4H;

Oral, rat: LD50 = 636 mg/kg;

Skin, rabbit: LD50 = 14100

CAS# 96-10-6:

Inhalation, rat: LC50 = 11 gm/m³;

Carcinogenicity:

CAS# 108-88-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 96-10-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: In an epidemiologic study of toluene and pregnancy, occupational exposures to toluene were said to be associated with an increased incidence of renal, urinary, gastrointestinal, and cardiac anomalies. Fetotoxicity (reduced fetal weight), behavioural effects (effects on learning and memory) and hearing loss (in males) were observed in the offspring of rats exposed by inhalation to toluene, in the absence of maternal toxicity.

Reproductive Effects: Many reports of reproductive effects of toluene abuse or heavy occupational exposure are confounded by mixed solvent exposure or fetal alcohol syndrome. Women exposed to toluene in lab work had a 4.7-fold increased risk of spontaneous abortions.

Mutagenicity: No data available.

Neurotoxicity: No data available.

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:

CAS# 108-88-3: waste number U220.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 108-88-3 is listed on the TSCA inventory.

CAS# 96-10-6 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 108-88-3: Effective 10/4/82, Sunset 10/4/92

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# 108-88-3: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 108-88-3: immediate, fire.

Section 313

This material contains Toluene (CAS# 108-88-3, 88%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 108-88-3 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 108-88-3 is listed as a Hazardous Substance under the CWA. CAS# 108-88-3 is listed as a Priority Pollutant under the Clean Water Act. CAS# 108-88-3 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

CAS# 96-10-6 is considered highly hazardous by OSHA.

STATE

CAS# 108-88-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 96-10-6 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

California Prop 65

WARNING: This product contains Toluene, a chemical known to the state of California to cause developmental reproductive toxicity. California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

F C

Risk Phrases:

- R 11 Highly flammable.
- R 14/15 Reacts violently with water liberating extremely flammable gases.
- R 35 Causes severe burns.
- R 20 Harmful by inhalation.
- R 63 Possible risk of harm to the unborn child.
- R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

- S 16 Keep away from sources of ignition - No smoking.
- S 24/25 Avoid contact with skin and eyes.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 6A Keep under nitrogen.
- S 43B In case of fire, use fire-fighting equipment on basis of sodium chloride, sodium bicarbonate (never use water).

WGK (Water Danger/Protection)

- CAS# 108-88-3: 2
- CAS# 96-10-6: 1

Canada - DSL/NDSL

- CAS# 108-88-3 is listed on Canada's DSL List.
- CAS# 96-10-6 is listed on Canada's DSL List.

Canada - WHMIS

WHMIS: Not available.

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# 108-88-3 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 9/20/2004

Revision #0 Date: Original.

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.