

Material Safety Data Sheet

Trimethylaluminum, 1,0M solution in heptane

ACC# 09479

Section 1 - Chemical Product and Company Identification

MSDS Name: Trimethylaluminum, 1,0M solution in heptane

Catalog Numbers: AC189270000, AC189271000, AC189278000

Synonyms: None Known.

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
142-82-5	Heptane (n-)	90%	205-563-8
75-24-1	Trimethylaluminum	10%	200-853-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid.

Danger! Highly flammable. Reacts violently with water liberating highly flammable gases. Causes burns by all exposure routes. Water-reactive. Breathing vapors may cause drowsiness and dizziness. Aspiration hazard if swallowed. Can enter lungs and cause damage. Dangerous for the environment.

Target Organs: Central nervous system, lungs, respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.

Ingestion: Causes gastrointestinal tract burns. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes chemical burns to the respiratory tract.

Chronic: Prolonged or repeated skin contact may cause dermatitis.

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. Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If water-reactive products are embedded in the skin, no water should be applied. The embedded products should be covered with a light oil.

Ingestion: Do not induce vomiting. Get medical aid immediately. Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.

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. Do NOT use mouth-to-mouth resuscitation.

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. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. May re-ignite after fire is extinguished. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire.

Extinguishing Media: Use approved class D extinguishing agents or smother with dry sand, clay, or sodium bicarbonate. Contact professional fire-fighters immediately. DO NOT USE WATER, CO2, OR FOAM DIRECTLY ON FIRE ITSELF.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 3; Instability: 2; Special Hazard: -W-

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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not expose spill to water. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Ground and bond containers when transferring material. 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. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not allow contact with water. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep away from heat, sparks and flame.

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 ventilation to keep airborne concentrations low. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Heptane (n-)	400 ppm TWA; 500 ppm STEL	85 ppm TWA; 350 mg/m3 TWA 750 ppm IDLH	500 ppm TWA; 2000 mg/m3 TWA
Trimethylaluminium	2 mg/m3 TWA (as Al) (listed under Aluminum, soluble salts).	2 mg/m3 TWA (as Al) (listed under Aluminum, soluble salts).	none listed

OSHA Vacated PELs: Heptane (n-): 400 ppm TWA; 1600 mg/m3 TWA Trimethylaluminium: 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: 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: clear, colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: 20kPa @80 deg C

Vapor Density: Not available.

Evaporation Rate:Not available.

Viscosity: 0.90 mPa s @30 deg C

Boiling Point: 126 deg C

Freezing/Melting Point:15 deg C

Decomposition Temperature:> 180 deg C

Solubility: reacts

Specific Gravity/Density:0.688

Molecular Formula:C3H9Al

Molecular Weight:72.09

Section 10 - Stability and Reactivity

Chemical Stability: Combines vigorously or explosively with water. Air sensitive. May violently decompose at temperatures above 190°C.

Conditions to Avoid: Ignition sources, exposure to air, excess heat, exposure to moist air or water, confined spaces.

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

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, aluminum fumes.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 142-82-5: MI7700000

CAS# 75-24-1: BD2204000

LD50/LC50:

CAS# 142-82-5:
Inhalation, rat: LC50 = 103 gm/m3/4H;

CAS# 75-24-1:

Carcinogenicity:

CAS# 142-82-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 75-24-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Goldfish: LC50 = 4.0 mg/L; 24 Hr.; Unspecified

Fish: Mosquito Fish: LC50 = 4900 mg/L; 24 Hr.; Unspecified

Fish: LC50 = 4900 mg/L; 24 Hr.; Unspecified

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:	COMPOUND DISPERSION, WATER-REACTIVE, FLAMMABLE, N.O.S.	COMPOUND DISPERSION, WATER-REACTIVE,
Hazard Class:	4.3	4.3
UN Number:	UN3207	UN3207
Packing Group:	I	I
Additional Info:		FLAMMABLE, N.O.S.

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 142-82-5 is listed on the TSCA inventory.

CAS# 75-24-1 is listed on the TSCA inventory.

Health & Safety Reporting List

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

Chemical Test Rules

CAS# 142-82-5: Testing required by manufacturers, processors

Section 12b

CAS# 142-82-5: Section 4

TSCA Significant New Use Rule

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

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 142-82-5: immediate, delayed, fire.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

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

STATE

CAS# 142-82-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota,

Massachusetts.

CAS# 75-24-1 can be found on the following state right to know lists: California, (listed as Aluminum, soluble salts), New Jersey, Pennsylvania, Minnesota, (listed as Aluminum, soluble salts), Massachusetts.

California Prop 65

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 N

Risk Phrases:

R 11 Highly flammable.

R 14/15 Reacts violently with water liberating extremely flammable gases.

R 34 Causes burns.

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

R 65 Harmful: may cause lung damage if swallowed.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 29 Do not empty into drains.

S 33 Take precautionary measures against static discharges.

S 9 Keep container in a well-ventilated place.

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

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

S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)

CAS# 142-82-5: 1

CAS# 75-24-1: No information available.

Canada - DSL/NDSL

CAS# 142-82-5 is listed on Canada's DSL List.

CAS# 75-24-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, 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# 142-82-5 is listed on the Canadian Ingredient Disclosure List.

CAS# 75-24-1 (listed as Aluminum, soluble salts) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/20/2004

Revision #2 Date: 12/15/2004

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.