Material Safety Data Sheet

Trimethylaluminum, 1,0M solution in heptane

MSDS# 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 BVBA Janssen Pharmaceuticalaan 3a 2440 Geel, Belgium
Company Identification: (USA)	Acros Organics One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	800-ACROS-01
For information in Europe, call:	+32 14 57 52 11
Emergency Number, Europe:	+32 14 57 52 99
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300
CHEMTREC Phone Number, Europe:	703-527-3887

Section 2 - Composition, Information on Ingredients

Risk Phrases: 14 17 34

CAS#:	75-24-1
Chemical Name:	Trimethylaluminium
%:	10%
EINECS#:	200-853-0
Hazard Symbols:	C F

Risk Phrases: 11 38 50/53 65 67

CAS#:	142-82-5
Chemical Name:	Heptane (n-)
%:	90%
EINECS#:	205-563-8
Hazard Symbols:	F N XN

Text for R-phrases: see Section 16

Hazard Symbols: F C N



Risk Phrases: 11 14/15 34 50/53 65 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Water-reactive. Dangerous for the environment. Highly flammable. Aspiration hazard if swallowed. Can enter lungs and cause damage. Causes burns by all exposure routes. Breathing vapors may cause drowsiness and dizziness. Reacts violently with water liberating highly flammable gases. 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.
Autoignition Temperature:	Not available
Flash Point:	Not available
Explosion Limits: Lower:	Not available
Explosion Limits: Upper:	Not available

NFPA Rating: ; 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

Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment.

Handling: Do not breathe dust, mist, or vapor. 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

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

OSHA Vacated PELs: Trimethylaluminium: 2 mg/m3 TWA (as Al, listed under Aluminum) (listed under Aluminum, soluble salts) Heptane (n-): 400 ppm TWA; 1600 mg/m3 TWA

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

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

Color: 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 (258.80°F)

Freezing/Melting Point: 15 deg C (59.00°F)

Decomposition Temperature:

Solubility in water: 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, acids, alcohols, oxygen, organic halides, water.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, aluminum fumes.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 75-24-1: BD2204000 CAS# 142-82-5: MI7700000
LD50/LC50:	RTECS: Not available. RTECS: **CAS# 142-82-5:** Inhalation, rat: LC50 = 103 gm/m3/4H; .
Carcinogenicity:	Trimethylaluminium - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. Heptane (n-) - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:	Fish: Goldfish: 4.0 mg/L; 24 hrs.; LC50, unspecified Fish: Mosquito Fish: 4900 mg./L; 24 hrs.; LC50, unspecified

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: COMPOUND DISPERSION, WATER-REACTIVE, FLAMMABLE, N.O.S.
Hazard Class: 4.3
UN Number: UN3207
Packing Group: I
Canada TDG
Shipping Name: HEPTANES
Hazard Class: 3
UN Number: UN1206
Packing Group: II

Section 15 - Regulatory Information

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 9 Keep container in a well-ventilated place.

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 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# 75-24-1: Not available

CAS# 142-82-5: 1

Canada

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

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

Canadian WHMIS Classifications: B2, 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.

CAS# 75-24-1 is not listed on Canada's Ingredient Disclosure List.

CAS# 142-82-5 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

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

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

Section 16 - Other Information

MSDS Creation Date: 9/20/2004

Revision #4 Date 7/20/2009
