



Material Safety Data Sheet

Tri-n-butylaluminium, 0.7m solution in heptane

MSDS# 09924

Section 1 - Chemical Product and Company Identification

MSDS Name: Tri-n-butylaluminium, 0.7m solution in heptane
Catalog Numbers: AC377800000, AC377801000, AC377808000
Synonyms: None Known.

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaaan 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: 11 38 50/53 65 67

CAS#: 142-82-5
Chemical Name: Heptane (n-)
%: 80
EINECS#: 205-563-8
Hazard Symbols: F N XN

Risk Phrases:

CAS#: 1116-70-7
Chemical Name: Tributyl aluminum
%: 20
EINECS#: 214-240-0
Hazard Symbols:

Text for R-phrases: see Section 16

Hazard Symbols:

XN F N



Risk Phrases:

11 14/15 34 50/53 65 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Flammable liquid and vapor. Water-reactive. Dangerous for the environment. 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, eyes, skin.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns.

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

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: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

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

Ingestion: 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:

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. Flammable liquid and vapor. Contact with water liberates highly flammable gases. 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.

Extinguishing Media: Do NOT use halogenated agents. Use dry sand, dry chemical, soda ash or lime. DO NOT USE WATER OR FOAM.

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.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. 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 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 tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Heptane (n-)	400 ppm; 500 ppm STEL	85 ppm TWA; 350 mg/m ³ TWA 750 ppm IDLH	500 ppm TWA; 2000 mg/m ³ TWA
Tributyl aluminum	none listed	none listed	none listed

OSHA Vacated PELs: Heptane (n-): 400 ppm TWA; 1600 mg/m³ TWA Tributyl aluminum: None listed

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.

Exposure Limits

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

Respirators: 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: Clear liquid

Color: colorless

Odor: Not available

pH: CA 7

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:

Solubility in water: vigorous reaction

Specific Gravity/Density: 0.711

Molecular Formula: C₁₂H₂₇Al

Molecular Weight: 198.33

Section 10 - Stability and Reactivity

Chemical Stability:

Air sensitive. Reacts violently with water.

Conditions to Avoid:

Ignition sources, excess heat, temperatures above 90°C, confined spaces.

Incompatibilities with Other Materials

Water, strong oxidizing agents, acids, alcohols, oxygen, organic halides.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide, aluminum oxide.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 142-82-5: MI7700000

CAS# 1116-70-7: None listed

RTECS:

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

LD50/LC50:

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RTECS:

CAS# 1116-70-7:

Carcinogenicity: Heptane (n-) - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Tributyl aluminum - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

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

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

Section 14 - Transport Information

US DOT

Shipping Name: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER- (Tri-n-butylaluminum, Heptane)

Hazard Class: 4.3

UN Number: UN3399

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: XN F 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 6A Keep under nitrogen.

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

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 29 Do not empty into drains.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 43E In case of fire, use dry sand (never use water).

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

S 57 Use appropriate containment to avoid environmental contamination.

WGK (Water Danger/Protection)

CAS# 142-82-5: 1

CAS# 1116-70-7: Not available

Canada

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

CAS# 1116-70-7 is listed on Canada's NDSL List

Canadian WHMIS Classifications: B2, F, E

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

CAS# 1116-70-7 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

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

CAS# 1116-70-7 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 10/08/2004

Revision #3 Date 7/20/2009

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 the company 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 the company has been advised of the possibility of such damages.
