

Revision Date 21-May-2012

Revision Number 2

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: Triethylaluminium, 0.6M solution in heptane
Cat No. 381170000; 381171000; 381178000

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
 Janssen Pharmaceuticaaan 3a
 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
 Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
 CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Aspiration Toxicity	Category 1
Skin Corrosion/irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity - (single exposure)	Category 3
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1
Substances/mixtures which, in contact with water, emit flammable gases.	Category 1
Flammable liquids	Category 2

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

Symbol(s) F - Highly flammable
 C - Corrosive
 N - Dangerous for the environment

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SECTION 2. HAZARDS IDENTIFICATION

R-phrases(s)	R11 - Highly flammable R34 - Causes burns R65 - Harmful: may cause lung damage if swallowed R67 - Vapors may cause drowsiness and dizziness
Risk Combination Phrases	R14/15 - Reacts violently with water, liberating extremely flammable gases R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Label Elements



Signal Word

Danger

Hazard Statements

- H336 - May cause drowsiness or dizziness
- H314 - Causes severe skin burns and eye damage
- H410 - Very toxic to aquatic life with long lasting effects
- H304 - May be fatal if swallowed and enters airways
- H225 - Highly flammable liquid and vapor
- H260 - In contact with water releases flammable gases which may ignite spontaneously
- EUH014 - Reacts violently with water

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SECTION 2. HAZARDS IDENTIFICATION
Precautionary Statements - EU (§28, 1272/2008)

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P280 - Wear eye protection/ face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/ physician

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P222 - Do not allow contact with air

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician

P331 - Do NOT induce vomiting

P273 - Avoid release to the environment

P402 + P404 - Store in a dry place. Store in a closed container

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.
Heptane (n-) 142-82-5	EEC No. 205-563-8	90	142-82-5	F; R11 Xi; R38 N; R50-53 Xn; R65 R67	Skin Irrit. 2 (H315) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Liq. 2 (H225)	01-2119457603-38
Triethylaluminium 97-93-8	EEC No. 202-619-3	10	97-93-8	R14 F; R17 C; R34	Skin Corr. 1B (H314) Pyr. Liq. 1 (H250) Water-react. 1 (H260)	-

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4. FIRST AID MEASURES
Description of first aid measures

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SECTION 4. FIRST AID MEASURES

Eye Contact	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Ingestion	Do not induce vomiting. Call a physician immediately.
Inhalation	Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.
Notes to Physician	Treat symptomatically

SECTION 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable Extinguishing Media**Carbon dioxide (CO₂). Dry chemical. chemical foam.**Extinguishing media which must not be used for safety reasons**

Water.

Special hazards arising from the substance or mixture

Flammable. Contact with water liberates toxic gas. Water reactive. Vapors may travel to source of ignition and flash back. Produce flammable gases on contact with water.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Environmental precautions

Prevent further leakage or spillage if safe to do so

Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not expose spill to water. Do not let this chemical enter the environment.

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SECTION 7. HANDLING AND STORAGE
Precautions for Safe Handling

Do not breathe dust. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Use only in area provided with appropriate exhaust ventilation. Use explosion-proof equipment. Use only non-sparking tools.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Never allow product to get in contact with water during storage. Corrosives area. Flammables area. Keep under nitrogen.

Specific End Uses
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Control parameters
Exposure limits
Component

Heptane (n-)

European Union	The United Kingdom	France	Belgium	Spain
TWA: 500 ppm 8 hr TWA: 2085 mg/m ³ 8 hr	STEL: 1500 ppm 15 min STEL: 6255 mg/m ³ 15 min TWA: 500 ppm 8 hr TWA: 2085 mg/m ³ 8 hr	VME: 400 ppm 8 heures. restrictive limit VME: 1668 mg/m ³ 8 heures. restrictive limit VLCT: 500 ppm VLCT: 2085 mg/m ³	TWA: 400 ppm 8 uren TWA: 1664 mg/m ³ 8 uren STEL: 500 ppm 15 minuten STEL: 2085 mg/m ³ 15 minuten	VLA-ED: 500 ppm 8 horas VLA-ED: 2085 mg/m ³ 8 horas
	STEL: 6 mg/m ³ 15 min TWA: 2 mg/m ³ 8 hr	VME: 2 mg/m ³ 8 heures.		VLA-ED: 2 mg/m ³ 8 horas

Triethylaluminium

Component

Heptane (n-)

Italy	Germany	Portugal	The Netherlands	Finland
TWA: 500 ppm 8 ore. TWA: 2085 mg/m ³ 8 ore.	MAK: 500 ppm 8 Stunden. MAK: 2100 mg/m ³ 8 Stunden. Peak: 500 ppm Peak: 2100 mg/m ³ TWA: 500 ppm 8 Stunden. all isomers exposure factor 1 TWA: 2100 mg/m ³ 8 Stunden. all isomers exposure factor 1	STEL: 500 ppm 15 minutos TWA: 400 ppm 8 horas	STEL: 1600 mg/m ³ 15 minuten TWA: 1200 mg/m ³ 8 uren	TWA: 300 ppm 8 tunteina TWA: 1200 mg/m ³ 8 tunteina STEL: 500 ppm 15 minuutteina STEL: 2100 mg/m ³ 15 minuutteina
		TWA: 2 mg/m ³ 8 horas		

Triethylaluminium

Component

Heptane (n-)

Austria	Denmark	Switzerland	Poland	Norway
STEL: 2000 ppm 15 Minuten STEL: 8000 mg/m ³ 15 Minuten TWA: 500 ppm 8 Stunden TWA: 2000 mg/m ³ 8 Stunden	TWA: 200 ppm 8 timer TWA: 820 mg/m ³ 8 timer	STEL: 400 ppm 15 Minuten STEL: 1600 mg/m ³ 15 Minuten MAK: 400 ppm 8 Stunden MAK: 1600 mg/m ³ 8 Stunden	NDSch: 2000 mg/m ³ 15 minutach TWA: 1200 mg/m ³ 8 godzinach	TWA: 200 ppm 8 timer TWA: 800 mg/m ³ 8 timer STEL: 250 ppm 15 minutter. STEL: 1000 mg/m ³ 15 minutter.

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Component	Austria	Denmark	Switzerland	Poland	Norway
Triethylaluminium			MAK: 2 mg/m ³ 8 Stunden		TWA: 2 mg/m ³ 8 timer

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Heptane (n-)	TWA: 1600.0 mg/m ³	TWA: 500 ppm 8 satima. TWA: 2085 mg/m ³ 8 satima.	TWA: 500 ppm 8 hr. TWA: 2085 mg/m ³ 8 hr.	TWA: 500 ppm TWA: 2085 mg/m ³	TWA: 2000 mg/m ³ 8 hodinách. Ceiling: 2000 mg/m ³
Triethylaluminium		TWA: 2 mg/m ³ 8 satima. Aluminium alkyl compounds			

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Heptane (n-)	TWA: 500 ppm 8 tundides. TWA: 2085 mg/m ³ 8 tundides.	TWA: 500 ppm 8 hr TWA: 2085 mg/m ³ 8 hr	STEL: 500 ppm STEL: 2000 mg/m ³ TWA: 500 ppm TWA: 2000 mg/m ³	STEL: 8000 mg/m ³ 15 percekben. TWA: 2000 mg/m ³ 8 órában.	TWA: 200 ppm 8 klukkustundum. TWA: 820 mg/m ³ 8 klukkustundum. Ceiling: 400 ppm Ceiling: 1640 mg/m ³

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Heptane (n-)	STEL: 500 ppm STEL: 2085 mg/m ³ TWA: 85 ppm TWA: 350 mg/m ³	TWA: 500 ppm TWA: 2085 mg/m ³ STEL: 750 ppm STEL: 3128 mg/m ³	TWA: 500 ppm 8 Stunden TWA: 2085 mg/m ³ 8 Stunden	TWA: 500 ppm TWA: 2085 mg/m ³	TWA: 500 ppm 8 ore TWA: 2085 mg/m ³ 8 ore

Component	Russia - TWA	Slovak Republic	Slovenia	Sweden	Turkey
Heptane (n-)		TWA: 500 ppm TWA: 2085 mg/m ³		STV: 300 ppm 15 minuter STV: 1200 mg/m ³ 15 minuter LLV: 200 ppm 8 timmar. LLV: 800 mg/m ³ 8 timmar.	TWA: 500 ppm 8 saat TWA: 2085 mg/m ³ 8 saat

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls
Engineering Measures

Ensure adequate ventilation, especially in confined areas Use explosion-proof electrical/ventilating/lighting/equipment Ensure that eyewash stations and safety showers are close to the workstation location

Personal protective equipment
Eye Protection

Goggles

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

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Respiratory Protection

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear
pH	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	No information available.
Flash Point	No information available.
Autoignition Temperature	No information available.
Water Solubility	reacts
Specific Gravity	0.688
Molecular Formula	C ₆ H ₁₅ Al
Molecular Weight	114.17

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

Moisture sensitive. Air sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions .

No information available.

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition, Exposure to air, Incompatible products, Exposure to moist air or water.

Incompatible Materials

Acids, Strong oxidizing agents, Alcohols.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11. TOXICOLOGICAL INFORMATION



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SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Product Information

No acute toxicity information is available for this product

Component Information

Component

Heptane (n-)
Triethylaluminium

LD50 Oral	LD50 Dermal	LC50 Inhalation (Dust)
	3000 mg/kg (Rabbit)	103 g/m ³ (Rat) 4 h
		10 g/m ³ (Rat) 15 min

Chronic Toxicity

Carcinogenicity

There are no known carcinogenic chemicals in this product

Sensitization

No information available.

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Target Organs

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Endocrine Disruptor Information

None known

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects

Do not empty into drains

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Heptane (n-)		375.0 mg/L LC50 96 h		EC50: >10 mg/L/24h

Persistence and degradability

No information available

Bioaccumulative potential

No information available.

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Component	log Pow
Heptane (n-)	4.66

Mobility in soil

Results of PBT and vPvB assessment

Other adverse effects

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATION

IMDG/IMO

UN-No UN3399
Hazard Class 4.3
Subsidiary Hazard Class 3
Packing Group I
Proper Shipping Name ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE

ADR

UN-No UN3399
Hazard Class 4.3
Subsidiary Hazard Class 3
Packing Group I
Proper Shipping Name ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE

IATA

UN-No UN3399
Hazard Class 4.3
Subsidiary Hazard Class 3
Packing Group I
Proper Shipping Name ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE*

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SECTION 15. REGULATORY INFORMATION
Safety, health and environmental regulations/legislation specific for the substance or mixture
International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Heptane (n-)	205-563-8	-		T	X	-	X	X	X	X	X
Triethylaluminium	202-619-3	-		X	X	-	X	X	X	X	X

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment
SECTION 16. OTHER INFORMATION
Full text of R-phrases referred to under sections 2 and 3

R11 - Highly flammable

R34 - Causes burns

R65 - Harmful: may cause lung damage if swallowed

R67 - Vapors may cause drowsiness and dizziness

R14/15 - Reacts violently with water, liberating extremely flammable gases

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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Revision Summary
Reason for revision Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.



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End of Safety Data Sheet