

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 14.07.2010

Printing date 14.07.2010

1 Identification of substance**Product details**

Trade name

Triisobutylaluminum, 25% in hexane

Stock number:

89057

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.
Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

Emergency information:

2 Hazards identification

Hazard designation:

C Corrosive
F Highly flammable

Information pertaining to particular dangers for man and environment

R 14 Reacts violently with water.
R 17 Spontaneously flammable in air.
R 34 Causes burns.

GHS label elements

**Danger**H250 - Catches fire spontaneously if exposed to air.
H260+EUH014 - In contact with water releases flammable gases which may ignite spontaneously. Reacts violently with water.**Danger**H314 - Causes severe skin burns and eye damage.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Prevention:

Response:

Storage:

P405 Store locked up.
P422 Store contents under inert gas.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Disposal:

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Triisobutylaluminum (CAS# 100-99-2); 25%
Hexane (CAS# 110-54-3); 75%

Identification number(s):

EINECS Number:

202-906-3

Index number:

013-004-00-2

4 First aid measures

General information

After inhalation

Instantly remove any clothing soiled by the product.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.
Seek immediate medical advice.**5 Fire fighting measures**Suitable extinguishing agents
For safety reasons unsuitable extinguishing agents

Extinguishing powder. Do not use water.

Water.
Carbon dioxide
Halocarbon extinguisher

Special hazards caused by the material, its products of combustion or flue gases:

Can form explosive gas-air mixtures.
Substance/product is auto-flammable.
Reacts violently with water
Wear self-contained breathing apparatus.
Wear full protective suit.

Protective equipment:

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources

Measures for environmental protection:

Measures for cleaning/collecting:

Do not allow material to be released to the environment without proper governmental permits.
Use neutralizing agent.

Additional information:

Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Keep away from ignition sources.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.**7 Handling and storage**

Handling

Information for safe handling:

Handle under dry protective gas.
Only handle and refill product in closed systems.
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.
Substance/product is auto-flammable.Storage
Requirements to be met by storerooms and containers:

No special requirements.

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Information about storage in one common storage facility:

Store away from water.
Do not store together with oxidizing and acidic materials.
Store away from air.

Further information about storage conditions:

Store under dry inert gas.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Store in a locked cabinet or with access restricted to technical experts or their assistants.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace:

Aluminum alkyls
mg/m³
Belgium TWA 5
BC Canada TWA 2
Ireland TWA 2.5
Quebec Canada TWA 2
United Kingdom TWA 2

n-Hexane
ppm
ACGIH TLV 50 (skin)
Austria MAK 50
Belgium TWA 50
Denmark TWA 25
Finland TWA 50; 150-STEL
France VME 50
Germany MAK 50
Hungary TWA 100; 200-STEL
Japan OEL 40 (skin)
Korea TLV 50 (skin)
Netherlands MAC-TGG 25
Norway TWA 25
Poland TWA 100; 400-STEL
Russia TWA 40; 300-STEL
Sweden NGV 25; 50-KTV
Switzerland MAK-W 50; 100-KZG-W
United Kingdom TWA 20
USA PEL 500
No data

Additional information:**Personal protective equipment
General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.

Breathing equipment:**Eye protection:**

Use breathing protection with high concentrations.
Safety glasses
Tightly sealed safety glasses.
Full face protection
Face protection
Protective work clothing.

Body protection:**9 Physical and chemical properties:****General Information**

Form: Solution
Colour: Colourless
Smell: Not determined

Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: -23°C**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Self-inflammability:** Spontaneously flammable in air.**Critical values for explosion:**

Lower: 1.1 Vol %
Upper: 7.5 Vol %

Steam pressure: Not determined**Density at 20°C** 0.7 g/cm³**Solubility in / Miscibility with**

Water: Reacts violently
Alcohols: Reacts

10 Stability and reactivity**Thermal decomposition / conditions to be avoided:****Materials to be avoided:**

No decomposition if used and stored according to specifications.
Water/moisture
Acids
Oxidizing agents
Alcohols
Halogens
Oxygen
Air
Carbon dioxide

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Dangerous reactions: Forms explosive gas mixture with air
Reacts with oxygen
Reacts violently with water
Contact with water releases flammable gases
Self igniting
Spontaneously flammable in air.

Dangerous products of decomposition: Carbon monoxide and carbon dioxide
Hydrocarbons

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11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral LDLo 4000 mg/kg (rat)

Primary irritant effect:**on the skin:****on the eye:****Sensitization:****Additional toxicological information:**

Corrosive effect on skin and mucous membranes.

Strong corrosive effect.

No sensitizing effect known.

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**Additional ecological information:****General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:
Recommendation**Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.**Uncleaned packagings:
Recommendation:**

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)****ADR/RID-GGVS/E Class:**

4.3 (WF1) Substances which, in contact with water, emit flammable gases.

Kemler Number:

X323

UN-Number:

3399

Packaging group:

I

Label

4.3+3

Designation of goods:

3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (triisobutylaluminum/hexane)

Limited quantities (LQ)

LQ0

Transport category

0

Tunnel restriction code

B/E

Maritime transport IMDG/GGVSea:**IMDG/GGVSea Class:**

4.3

UN Number:

3399

Label

4.3+3

Packaging group:

I

Marine pollutant:

No

Correct technical name:

ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (triisobutylaluminum/hexane)

Air transport ICAO-TI and IATA-DGR:**ICAO/IATA Class:**

4.3

UN/ID Number:

3399

Label

4.3+3

Packaging group:

I

Correct technical name:

ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (triisobutylaluminum/hexane)

UN "Model Regulation":

UN3399, ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE, 4.3 (3), I

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**C Corrosive
F Highly flammable**Risk phrases:**14 Reacts violently with water.
17 Spontaneously flammable in air.
34 Causes burns.**Safety phrases:**16 Keep away from sources of ignition - No smoking.
43 In case of fire, use powdered extinguishing agent. Never use water.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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