

# Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 12.04.2010

Printing date 02.07.2013

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name

**n-Hexyllithium, 33% (2.47M) in hexane**

Stock number:

L15102

CAS Number:

21369-64-2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against.

Identified use:

SU24 Scientific research and development

### 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG  
A Johnson Matthey Company  
Zeppelinstr. 7b  
76185 Karlsruhe / Germany  
Tel: +49 (0) 721 84007 280  
Fax: +49 (0) 721 84007 300  
Email: tech@alfa.com  
www.alfa.com

Informing department:

Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Pyr. Liq. 1 H250 Catches fire spontaneously if exposed to air.



GHS08 health hazard

Repr. 2 H361f Suspected of damaging fertility.

STOT RE 2 H373 May cause damage to the peripheral nervous system, the lung, the kidneys, the liver, the reproductive system and the brain through prolonged or repeated exposure. Route of exposure: Inhalative.



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C; Corrosive

R35: Causes severe burns.



Xn; Harmful

R48/20-62: Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of impaired fertility.



F; Highly flammable

R17: Spontaneously flammable in air.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R14-67: Reacts violently with water. Vapours may cause drowsiness and dizziness.

**Information concerning particular hazards for human and environment:**

Has a narcotizing effect.

**Other hazards that do not result in classification**

No information known.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008**

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS02, GHS05, GHS07, GHS08, GHS09

Danger

H250 Catches fire spontaneously if exposed to air.

H314 Causes severe skin burns and eye damage.

H361f Suspected of damaging fertility.

H336 May cause drowsiness or dizziness.

H373 May cause damage to the peripheral nervous system, the lung, the kidneys, the liver, the reproductive system and the brain through prolonged or repeated exposure. Route of exposure: Inhalative.

H411 Toxic to aquatic life with long lasting effects.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

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

P309 IF exposed or if you feel unwell:

P310 Immediately call a POISON CENTER or doctor/physician.

P370+P378 In case of fire: Use for extinction: Fire-extinguishing powder.

EUH014 Reacts violently with water.

Precautionary statements

Additional information:

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

CAS# Designation:

21369-64-2 n-Hexyllithium, 33% (2.47M) in hexane

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(Contd. of page 1)

**SECTION 4: First aid measures****4.1 Description of 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.**After skin contact**Seek immediate medical advice.  
Instantly wash with water and soap and rinse thoroughly.**After eye contact**Seek immediate medical advice.  
Rinse opened eye for several minutes under running water. Then consult doctor.**After swallowing**

Seek medical treatment.

**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents**Dry sand  
Limestone powder  
Extinguishing powder. Do not use water.**For safety reasons unsuitable extinguishing agents**

Water.

**5.2 Special hazards arising from the substance or mixture**Reacts violently with water  
Spontaneously flammable in air.  
If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide  
Lithium oxide**5.3 Advice for firefighters****Protective equipment:**Wear self-contained breathing apparatus.  
Wear full protective suit.**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation**6.2 Environmental precautions:**Keep away from ignition sources  
Do not allow material to be released to the environment without proper governmental permits.  
Do not allow product to reach sewage system or water bodies.  
Do not allow to enter the ground/soil.**6.3 Methods and material for containment and cleaning up:**Keep away from ignition sources.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
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.**Prevention of secondary hazards:**  
**6.4 Reference to other sections****SECTION 7: Handling and storage****7.1 Precautions for safe handling**Handle under dry protective gas.  
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:**

Substance/product is auto-flammable.

**7.2 Conditions for safe storage, including any incompatibilities****Storage**  
**Requirements to be met by storerooms and containers:**  
**Information about storage in one common storage facility:**

No special requirements.

**Further information about storage conditions:**Store away from oxidizing agents.  
Store away from air.  
Store away from water.  
Store under dry inert gas.  
This product is moisture sensitive.  
This product is air sensitive.  
Protect from humidity and keep away from water.  
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.**7.3 Specific end use(s)**

No further relevant information available.

**SECTION 8: Exposure controls/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:**

n-Hexane	ppm
ACGIH TLV	50 (skin)
Belgium TWA	50
France TWA	50
Germany TWA	50
Netherlands TWA	100
Switzerland TWA	50, 100-STEL
United Kingdom TWA	100, 125-STEL
Russia TWA	40
Denmark	50
Finland	50, 150-STEL
Hungary TWA	100 mg/m <sup>3</sup> , 200 mg/m <sup>3</sup> -STEL

(Contd. on page 3)  
DE/E

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(Contd. of page 2)

Poland TWA 400 mg/m<sup>3</sup>  
Sweden 25, 50-STEL  
USA PEL 500

**8.1 Control parameters****Components with critical values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:**

No data

**8.2 Exposure controls****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.

Maintain an ergonomically appropriate working environment.

Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Impervious gloves

Not determined

Tightly sealed safety glasses.

Full face protection

Protective work clothing.

**Breathing equipment:****Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:****SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Liquid

Yellow

Petroleum-like

Not determined.

**Odour threshold:**

Not determined.

**pH-value:**

Not determined.

**Change in condition**

Not determined

Not determined

Not determined

**Flash point:**

-10 °C

**Inflammability (solid, gaseous)**

Not applicable.

**Ignition temperature:**

280 °C

**Decomposition temperature:**

Not determined

**Self-inflammability:**

Spontaneously flammable in air.

**Critical values for explosion:**

Lower: 1,2 Vol %

Upper: 8,3 Vol %

**Steam pressure:**

Not determined

**Density at 20 °C**0,69 g/cm<sup>3</sup>**Relative density**

Not determined.

**Vapour density**

Not determined.

**Evaporation rate**

Not determined.

**Solubility in / Miscibility with**

Water: Reacts violently

Partition coefficient (n-octanol/water): Not determined.

**Viscosity:**

dynamic: Not determined.

kinematic: Not determined.

**9.2 Other information**

No further relevant information available.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Reacts violently with water.

Catches fire spontaneously if exposed to air.

Stable under recommended storage conditions.

**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions**

Spontaneously flammable in air.

Reacts violently with water

**10.5 Incompatible materials:**

Air

Oxidizing agents

Water/moisture

Lithium oxide

Carbon monoxide and carbon dioxide

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

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

**LD/LC50 values that are relevant for classification:**

No data

**Skin irritation or corrosion:**

Causes severe skin burns.

**Eye irritation or corrosion:**

Causes serious eye damage.

**Sensitization:**

No sensitizing effect known.

**Germ cell mutagenicity:**

No effects known.

**Carcinogenicity:**

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

**Reproductive toxicity:**

Suspected of damaging fertility or the unborn child.

**Specific target organ system toxicity - repeated exposure:**

May cause damage to the peripheral nervous system, the lung, the kidneys, the liver, the reproductive system and the brain through prolonged or repeated exposure. Route of exposure: Inhalative.

**Specific target organ system toxicity - single exposure:**

May cause drowsiness or dizziness.

**Aspiration hazard:**

No effects known.

(Contd. on page 4)  
DE/E

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according to 1907/2006/EC, Article 31

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Trade name ***n-Hexyllithium, 33% (2.47M) in hexane*****Additional toxicological information:**

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

(Contd. of page 3)

**SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:**

No further relevant information available.

**12.2 Persistence and degradability**

No further relevant information available.

**12.3 Bioaccumulative potential**

No further relevant information available.

**12.4 Mobility in soil**

No further relevant information available.

**Ecotoxicological effects:**

Toxic for fish

**Remark:****Additional ecological information:****General notes:**

Do not allow product to reach ground water, water bodies or sewage system.  
Do not allow material to be released to the environment without proper governmental permits.  
Toxic for aquatic organisms  
Water hazard class 2 (Self-assessment): hazardous for water.  
Danger to drinking water if even small quantities leak into soil.  
Also poisonous for fish and plankton in water bodies.  
Toxic to aquatic life.  
May cause long lasting harmful effects to aquatic life.  
Avoid transfer into the environment.

**12.5 Results of PBT and vPvB assessment****PBT:**

Not applicable.

**vPvB:**

Not applicable.

**12.6 Other adverse effects**

No further relevant information available.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:****Recommendation:**

Disposal must be made according to official regulations.

**SECTION 14: Transport information****UN-Number****ADR, IMDG, IATA**

UN3392

**14.2 UN proper shipping name****ADR**

3392 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC (n-Hexyllithium, 33% (2.47M) in hexane)

**IMDG**

ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC (n-Hexyllithium, 33% (2.47M) in hexane), MARINE POLLUTANT

**IATA**

ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC

**14.3 Transport hazard class(es)****ADR****Class  
Label  
IMDG**

4.2 (S5) Substances liable to spontaneous combustion.  
4.2

**Class  
Label  
IATA**

4.2 Substances liable to spontaneous combustion.  
4.2

**Class  
Label**

4.2 Substances liable to spontaneous combustion.  
4.2

**Packing group  
ADR, IMDG, IATA**

I

**14.5 Environmental hazards:****Marine pollutant:**

Environmentally hazardous substance, liquid; Marine Pollutant  
Yes (P)  
Symbol (fish and tree)

**14.6 Special precautions for user****Kemler Number:**

Warning: Substances liable to spontaneous combustion.  
333

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC****Code**

Not applicable.

**Transport/Additional information:****ADR****Excepted quantities (EQ):**

E0

**Limited quantities (LQ)**

0

**Transport category**

0

**Tunnel restriction code**

B/E

**UN "Model Regulation":**

UN3392, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC (n-Hexyllithium, 33% (2.47M) in hexane), 4.2, I

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical****Substances**

Substance is not listed.

**Standard for the Uniform Scheduling of****Drugs and Poisons**

Substance is not listed.

(Contd. on page 5)  
DE/E

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(Contd. of page 4)

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

Employment restrictions concerning young persons must be observed.  
Employment restrictions concerning women of child-bearing age must be observed.  
For use only by technically qualified individuals.

**Water hazard class:**

Water hazard class 2 (Self-assessment): hazardous for water.

**Other regulations, limitations and prohibitive  
ELINCS (European List of Notified Chemical  
Substances)**
**regulations**

Substance is not listed.

**Substances of very high concern (SVHC)**

Substance is not listed.

**according to REACH, Article 57**

Substance is not listed.

**REACH - Pre-registered substances****15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

**SECTION 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.**Abbreviations and acronyms:**

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

DE/E