

SAFETY DATA SHEET

Creation Date 21-May-2012

Revision Date 12-Jan-2023

Revision Number 6

1. Identification

Product Name n-Hexyllithium, 33 wt.% solution in n-hexane

Cat No. : AC301650000; AC301651000; AC301658000

Synonyms No information available

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|--------------|
| Flammable liquids | Category 2 |
| Substances/mixtures which, in contact with water, emit flammable gases | Category 1 |
| Pyrophoric liquids | Category 1 |
| Skin Corrosion/Irritation | Category 1 A |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Reproductive Toxicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Central nervous system (CNS), Respiratory system. | |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Central nervous system (CNS), Peripheral Nervous System (PNS). | |
| Aspiration Toxicity | Category 1 |

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
In contact with water releases flammable gases which may ignite spontaneously
Catches fire spontaneously if exposed to air
May be fatal if swallowed and enters airways
Causes severe skin burns and eye damage
May cause respiratory irritation
May cause drowsiness or dizziness
Suspected of damaging fertility
May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Do not allow contact with air
Keep away from any possible contact with water, because of violent reaction and possible flash fire
Handle under inert gas. Protect from moisture
Keep cool

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

Wash contaminated clothing before reuse
IF ON SKIN: Immerse in cool water/wrap with wet bandages
Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages

Eyes

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

Ingestion

Do NOT induce vomiting
Rinse mouth

Fire

In case of fire: Use limestone powder, sodium chloride or dry sand to extinguish

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store contents under inert gas
Store in a dry place. Store in a closed container

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects

Reacts violently with water

3. Composition/Information on Ingredients

| Component | CAS No | Weight % |
|---|------------|----------|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | 64742-49-0 | 67 |
| n-Hexyllithium | 21369-64-2 | 33 |

4. First-aid measures

| | |
|--|--|
| General Advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately. |
| Inhalation | If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately. Risk of serious damage to the lungs (by aspiration). |
| Ingestion | Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward. |
| Most important symptoms and effects | Causes burns by all exposure routes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---------------------------------------|--|
| Suitable Extinguishing Media | Dry sodium chloride. Limestone powder. Dry chemical. approved class D extinguishers. Water mist may be used to cool closed containers. |
| Unsuitable Extinguishing Media | Water, Carbon dioxide (CO2), Foam |
| Flash Point | -26 °C / -14.8 °F |
| Method - | (based on components) |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |

Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Flammable. Reacts violently with water. The product causes burns of eyes, skin and mucous membranes. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

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

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health
3

Flammability
4

Instability
2

Physical hazards
W

6. Accidental release measures

Personal Precautions

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Do not expose spill to water. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage.

Refrigerator/flammables. Keep under nitrogen. Keep away from water or moist air. Keep away from heat, sparks and flame. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Acids. Water. Alcohols. Amines. Halogens. Chlorine. Fluorine. Carbon dioxide (CO₂).

8. Exposure controls / personal protection

Exposure Guidelines

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

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

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by

| | |
|---------------------------------|---|
| | OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. |
| Skin and body protection | Wear appropriate protective gloves and clothing to prevent skin exposure. |
| 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. |
| Recommended Filter type: | low boiling organic solvent. Type AX. Brown. conforming to EN371. or. Organic gases and vapours filter. Type A. Brown. conforming to EN14387. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. Physical and chemical properties

| | |
|---|--------------------------|
| Physical State | Liquid |
| Appearance | light orange |
| Odor | Petroleum distillates |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | No data available |
| Boiling Point/Range | No information available |
| Flash Point | -26 °C / -14.8 °F |
| Method - | (based on components) |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | 151 mmHg @ 25 °C |
| Vapor Density | 3 |
| Specific Gravity | 0.690 |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | No information available |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | Yes |
| Stability | Reacts violently with water. Moisture sensitive. Air sensitive. Pyrophoric: Spontaneously flammable in air. |
| 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. Exposure to moisture. |
| Incompatible Materials | Acids, Water, Alcohols, Amines, Halogens, Chlorine, Fluorine, Carbon dioxide (CO ₂) |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂), Lithium oxide |
| Hazardous Polymerization | No information available. |
| Hazardous Reactions | None under normal processing. Reacts violently with water. |

11. Toxicological information

Acute Toxicity

Product Information**Oral LD50****Dermal LD50****Vapor LC50****Component Information**

No acute toxicity information is available for this product

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|--------------------|-----------------------|------------------------------|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | LC50 = 73680 ppm (Rat) 4 h |

Toxicologically Synergistic

No information available

Products**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Irritation**

No information available

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|--|------------|------------|------------|------------|------------|------------|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | 64742-49-0 | Not listed | Not listed | Not listed | Not listed | Not listed |
| n-Hexyllithium | 21369-64-2 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

Central nervous system (CNS) Respiratory system

STOT - repeated exposure

Central nervous system (CNS) Peripheral Nervous System (PNS)

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|--|------------------|--|------------|------------|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | Not listed | LC50: = 8.41 mg/L, 96h semi-static, closed (Oncorhynchus mykiss) | Not listed | Not listed |

Persistence and Degradability

Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation

No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN3394
Proper Shipping Name ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Hazard Class 4.2
Subsidiary Hazard Class 4.3
Packing Group I

TDG

UN-No UN3394
Proper Shipping Name ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Hazard Class 4.2
Subsidiary Hazard Class 4.3
Packing Group I

IATA

UN-No UN3394
Proper Shipping Name ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Hazard Class 4.2
Subsidiary Hazard Class 4.3
Packing Group I

IMDG/IMO

UN-No UN3394
Proper Shipping Name ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Hazard Class 4.2
Subsidiary Hazard Class 4.3
Packing Group I

15. Regulatory information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|--|------------|------|---|-----------------------------|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | 64742-49-0 | T | ACTIVE | - |
| n-Hexyllithium | 21369-64-2 | X | ACTIVE | PMN |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

PMN - Indicates a commenced PMN substance

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

TSCA 12(b) - Notices of Export

Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|--|------------|-----|------|-----------|-------|------|------|------|-------|-------------|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | 64742-49-0 | x | - | 927-292-5 | x | x | | x | x | x |
| n-Hexyllithium | 21369-64-2 | - | X | - | - | - | | - | - | 2015-3-6422 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|--|------------|---|--|---|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | 64742-49-0 | - | Use restricted. See item 28. (see link for restriction details) Use restricted. See item 29. (see link for restriction details) Use restricted. See item 75. (see link for restriction details) | - |

| | | | | |
|----------------|------------|---|--|---|
| n-Hexyllithium | 21369-64-2 | - | details) Use restricted. See item 75. (see link for restriction details) | - |
|----------------|------------|---|--|---|

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|--|------------|----------------|------------------------------|---------------------------|--|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | 64742-49-0 | Listed | Not applicable | Not applicable | Not applicable |
| n-Hexyllithium | 21369-64-2 | Not applicable | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|--|------------|---|--|----------------------------|------------------------------------|
| Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, 5-50% n-hexane | 64742-49-0 | Not applicable | Not applicable | Not applicable | Not applicable |
| n-Hexyllithium | 21369-64-2 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

End of SDS