

## SAFETY DATA SHEET

Version 6.2  
Revision Date 04/20/2022  
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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Dihexyl ether

Product Number : 261505  
Brand : Aldrich  
CAS-No. : 112-58-3

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

Identified uses : Laboratory chemicals, Synthesis of substances

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

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 4), H227  
Skin sensitization (Sub-category 1B), H317  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal Word

Warning

|                            |                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------|
| Hazard statement(s)        |                                                                                      |
| H227                       | Combustible liquid.                                                                  |
| H317                       | May cause an allergic skin reaction.                                                 |
| H410                       | Very toxic to aquatic life with long lasting effects.                                |
| Precautionary statement(s) |                                                                                      |
| P210                       | Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.                  |
| P261                       | Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.                                |
| P272                       | Contaminated work clothing must not be allowed out of the workplace.                 |
| P273                       | Avoid release to the environment.                                                    |
| P280                       | Wear protective gloves/ eye protection/ face protection.                             |
| P302 + P352                | IF ON SKIN: Wash with plenty of soap and water.                                      |
| P333 + P313                | If skin irritation or rash occurs: Get medical advice/ attention.                    |
| P363                       | Wash contaminated clothing before reuse.                                             |
| P370 + P378                | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P391                       | Collect spillage.                                                                    |
| P403 + P235                | Store in a well-ventilated place. Keep cool.                                         |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.                  |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                                     |
|------------------|-------------------------------------|
| Formula          | : C <sub>12</sub> H <sub>26</sub> O |
| Molecular weight | : 186.33 g/mol                      |
| CAS-No.          | : 112-58-3                          |
| EC-No.           | : 203-987-8                         |

| Component            | Classification                                                                          | Concentration |
|----------------------|-----------------------------------------------------------------------------------------|---------------|
| <b>Dihexyl ether</b> |                                                                                         |               |
|                      | Flam. Liq. 4; Skin Sens. 1B; Aquatic Acute 1; Aquatic Chronic 1; H227, H317, H400, H410 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air.

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area.

### **6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

#### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

Tightly closed.

#### **Storage class**

Storage class (TRGS 510): 10: Combustible liquids

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### **Personal protective equipment**

##### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### **Body Protection**

protective clothing

##### **Respiratory protection**

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

## Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                                 |                                                                           |
|-------------------------------------------------|---------------------------------------------------------------------------|
| a) Appearance                                   | Form: clear, liquid<br>Color: colorless                                   |
| b) Odor                                         | No data available                                                         |
| c) Odor Threshold                               | No data available                                                         |
| d) pH                                           | No data available                                                         |
| e) Melting point/freezing point                 | Melting point/freezing point: -46 °C (-51 °F) at 1,012 hPa - ASTM D 97-66 |
| f) Initial boiling point and boiling range      | 228 - 229 °C 442 - 444 °F - lit.                                          |
| g) Flash point                                  | 78 °C (172 °F) - closed cup                                               |
| h) Evaporation rate                             | No data available                                                         |
| i) Flammability (solid, gas)                    | No data available                                                         |
| j) Upper/lower flammability or explosive limits | No data available                                                         |
| k) Vapor pressure                               | 0.15 hPa at 20 °C (68 °F) - OECD Test Guideline 104                       |
| l) Vapor density                                | No data available                                                         |
| m) Density                                      | 0.793 g/cm <sup>3</sup> at 25 °C (77 °F) - lit.                           |
| Relative density                                | 0.79320 °C                                                                |
| n) Water solubility                             | 0.00271 g/l at 20 °C (68 °F) - OECD Test Guideline 105                    |
| o) Partition coefficient: n-octanol/water       | No data available                                                         |
| p) Autoignition temperature                     | 188 °C (370 °F) at 1,010 hPa - DIN 51794                                  |
| q) Decomposition temperature                    | No data available                                                         |
| r) Viscosity                                    | 2.1 mm <sup>2</sup> /s at 20 °C (68 °F) -                                 |
| s) Explosive properties                         | No data available                                                         |
| t) Oxidizing properties                         | none                                                                      |

### 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.  
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 30,900 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - male and female - 4 h - > 5.13 mg/l - dust/mist

(OECD Test Guideline 403)

LD50 Dermal - Rat - female - > 2,000 mg/kg

(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - in vitro test

Result: No skin irritation - 4 h

Remarks: (ECHA)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 24 h

(OECD Test Guideline 405)

#### Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: positive

The product is a skin sensitizer, sub-category 1B.

(OECD Test Guideline 429)

#### Germ cell mutagenicity

Test Type: Ames test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: gene mutation test

Test system: mouse lymphoma cells

Aldrich - 261505

Page 6 of 9

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 490

Result: negative

Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

## **11.2 Additional Information**

Repeated dose toxicity - Rat - female - Oral - 90 d - NOAEL (No observed adverse effect level) -  $\geq 1,000$  mg/kg

RTECS: KN8600000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

|                                                     |                                                                                                                               |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | semi-static test LC50 - <i>Gobiocypris rarus</i> (rare gudgeon) - 2.02 mg/l - 96 h<br>(OECD Test Guideline 203)               |
| Toxicity to daphnia and other aquatic invertebrates | semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 0.194 mg/l - 48 h<br>(OECD Test Guideline 202)                    |
| Toxicity to algae                                   | static test ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - $> 0.067$ mg/l - 72 h<br>(OECD Test Guideline 201) |

### **12.2 Persistence and degradability**

Aldrich - 261505

Page 7 of 9

Biodegradability                      aerobic - Exposure time 28 d  
Result: 77.3 % - Readily biodegradable.  
(OECD Test Guideline 301F)

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Endocrine disrupting properties**

No data available

### **12.7 Other adverse effects**

Discharge into the environment must be avoided.

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## **SECTION 13: Disposal considerations**

### **13.1 Waste treatment methods**

#### **Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## **SECTION 14: Transport information**

#### **DOT (US)**

NA-Number: 1993    Class: NONE                      Packing group: III  
Proper shipping name: Combustible liquid, n.o.s. (Dihexyl ether)  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

#### **IMDG**

UN number: 3082    Class: 9                      Packing group: III                      EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dihexyl ether)  
Marine pollutant : yes  
Marine pollutant : no

#### **IATA**

UN number: 3082    Class: 9                      Packing group: III  
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Dihexyl ether)

#### **Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

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## SECTION 15: Regulatory information

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Massachusetts Right To Know Components

|               | CAS-No.  | Revision Date |
|---------------|----------|---------------|
| Dihexyl ether | 112-58-3 | 1993-04-24    |

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

|               | CAS-No.  | Revision Date |
|---------------|----------|---------------|
| Dihexyl ether | 112-58-3 | 1993-04-24    |

### New Jersey Right To Know Components

|               | CAS-No.  | Revision Date |
|---------------|----------|---------------|
| Dihexyl ether | 112-58-3 | 1993-04-24    |

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## SECTION 16: Other information

### Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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