



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.17

Revision Date 15.10.2024

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : 2-Heptanone

Product Number : W254401

Brand : Aldrich

Index-No. : 606-024-00-3

REACH No. : 01-2119902391-49-XXXX

CAS-No. : 110-43-0

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

Identified uses : Laboratory chemicals, Manufacture of substances

### 1.3

CHEMIKART

### 1.4 Emergency telephone

Emergency Phone # : 000 800 1007 141 (CHEMTREC)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Flammable liquids, (Category 3) H226: Flammable liquid and vapor.

Acute toxicity, (Category 4) H302: Harmful if swallowed.

Acute toxicity, (Category 4) H332: Harmful if inhaled.

Specific target organ toxicity - single exposure, (Category 3), Central nervous system H336: May cause drowsiness or dizziness.

### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

## Pictogram

|                                |                                                                                                                             |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Signal Word                    | Warning                                                                                                                     |
| Hazard Statements              |                                                                                                                             |
| H226                           | Flammable liquid and vapor.                                                                                                 |
| H302 + H332                    | Harmful if swallowed or if inhaled.                                                                                         |
| H336                           | May cause drowsiness or dizziness.                                                                                          |
| Precautionary Statements       |                                                                                                                             |
| P210                           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                              |
| P233                           | Keep container tightly closed.                                                                                              |
| P240                           | Ground and bond container and receiving equipment.                                                                          |
| P241                           | Use explosion-proof electrical/ ventilating/ lighting/ equipment.                                                           |
| P301 + P312                    | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.                                                              |
| P304 + P340 + P312             | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. |
| Supplemental Hazard Statements | none                                                                                                                        |

## Reduced Labeling (<= 125 ml)

### Pictogram

|                                |         |
|--------------------------------|---------|
| Signal Word                    | Warning |
| Hazard Statements              | none    |
| Precautionary Statements       | none    |
| Supplemental Hazard Statements | none    |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                                    |
|------------------|------------------------------------|
| Synonyms         | : Methyl pentyl ketone             |
| Formula          | : C <sub>7</sub> H <sub>14</sub> O |
| Molecular weight | : 114,19 g/mol                     |

CAS-No. : 110-43-0  
 EC-No. : 203-767-1  
 Index-No. : 606-024-00-3

| Component           |              | Classification                                                      | Concentration |
|---------------------|--------------|---------------------------------------------------------------------|---------------|
| <b>heptan-2-one</b> |              |                                                                     |               |
| CAS-No.             | 110-43-0     | Flam. Liq. 3; Acute Tox. 4;<br>STOT SE 3; H226, H302,<br>H332, H336 | <= 100 %      |
| EC-No.              | 203-767-1    |                                                                     |               |
| Index-No.           | 606-024-00-3 |                                                                     |               |

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

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## 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. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### In case of skin contact

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

#### 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

Carbon dioxide (CO<sub>2</sub>) Foam 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 at elevated temperatures.

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

### **5.3 Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

### **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. Risk of explosion.

### **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 safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### **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**

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

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

#### **Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

#### **Storage class**

Storage class (TRGS 510): 3: Flammable 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

### 8.2 Exposure controls

#### 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

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm

Break through time: 60 min

Material tested: Butoject® (KCL 898)

##### Body Protection

Flame retardant antistatic protective clothing.

##### Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

##### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |                                            |                                                                     |
|--------------------------------------------|---------------------------------------------------------------------|
| a) Physical state                          | clear, liquid                                                       |
| b) Color                                   | colorless                                                           |
| c) Odor                                    | No data available                                                   |
| d) Melting point/freezing point            | Melting point/ range: -35 °C - lit.                                 |
| e) Initial boiling point and boiling range | 149 - 150 °C - lit.                                                 |
| f) Flammability (solid, gas)               | No data available                                                   |
| g) Upper/lower flammability or             | Upper explosion limit: 7,9 %(V)<br>Lower explosion limit: 1,11 %(V) |

explosive limits

- |                                           |                                                                                    |
|-------------------------------------------|------------------------------------------------------------------------------------|
| h) Flash point                            | 41 °C - closed cup                                                                 |
| i) Autoignition temperature               | 358 °C<br>at 99,63 hPa                                                             |
| j) Decomposition temperature              | No data available                                                                  |
| k) pH                                     | No data available                                                                  |
| l) Viscosity                              | Viscosity, kinematic: No data available<br>Viscosity, dynamic: 0,77 mPa.s at 20 °C |
| m) Water solubility                       | 4,21 g/l at 20 °C                                                                  |
| n) Partition coefficient: n-octanol/water | log Pow: 1,98                                                                      |
| o) Vapor pressure                         | 2,85 hPa at 20 °C                                                                  |
| p) Density                                | 0,82 g/cm <sup>3</sup> at 25 °C - lit.                                             |
| Relative density                          | 0,814 at 20 °C                                                                     |
| q) Relative vapor density                 | 3,94 - (Air = 1.0)                                                                 |
| r) Particle characteristics               | No data available                                                                  |
- 
- |                         |                              |
|-------------------------|------------------------------|
| s) Explosive properties | Not classified as explosive. |
| t) Oxidizing properties | none                         |

## 9.2 Other safety information

Surface tension 26,17 mN/m at 25 °C

Relative vapor density 3,94 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming.

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

Strong oxidizing agents

alkalines

Isocyanates

Amines

acids

### 10.4 Conditions to avoid

Heating.

## 10.5 Incompatible materials

various plastics

## 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 - 1.600 mg/kg

Acute toxicity estimate Oral - 1.600 mg/kg

(ATE value derived from LD50/LC50 value)

LC50 Inhalation - Rat - male and female - 4 h - > 16,7 mg/l - vapor

(OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 5.000 mg/kg

(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation - 4 h

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation

(OECD Test Guideline 405)

#### Respiratory or skin sensitization

- Mouse

Did not cause sensitization on laboratory animals.

(OECD Test Guideline 429)

#### Germ cell mutagenicity

Test Type: in vitro test

Test system: lymphocyte

Metabolic activation: with and without metabolic activation

Result: negative

Species: Rat

Application Route: Inhalation

Result: negative

#### Carcinogenicity

No data available

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

#### Specific target organ toxicity - repeated exposure

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information****Endocrine disrupting properties****Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: MJ5075000

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

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

|                                                     |                                                                                                            |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | LC50 - Pimephales promelas (fathead minnow) - 126 - 137 mg/l - 96 h                                        |
| Toxicity to daphnia and other aquatic invertebrates | semi-static test EC50 - Daphnia magna (Water flea) - > 90,1 mg/l - 48 h                                    |
| Toxicity to algae                                   | static test EC50 - Pseudokirchneriella subcapitata (algae) - 98,2 mg/l - 72 h<br>(OECD Test Guideline 201) |

**12.2 Persistence and degradability**

Biodegradability      aerobic - Exposure time 28 d  
Result: 69 % - Readily biodegradable.  
(OECD Test Guideline 310)

Ratio BOD/ThBOD      1,77 %

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties****Product:**

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

No data available

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1110

IMDG: 1110

IATA: 1110

### 14.2 UN proper shipping name

ADR/RID: n-AMYL METHYL KETONE

IMDG: n-AMYL METHYL KETONE

IATA: n-Amyl methyl ketone

### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

### 14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

### 14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

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## SECTION 15: Regulatory information

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

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

#### National legislation

Seveso III: Directive 2012/18/EU of the P5c FLAMMABLE LIQUIDS  
European Parliament and of the Council  
on the control of major-accident hazards  
involving dangerous substances.

#### Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

## 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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### SECTION 16: Other information

#### Full text of H-Statements

|      |                                    |
|------|------------------------------------|
| H226 | Flammable liquid and vapor.        |
| H302 | Harmful if swallowed.              |
| H332 | Harmful if inhaled.                |
| H336 | May cause drowsiness or dizziness. |

#### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. 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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