

SIGMA-ALDRICH

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Material Safety Data Sheet

Version 4.1
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 2-Heptanone
Product Number : 537683
Brand : Sigma-Aldrich
Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Combustible Liquid, Target Organ Effect, Harmful by ingestion.

Target Organs

Central nervous system, Eyes, Skin, Respiratory system, Peripheral nervous system.

GHS Classification

Flammable liquids (Category 3)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 4)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H226
Flammable liquid and vapour.

H302 + H332
Harmful if swallowed or if inhaled

Precautionary statement(s)

none

HMIS Classification

Health hazard: 1

Chronic Health Hazard: *

Flammability: 2

Physical hazards: 0

NFPA Rating

Health hazard: 1

Fire: 2

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Delivery 0844231052-000010 Purchase Order 111536

Reactivity Hazard: 0

Potential Health Effects

Inhalation
May be harmful if inhaled. May cause respiratory tract irritation.
Skin
Harmful if absorbed through skin. May cause skin irritation.
Eyes
May cause eye irritation.
Ingestion
Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Methyl pentyl ketone
MAK

Formula : C₇H₁₄O
Molecular Weight : 114.19 g/mol

Component	Concentration
Heptan-2-one	
CAS-No.	110-43-0
EC-No.	203-767-1
Index-No.	606-024-00-3

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Hepian-2-one	110-43-0	TWA	50 ppm	USA, ACGIH Threshold Limit Values (TLV)
Remarks	Skin & eye irritation			
		TWA	100 ppm 465 mg/m ³	USA, Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m ³ is approximate.			
		TWA	100 ppm 465 mg/m ³	USA, OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	100 ppm 465 mg/m ³	USA, NIOSH Recommended Exposure Limits

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

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

Skin and body protection

Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form clear, liquid
Colour colourless

Safety data

pH no data available
Melting point/range: -35 °C (-31 °F) - lit.
Boiling point 149 - 150 °C (300 - 302 °F) - lit.
Flash point 41 °C (106 °F) - closed cup
Ignition temperature 393 °C (739 °F)
Autoignition temperature no data available
Lower explosion limit 1.11 % (V)
Upper explosion limit 7.9 % (V)
Vapour pressure 2.85 hPa (2.14 mmHg) at 20 °C (68 °F)
Density 0.82 g/cm³ at 25 °C (77 °F)
Water solubility no data available
Partition coefficient: log Pow: 1.98
n-octanol/water
Relative vapour density 3.94
- (Air = 1.0)
Odour no data available
Odour Threshold no data available
Evaporation rate no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Strong reducing agents, Strong bases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: - Carbon oxides
Other decomposition products: - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 1,670 mg/kg
Inhalation LC50
Dermal LD50
no data available

Other information on acute toxicity
no data available

Skin corrosion/irritation

Skin - rabbit - Open irritation test - 24 h

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

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

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component 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 identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion

Harmful if swallowed.

Skin

Harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Signs and Symptoms of Exposure

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

Synergistic effects

no data available

Additional Information

RTECS: MJ5075000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish

LC50 - Pimephales promelas (fathead minnow) - 126 - 137 mg/l - 96 h

Persistence and degradability
no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 1110 Class: 3 Packing group: III

Proper shipping name: n-Amyl methyl ketone

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 1110 Class: 3 Packing group: III

Proper shipping name: n-AMYL METHYL KETONE

Marine pollutant: No

IATA

UN number: 1110 Class: 3 Packing group: III

Proper shipping name: n-Amyl methyl ketone

EMS-No: F-E, S-D

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Target Organ Effect. Harmful by ingestion.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: 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.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Heptan-2-one

CAS-No.
110-43-0

Revision Date
1994-04-01

Pennsylvania Right To Know Components

Heptan-2-one

CAS-No.
110-43-0

Revision Date
1994-04-01

New Jersey Right To Know Components

Heptan-2-one

CAS-No.
110-43-0

Revision Date
1994-04-01

Heplan-2-one

110-43-0

1994-04-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further Information

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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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.