

## Chemical Safety Data Sheet MSDS / SDS

## 2-Hexanone

Revision Date:2026-03-21 Revision Number:1

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

**Product identifier**

Product name : 2-Hexanone  
CBnumber : CB1682968  
CAS : 591-78-6  
EINECS Number : 209-731-1  
Synonyms : Hexan-2-one

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

**Precautionary statements**

P308+P313 IF exposed or concerned: Get medical advice/attention.  
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
P201 Obtain special instructions before use.

**Hazard statements**

H226 Flammable liquid and vapour  
H336 May cause drowsiness or dizziness  
H372 Causes damage to organs through prolonged or repeated exposure

## SECTION 3: Composition/information on ingredients

## Substance

Product name	: 2-Hexanone
Synonyms	: Hexan-2-one
CAS	: 591-78-6
EC number	: 209-731-1
MF	: C6H12O
MW	: 100.16

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## SECTION 4: First aid measures

### General advice

Show this safety data sheet to the doctor in attendance.

### If inhaled

After inhalation: fresh air. Call in physician.

### 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. Call in ophthalmologist. Remove contact lenses.

### If swallowed

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

### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

### Protection of first-aiders

For personal protection see section 8.

### Notes to physician

No data available

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## SECTION 5: Firefighting measures

### 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.

### Specific hazards during fire fighting

Combustible. Vapours 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.

### Hazardous combustion products

Carbon oxides

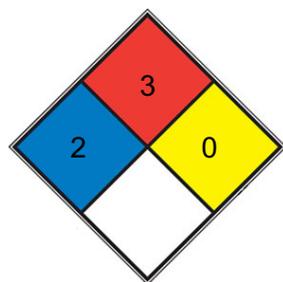
### Specific extinguishing methods

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

### Special protective equipment for fire-fighters

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

### NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 3 Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions. Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

SPEC.  
 HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, 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. Advice for emergency responders: For personal protection see section 8.

### Environmental precautions

Do not let product enter drains. Risk of explosion.

### 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 carefully with liquid-

absorbent material . Dispose of properly. Clean up affected area.

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## SECTION 7: Handling and storage

### 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.

#### Advice on safe handling

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

#### Avoidance of contact

Oxidizing agents Strong bases

### Storage

#### Further information on storage conditions

Keep container tightly closed in a dry and wellventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorised persons.

#### Storage class

3, Flammable liquids

#### Recommended storage temperature

Recommended storage temperature see product label.

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

#### Engineering measures

No data available

### Personal protective equipment

#### 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.

#### Recommended Filter type

Filter type ABEK

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.

#### 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 and body protection**

Flame retardant antistatic protective clothing.

**Hand protection****Remarks**

required

**Hygiene measures**

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

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## SECTION 9: Physical and chemical properties

**Information on basic physicochemical properties**

liquid

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**Color**

colourless

**Odor**

at 1.00 % in dipropylene glycol. fruity fungal meaty buttery

**Odor Threshold**

No data available

**pH**

No data available

**Melting point/ range**

-57 °C

Method: lit.

**Boiling point/boiling range**

127 °C

Method: lit.

**Flash point**

23 °C

Method: closed cup

**Evaporation rate**

No data available

**Flammability (solid, gas)**

No data available

**Flammability (liquids)**

No data available

**Burning rate**

No data available

**Upper explosion limit / Upper flammability limit**

8.1 %(V)

**Lower explosion limit / Lower flammability limit**

1.3 %(V)

**Vapor pressure**

1,013 hPa (127.5 °C) 13 hPa (39 °C)

**Relative vapor density**

3.46

**Relative density**

0.812 g/mL at 25 °C(lit.)

**Density**

0.812 g/mL (25 °C)

Method: lit.

**Water solubility**

slightly soluble

**Partition coefficient: n-octanol/water**

log Pow: 1.38

**Autoignition temperature**

423 °C

Decomposition temperature Viscosity: No data available

**Viscosity, dynamic**

0.62 mPa.s ( 20 °C)

**Viscosity, kinematic**

No data available

**Flow time**

No data available

**Explosive properties**

Not classified as explosive.

**Oxidizing properties**

none

**Surface tension**

25.49 mN/m, 20 °C

**Molecular weight**

100.16 g/mol

**Particle characteristics Particle size**

No data available

**Solubility**

Soluble in acetone, ethanol, and ether (Weast, 1986)

**Physical state**

Liquid

**Henry's Law Constant**

24.4 at 37 °C (static headspace-GC, Bylaite et al., 2004)

**Dielectric constant**

14.6 (15°C)

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## SECTION 10: Stability and reactivity

**Reactivity**

Vapour/air-mixtures are explosive at intense warming.

**Chemical stability**

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

**Possibility of hazardous reactions**

No data available

**Conditions to avoid**

Heating.

**Incompatible materials**

Oxidizing agents Strong bases

**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 - 2,590 mg/kg

LC50 Inhalation - Rat - 4 h - 8000 ppm - vapour

LD50 Dermal - Rabbit - 4,800 mg/kg

### Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation - 24 h

### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation - 24 h

### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

### Germ cell mutagenicity

Classified based on available data. For more details, see section 2

### Carcinogenicity

Classified based on available data. For more details, see section 2

### Reproductive toxicity

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Suspected of damaging fertility.

### Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

### Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

### Aspiration hazard

Classified based on available data. For more details, see section 2

## 11.2 Additional Information

RTECS: MP1400000 narcosis, 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

### Ecotoxicity

#### Components:

#### Methyl butyl ketone:

#### Toxicity to fish

LC50 (Pimephales promelas (fathead minnow)): 428 mg/l Exposure time: 96 h

#### Persistence and degradability

No data available

## Bioaccumulative potential

### Components:

#### Methyl butyl ketone:

Partition coefficient: octanol/water

log Pow: 1.38

#### Mobility in soil

No data available

#### Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### Disposal methods

#### Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## SECTION 14: Transport information

### International Regulations

#### IATA-DGR

UN/ID No. : UN 1224

Proper shipping name : Ketones, liquid, n.o.s.

(Methyl butyl ketone)

Class : 3

Packing group : III

Labels : Class 3 - Flammable liquids

Packing instruction (cargo aircraft) : 366

Packing instruction (passenger aircraft) : 355

#### IMDG-Code

UN number : UN 1224

Proper shipping name : KETONES, LIQUID, N.O.S.

(Methyl butyl ketone)

Class : 3

Packing group : III

Labels : 3

EmS Code : F-E, S-D

Marine pollutant : no

## **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

## **National Regulations**

### **JT/T 617**

UN number : UN 1224

Proper shipping name : KETONES, LIQUID, N.O.S.

(Methyl butyl ketone)

Class : 3

Packing group : III

Labels : 3

Environmentally hazardous : no

## **Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## **SECTION 15: Regulatory information**

### **National regulatory information**

#### **Law on the Prevention and Control of Occupational Diseases**

#### **Regulations on Safety Management of Hazardous Chemicals**

#### **Catalogue of Hazardous Chemicals**

Listed

#### **Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)**

#### **No. / Code Chemical name / Category Threshold quantity**

#### **W5.4 Flammable liquids 5,000 t**

#### **Hazardous Chemicals for Priority Management**

Not listed under SAWS

#### **Catalogue of Specially Controlled Hazardous**

Not listed Chemicals

#### **List of Explosive Precursors**

Not listed

## **Regulations on Labour Protection in Workplaces where Toxic Substances are Used**

### **Catalogue of Highly Toxic Chemicals**

Not listed

## **Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

### **China Severely Restricted Toxic Chemicals for Import and Export**

Not listed

## **Regulation on the Administration of Precursor Chemicals**

### **Catalogue and Classification of Precursor Chemicals**

Not listed

## **Regulations on the Administration of Controlled Chemicals**

### **List of Controlled Chemicals**

Not listed

## **Regulations of Ozone Depleting Substances Management**

### **List of Controlled Ozone Depleting Substances**

Not listed

## **List of Controlled Ozone Depleting Substances Import and Export**

Not listed

## **Environmental Protection Law**

### **List of Priority Controlled Chemicals**

Not listed

### **List of Key Controlled New Pollutants**

Not listed

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## SECTION 16: Other information

### **Full text of other abbreviations**

#### **ACGIH**

USA. ACGIH Threshold Limit Values (TLV)

#### **GBZ 2.1-2007**

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

## **ACGIH / TWA**

8-hour, time-weighted average

## **ACGIH / STEL**

Short-term exposure limit

## **GBZ 2.1-2007 / PC-TWA**

Permissible concentration - time weighted average

**GBZ 2.1-2007 / PC-STEL AIC - Australian Invent Transport by Land of Bra bw - Body weight; CMR Standard of the German List (Canada); ECx - Conc associated with x%respo Chemical Substances (Jap response; ERG - Emerge GLP - Good Laboratory P cer; IATA - International Construction and Equipm Half maximal inhibitory c tion; IECSC - Inventory o tional Maritime Dangerous Industrial Safety and H Standardisation; KECl - K tration to 50 % of a test (Median Lethal Dose); MA lution from Ships; MERC of Dangerous Goods; n.o. - No Observed (Adverse) fect Level; NOELR - No Norm; NTP - National Toxi icals; OECD - Organisatio fice of Chemical Safety a and Toxic substance; PIC stances; (Q)SAR - (Quant (EC) No 1907/2006 of th Registration, Evaluation, Accelerating Decompositi Chemical Substance Inve Thailand Existing Chemical States); UN - United Nat Transport of Dangerous WHMIS - Workplace Hazar**

Permissible concentration - short term exposure limit ry of Industrial Chemicals

ANTT - National Agency for il

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN nstitute for Standardisation

DSL - Domestic Substances ntration associated with x% response

ELx - Loading rate se

EmS - Emergency Schedule

ENCS - Existing and New n)

ErCx - Concentration associated with x% growth rate cy Response Guide

GHS - Globally Harmonised System

actice

IARC - International Agency for Research on Canir Transport Association

IBC - International Code for the nt of Ships carrying Dangerous Chemicals in Bulk

IC50 ncentration

ICAO - International Civil Aviation Organiza- Existing Chemical Substances in China

IMDG - Interna- Goods

IMO - International Maritime Organisation

ISHL alth Law (Japan)

ISO - International Organisation for rea Existing Chemicals Inventory

LC50 - Lethal Concenopulation

LD50 - Lethal Dose to 50% of a test population POL - International Convention for the Prevention of PoI- SUR - The Agreement for the Facilitation of the Transport . - Not Otherwise Specified

Nch - Chilean Norm

NO(A)EC ffect Concentration

NO(A)EL - No Observed (Adverse) Efbserveable Effect Loading Rate

NOM - Official Mexican ology Program

NZIoC - New Zealand Inventory of Chemfor Economic Co-operation and Development

OPPTS - Ofd Pollution Prevention

PBT - Persistent, Bioaccumulative S - Philippines Inventory of Chemicals and Chemical Substantive) Structure Activity Relationship

REACH - Regulation European Parliament and of the Council concerning the authorisation and Restriction of Chemicals

SADT - Selfn Temperature

SDS - Safety Data Sheet

TCSI - Taiwan tory

TDG - Transportation of Dangerous Goods

TECI s Inventory

TSCA - Toxic Substances Control Act (United ons

UNRTDG - United Nations Recommendations on the oods

vPvB - Very Persistent and Very Bioaccumulative

ous Materials Information System

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.