

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

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P201 Obtain special instructions before use.

Hazard statements

H372 Causes damage to organs through prolonged or repeated exposure

H336 May cause drowsiness or dizziness

H226 Flammable liquid and vapour

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	: C ₆ H ₁₂ O
MW	: 100.16

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

SECTION 5: Firefighting measures

Suitable extinguishing media

Foam Carbon dioxide (CO₂) 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

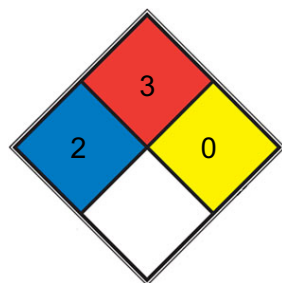
Specific extinguishing methods

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.

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.

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.

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.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

liquid

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)

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

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.

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: noctanol/water

log Pow: 1.38

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

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

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.

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

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.
Chemical Book

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 Dangerou 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 Chemicala 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 Pol- 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 - Self-heating Temperature

SDS - Safety Data Sheet

TCSI - Taiwan Toxic Chemicals Inventory

TDG - Transportation of Dangerous Goods

TECLIS Inventory

TSCA - Toxic Substances Control Act (United States)

UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

vPvB - Very Persistent and Very Bioaccumulative

Chemical 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.