

# Design Report of Safety Data Sheet

正本/ORIGINAL

Report No.:	HGBZ2304VTO2	 防伪码: YUQN
Inspection date:	2023/04/28	
Issue date:	2023/04/28	
Version:	V2.0.0.1	
*Product Name:	Cyclohexanone	
*Applicant:	ZHENGZHOU BATONG INDUSTRIAL CO.,LTD	
Supplier:	ZHENGZHOU BATONG INDUSTRIAL CO.,LTD	
*Composition of the product:	Cyclohexanone(CAS: 108-94-1): $\geq 99.8\%$	
Warranty of Design:	GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) Ninth revised edition	
*Information materials:	HGBZ2304VTO《Application》、P111012《Declaration of consistency of components of the sample submitted for inspection》	
Design Result of SDS please see next page.		
Designer:		Auditor: 
		Approver: 
常州合規思遠產品安全技術服務有限公司 Changzhou Hegui Siyuan Products Safety Technology Service Co., Ltd.		
		

Notes: This SDS is valid before the implementation of the tenth revised edition GHS.

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8. This report is valid before the implementation of the new version of the standard.



## Safety Data Sheet

# Cyclohexanone

Version : V2.0.0.1

Report No. : HGBZ2304VTO2

Creation Date : 2023/04/28

Revision Date : 2023/04/28

\*According to GHS (Ninth Revised Edition)

## 1 Identification

### Product identifier

Product Name	Cyclohexanone
CAS No.	108-94-1
EC No.	203-631-1
Molecular Formula	C <sub>6</sub> H <sub>10</sub> O

### Recommended use of the product and restrictions on use

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

### Details of the supplier

Applicant Name	ZHENGZHOU BATONG INDUSTRIAL CO.,LTD
Applicant Address	GUAN DI MIAO Village YU LONG Town, XING YANG City
Applicant Post Code	-
Applicant Telephone	0371-68538723
Applicant Fax	0371-68538725
Applicant E-mail	info@batongchemical.com
Supplier Name	ZHENGZHOU BATONG INDUSTRIAL CO.,LTD
Supplier Address	GUAN DI MIAO Village YU LONG Town, XING YANG City
Supplier Post Code	-
Supplier Telephone	0371-68538723
Supplier Fax	0371-68538725
Supplier E-mail	info@batongchemical.com

### Emergency phone number

Emergency phone number	+86-371-68538723
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## 2 Hazard(s) identification

### Hazard classification according to GHS

Flammable Liquids	Category 3
Acute Toxicity – Inhalation	Category 4

### GHS Label elements

Hazard pictograms	 
Signal word	<b>Warning</b>

### Hazard statements

H226	Flammable liquid and vapour
H332	Harmful if inhaled

### Precautionary statements

#### ◆ Prevention

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.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing gas/mist/vapour/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

#### ◆ Response

P317	Get medical help.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P370+P378	In case of fire: Use appropriate extinguishing media mentioned in Section 5 of the SDS to extinguish.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

#### ◆ Storage

P403+P235	Store in a well-ventilated place. Keep cool.
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#### ◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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### Hazard description

#### ◆ Physical and chemical hazards

	Flammable liquids, its vapor and air mixture can form explosive mixture.
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#### ◆ Health hazards

Inhaled	Cough. Sore throat. Dizziness. Drowsiness.
Ingestion	Abdominal pain. Burning sensation.
Skin Contact	MAY BE ABSORBED! Dry skin. Redness.
Eye	Redness. Pain.

#### ◆ Environmental hazards

	Please refer to 12th chapter of SDS.
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### 3 Composition/information on ingredients

#### Substance/mixture

Substance			
Component	CAS No.	EC No.	Concentration (Volume or weight percent, %)
Cyclohexanone	108-94-1	203-631-1	≥ 99.8

### 4 First-aid measures

#### Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
Ingestion	Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention.
Inhalation	Fresh air , rest. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

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

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
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#### Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

### 5 Fire-fighting measures

#### Extinguishing media

Suitable extinguishing media	Small Fire : Dry chemical, CO <sub>2</sub> , water spray or alcohol-resistant foam; Large Fire : Water spray, fog or alcohol-resistant foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter or spread fire.

#### Specific hazards arising from the substance or mixture

1	Will form explosive mixtures with air.
2	Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
3	Vapours may travel to source of ignition and flash back.
4	Liquid and vapour are flammable.
5	Development of hazardous combustion gases or vapor possible in the event of fire.
6	May expansion or decompose explosively when heated or involved in fire.

#### Special protective equipment and precautions for fire-fighters

1	As in any fire, wear self-contained breathing apparatus ( MSHA/NIOSH approved or equivalent) and full
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	protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

## 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Use personal protective equipment, do not breathe gas/mist/vapour/spray.
6	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
7	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

1	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-static clothing.
2	In case of small amount of spillage, use clean non sparking tools to collect absorption materials.
3	In case of large amount of spillage, construct cofferdam or dig a hole to collect the spillage. Use foam cover to reduce evaporation. Water spray mist can reduce evaporation, but can not reduce the flammability of the leakage in the restricted space.
4	Collect absorbent material using a clean, non-sparking tool.
5	Cover with anti-solvent foam to reduce evaporation.
6	Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
7	Water spray reduces evaporation but does not reduce the flammability of spills in confined spaces.
8	Cut off the source of the leak as much as possible.
9	Keep leaks in a ventilated place.
10	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
11	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
12	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.
13	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7 Handling and storage

### Precautions for safe handling

1	Avoid inhalation of vapors.
2	Use only non-sparking tools.
3	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.

4	Use explosion proof equipment.
5	Handling is performed in a well ventilated place.
6	Wear suitable protective equipment.
7	Avoid contact with skin and eyes.
8	Keep away from heat/sparks/open flames/ hot surfaces.

### Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

## 8 Exposure controls/personal protection

### Control parameters

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Cyclohexanone	USA - OSHA	50	200		
	South Korea	25	100	50	200
	Ireland	10	40.8	20	81.6
	Germany (AGS)	20	80	20	80
	Denmark	10	40	20	80
	Australia	25	100		
	USA-ACGIH	20		50	

#### ◆ Biological limit values

Biological limit values	No relevant regulations
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#### ◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 series standard Determination of toxic substances in workplace air.

### Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

### Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.

<b>Respiratory protection</b>	Must wear appropriate personal respiratory protective equipment.
<b>Skin and body protection</b>	Must wear anti static chemical protective clothing and anti static shoes.

## 9 Physical and chemical properties and safety characteristics

### Physical and chemical properties

<b>Physical state</b>	Liquid
<b>Colour</b>	Colorless
<b>Odor</b>	No information available
<b>Odor threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting point/freezing point(°C)</b>	-32.1
<b>Initial boiling point and boiling range(°C)</b>	156
<b>Flash point(Closed cup,°C)</b>	44
<b>Evaporation rate</b>	No information available
<b>Flammability</b>	Flammable
<b>Upper/lower explosive limits[%(v/v)]</b>	Upper limit : 9.4 ; Lower limit : 1.1
<b>Vapor pressure</b>	500Pa ( 20°C )
<b>Relative vapour density(Air = 1)</b>	3.4
<b>Relative density(Water=1)</b>	0.95
<b>Solubility</b>	Miscible with water
<b>n-octanol/water partition coefficient</b>	0.81
<b>Auto-ignition temperature(°C)</b>	No information available
<b>Decomposition temperature(°C)</b>	No information available
<b>Kinematic viscosity</b>	No information available
<b>Particle characteristics</b>	No information available

## 10 Stability and reactivity

### Stability and reactivity

<b>Reactivity</b>	Contact with incompatible substances can cause decomposition or other chemical reactions.
<b>Chemical stability</b>	Stable under proper operation and storage conditions.
<b>Possibility of hazardous reactions</b>	In contact with oxidants may cause a fire or an explosion.
<b>Conditions to avoid</b>	Incompatible materials, heat, flame and spark.
<b>Incompatible materials</b>	Oxidants, chloroform, bromoform and other organic solvents.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 Toxicological information

### Acute toxicity

<b>Acute toxicity</b>	No information available
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## | Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
Cyclohexanone	Category 3	Not Listed

## | Others

Cyclohexanone(Component)	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Reproductive toxicity(additional)	Based on available data, the classification criteria are not met

## 12 Ecological information

### | Acute aquatic toxicity

Acute aquatic toxicity	No information available
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### | Chronic aquatic toxicity

Chronic aquatic toxicity	No information available
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### | Persistence and degradability

Persistence and degradability	No information available
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### | Bioaccumulative potential

Bioaccumulative potential	No information available
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### | Mobility in soil

Mobility in soil	No information available
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### | Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Cyclohexanone	Not available

## 13 Disposal considerations


### | Disposal considerations

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.

<b>Disposal recommendations</b>	Refer to section waste chemicals and contaminated packaging.
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## 14 Transport information

### Label

<b>Transporting Label</b>	
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### IMDG-CODE

<b>UN number</b>	1915
<b>UN proper shipping name</b>	CYCLOHEXANONE
<b>Transport hazard class</b>	3
<b>Transport subsidiary hazard class</b>	None
<b>Packing group</b>	III
<b>Marine pollutant ( Yes or no )</b>	No

### ICAO/IATA-DGR

<b>UN number</b>	1915
<b>UN proper shipping name</b>	CYCLOHEXANONE
<b>Transport hazard class</b>	3
<b>Transport subsidiary hazard class</b>	None
<b>Packing group</b>	III

### UN-ADR

<b>UN number</b>	1915
<b>UN proper shipping name</b>	CYCLOHEXANONE
<b>Transport hazard class</b>	3
<b>Transport subsidiary hazard class</b>	None
<b>Packing group</b>	III

## 15 Regulatory information

### International chemical inventory

Component	EC inventory	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AIICS	ENCS
<b>Cyclohexanone</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓

[EC inventory] European Inventory of Existing Commercial Chemical Substances

[TSCA] United States Toxic Substances Control Act Inventory

[DSL] Canadian Domestic Substances List

[IECSC] China Inventory of Existing Chemical Substances

[NZIoC] New Zealand Inventory of Chemicals

[PICCS] Philippines Inventory of Chemicals and Chemical Substances

[KECI] Korea Existing Chemicals Inventory

[AIICS] Australian. Inventory of Industrial Chemical (AIICS)

[ENCS] Japan Inventory of Existing &amp; New Chemical Substances

Note:

- “√” Indicates that the substance included in the regulations.  
 “x” No data or not included in the regulations.

## 16 Other information

### Information on revision

Creation Date	2023/04/28
Revision Date	2023/04/28
Reason for revision	-

### Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/substancesearch/index.action>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

### Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC <sub>50</sub>	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD <sub>50</sub>	Lethal Dose 50%	NTP	National Toxicology Program
EC <sub>50</sub>	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC <sub>x</sub>	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P <sub>OW</sub>	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

### Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 9th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.