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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: Cyclohexanone	**Revision date:** 2026-10-29	**Version:** 1.0	**Brand:** Richest

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

Product name	Cyclohexanone
Synonyms	None
CAS No.	108-94-1
EC No.	203-631-1
Molecular formula	C6H10O
Molecular weight	98.14 g/mol
Relevant identified uses	Solvent for resins, paints and coatings; intermediate for caprolactam and adipic acid (nylon production)
Uses advised against	None
Company	Richest Group Ltd.
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SECTION 2: Hazards identification

GHS Classification	Flam. Liq. 3; Acute Tox. 4 (Oral); Acute Tox. 4 (Inhalation); Acute Tox. 4 (Dermal); Skin Irrit. 2; Eye Dam. 1; STOT SE 3 (respiratory tract irritation)
Pictogram(s)	GHS02, GHS05, GHS07
Signal word	Danger
Hazard statement(s)	H226 Flammable liquid and vapor. H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled. H315 Causes skin irritation. H318 Causes serious eye damage.

	H335 May cause respiratory irritation.
Precautionary statement(s)	P210; P233; P240; P241; P242; P243; P261; P264; P270; P271; P280; P301+P312+P330; P303+P361+P353; P304+P340+P312; P305+P351+P338+P310; P332+P313; P370+P378; P403+P233; P403+P235; P405; P501
Other hazards	None

SECTION 3: Composition/information on ingredients

Component	Cyclohexanone
CAS No.	108-94-1
EC No.	203-631-1
Classification	Flam. Liq. 3; Acute Tox. 4 (Oral, Inhalation, Dermal); Skin Irrit. 2; Eye Dam. 1; STOT SE 3
Concentration (%)	≤100 %

SECTION 4: First aid measures

If inhaled	Remove person to fresh air.
In case of skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.
In case of eye contact	Rinse out with plenty of water. Immediately call an ophthalmologist. Remove contact lenses.
If swallowed	Immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects	The most important known symptoms and effects are described in section 2.2 and section 11.
Indication of any immediate medical attention	No specific antidote; treat symptomatically.

SECTION 5: Firefighting measures

Suitable extinguishing media	Carbon dioxide (CO2), foam, dry powder
Unsuitable extinguishing media	None (no limitations of extinguishing agents are given)
Special hazards arising from the chemical	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.

Advice for firefighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. Remove container from danger zone and cool with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	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.
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. Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

SECTION 7: Handling and storage

Precautions for safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Storage class (TRGS 510): 3 (flammable liquids).

SECTION 8: Exposure controls/personal protection

Occupational exposure limit values	PC-TWA 50 mg/m3 (China); skin notation
Biological limit values	ACGIH BEI: 1,2-Cyclohexanediol 80 mg/l (urine, end of shift at end of workweek); Cyclohexanol 8 mg/l (urine, end of shift)
Appropriate engineering controls	Ensure adequate ventilation. Immediately change contaminated clothing; wash hands and face after working with substance.
Eye/face protection	Tightly fitting safety goggles (tested and approved under NIOSH (US) or EN 166 (EU))
Skin protection	Handle with chemical-resistant gloves (e.g. butyl rubber, 0.7 mm, breakthrough time 480 min)
Body protection	Flame retardant antistatic protective clothing
Respiratory protection	Required when vapours/aerosols are generated
Thermal hazards	No specific thermal hazards under normal conditions of use.

SECTION 9: Physical and chemical properties

Physical state	Clear liquid
Colour	Colorless to light yellow
Odour	Stinging
Melting point / freezing point	-47 °C
Boiling point or initial boiling point and boiling range	155 °C
Flammability	Flammable liquid and vapor
Lower and upper explosion limit / flammability limit	Lower explosion limit: 1.1 % (V); Upper explosion limit: 9.4 % (V)
Flash point	44 °C - closed cup
Auto-ignition temperature	420 °C at 1,013 hPa
Decomposition temperature	No data available
pH	ca. 7 (70 g/l, 20 °C)
Kinematic viscosity	ca. 2.3 mm2/s at 25 °C (dynamic viscosity 2.2 mPa.s)
Solubility	Water: 86 g/l at 20 °C
Partition coefficient n-octanol/water	log Pow: 0.86 at 25 °C. Bioaccumulation is not expected.
Vapour pressure	ca. 7 hPa at 30 °C
Density and/or relative density	0.947 g/cm3 at 25 °C
Relative vapour density	3.39 (Air = 1.0)
Particle characteristics	Not applicable (liquid)

SECTION 10: Stability and reactivity

Reactivity	Forms explosive mixtures with air at elevated temperatures.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Risk of explosion with: nitric acid, hydrogen peroxide, oxidizing agents, mineral acids.
Conditions to avoid	Heating.
Incompatible materials	Strong oxidizing agents, nitric acid, hydrogen peroxide, mineral acids.
Hazardous decomposition products	Carbon oxides (in the event of fire)

SECTION 11: Toxicological information

Acute toxicity - Oral / Inhalation / Dermal	LD50 Oral - Rat - 1,620 mg/kg; LC50 Inhalation - Rat - 4 h - > 6.2 mg/l (vapor); LD50 Dermal - Rabbit - 1,100 mg/kg
Skin corrosion/irritation	Rabbit - irritating to skin (4 h, OECD Test Guideline 404)
Serious eye damage/irritation	In vitro study - irreversible effects on the eye; risk of corneal clouding
Respiratory or skin sensitization	Maximization Test - Guinea pig - negative
Germ cell mutagenicity	Negative (in vitro and in vivo tests, OECD 471/474/476/482)
Carcinogenicity	IARC Group 3 (not classifiable as to human carcinogenicity)
Reproductive toxicity	Not classified
STOT - single exposure	Inhalation - may cause respiratory irritation (respiratory tract)
STOT - repeated exposure	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

Toxicity to fish / daphnia / algae	Fish: LC50 - Pimephales promelas (fathead minnow) - 527-732 mg/l - 96 h (OECD Test Guideline 203); Daphnia: EC50 - Daphnia magna - > 100 mg/l - 48 h (OECD Test Guideline 202)
Persistence and degradability	Readily biodegradable (90-100 %, 28 d, OECD Test Guideline 301F)
Bioaccumulative potential	log Pow: 0.86; bioaccumulation is not expected
Mobility in soil	Moderately mobile in soil (low log Koc)
Other adverse effects	None known

SECTION 13: Disposal considerations

Product disposal methods	Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	Dispose of contaminated packaging in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	1915
UN Proper Shipping Name	CYCLOHEXANONE
Transport hazard class(es)	3
Packing group	III
Environmental hazards (Marine	No (not a marine pollutant)

pollutant)	
Special precautions for user	Keep containers upright, closed and secured during transport.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	Catalogue of Hazardous Chemicals (China): Listed / EINECS: Listed (203-631-1) / TSCA: Listed / IECSC: Listed

SECTION 16: Other information

Full text of H-Statements	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H312 Harmful in contact with skin. H315 Causes skin irritation. H318 Causes serious eye damage. H332 Harmful if inhaled. H335 May cause respiratory irritation.
Revision date	2026-10-29
Version	1.0

Abbreviations and acronyms: CAS: Chemical Abstracts Service; EC: European Commission; EINECS: European Inventory of Existing Commercial Chemical Substances; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; RID: Regulation concerning the International Carriage of Dangerous Goods by Rail; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; TWA: Time Weighted Average; STEL: Short Term Exposure Limit; LD50: Lethal Dose 50%; LC50: Lethal Concentration 50%; EC50: Effective Concentration 50%; PBT: Persistent, Bioaccumulative and Toxic; vPvB: very Persistent and very Bioaccumulative; SDS: Safety Data Sheet.

References: ECHA - European Chemicals Agency, https://echa.europa.eu/; IPCS - International Chemical Safety Cards (ICSC), http://www.ilo.org/; HSDB - Hazardous Substances Data Bank; eChemPortal - OECD Global Portal to Information on Chemical Substances; ERG - Emergency Response Guidebook by U.S. DOT.

Disclaimer: The information in this SDS is only applicable to the specified product and is provided in good faith. It is based on the knowledge available to Richest Group Ltd. at the date of issue and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not constitute any guarantee of the properties of the product. Richest Group Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.