SAFETY DATA SHEETS

According to the UN GHS revision 10

1: Identification

1.1 GHS Product identifier

Product name	Cumene

1.2 Other means of identification

Product number	98-82-8
Other names	Cumene

1.3 Recommended use of the chemical and restrictions on use

Identified uses	Industrial and scientific research use.
Uses advised against	no data available

1.4 Supplier's details

Company	MolBest.com
Address	MolBest.com
Telephone	MolBest.com

1.5 Emergency phone number

Emergency phone number	MolBest.com
Service hours	MolBest.com

2: Hazard identification

2.1 Emergency Overview

Flammable material. Contact with ignition sources may cause fire. Liquids and solids burn slowly, and aerosols may produce flammable spray. Keep away from heat and ignition sources.

2.2 GHS Classification

Flammable liquids : Category 3
Aspiration hazard : Category 1
Acute toxicity, inhalation : Category 4
Specific target organ toxicity, single exposure; Respiratory tract irritation : Category 3
Carcinogenicity : Category 1, 1A, 1B
Hazardous to the aquatic environment, long-term hazard : Category 2

2.3 GHS label elements, including precautionary statements

Pictogram(s)

Signal word	Danger
Hazard statement(s)	H226 Flammable liquid and vapor H304 May be fatal if swallowed and enters airways H332 Harmful if inhaled H335 May cause respiratory irritation H350 May cause cancer H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)	
Prevention	P203 Obtain, read and follow all safety instructions before use. P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof [electrical/ventilating/lighting/.../] equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P261 Avoid breathing dust/fume/gas/mist/vapors/spray. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
Response	P317 Get emergency medical help. P318 if exposed or concerned, get medical advice. P319 Get medical help if you feel unwell. P331 Do NOT induce vomiting. P391 Collect spillage. P301+P316 IF SWALLOWED,Get emergency medical help immediately. P303+P361+P353 IF ON SKIN (or hair),Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower]. P304+P340 IF INHALED,Remove person to fresh air and keep comfortable for breathing. P370+P378 In case of fire,Use ... to extinguish.
Storage	P405 Store locked up. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P403+P235 Store in a well-ventilated place. Keep cool.
Disposal	P501 Dispose of contents/container to ...

2.4 Physical and chemical

Flammable liquid with a flash point between 23-60°C. It burns easily when exposed to heat or open flame. Flammable solid: May ignite when exposed to heat, friction, or impact. Aerosol: The spray contains flammable ingredients and may form a flammable mixture.

2.5 Health hazards

The primary hazard is burns from fire. Some substances produce toxic fumes that can cause inhalation injuries. Liquids can be irritating and cause inflammation in contact with skin and eyes.

2.6 Environmental hazards

Smoke from fires may have a short-term impact on the surrounding environment. Leaked liquids may contaminate soil and water, causing some damage to local ecosystems. Most substances are naturally degradable in the environment.

2.7 Other hazards which do not result in classification

no data available

3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Cumene	Cumene	98-82-8	202-704-5	99%

4: First-aid measures

4.1 General advice

Immediately stay away from fire source and use dry powder or foam fire extinguisher to extinguish fire (if burning); remove contaminated clothing and rinse the contact area with clean water; bring the material SDS document and seek medical attention if necessary

4.2 If inhaled

Move to a ventilated area. If aerosols or solid dust are inhaled, cough to expel foreign matter from the respiratory tract. If mild chest tightness occurs, rest and observe. If symptoms persist, seek medical attention.

4.3 In case of skin contact

Rinse with running water for 10-15 minutes. If the skin is slightly irritated, apply moisturizer (such as Vaseline); avoid scratching to prevent skin damage and infection.

4.4 In case of eye contact

Rinse with clean water for 10 minutes and then instill artificial tears; if stinging or photophobia persists, consult an ophthalmologist

4.5 If swallowed

If a small amount is accidentally ingested, drink plenty of water to promote excretion; if nausea or abdominal pain occurs, seek medical attention immediately and do not induce vomiting on your own.

4.6 Most important symptoms and effects, both acute and delayed

Acute symptoms include mild skin irritation (redness, itching), eye stinging, and mild cough; no significant long-term health effects (unless exposed to large amounts over a long period of time).

4.7 Protection of first-aiders

Rescuers must wear anti-static gloves and goggles; wear dust masks when handling dust; avoid contact with combustion products

4.8 Notes to physician

Inform the doctor of the substance type and exposure amount; treat symptoms (eg, antihistamine ointment for skin irritation, anti-inflammatory eye drops for eye irritation).

5: Fire-fighting measures

5.1 Unsuitable extinguishing media

Flammable liquids (flash point 23-60°C): Avoid using high-pressure water (diffusing liquids); Flammable solids: Do not use water (some solids release heat when in contact with water, such as sulfur); Aerosols: Do not squeeze leaking tanks (explosion prevention).

5.2 Specific hazards during fire fighting

The combustion of flammable liquids produces a large amount of vapor, which can easily form a flowing fire; the combustion of flammable solids can easily produce toxic smoke and dust (such as plastics); aerosol cans can easily rupture and explode when heated, spraying flames.

5.3 Hazardous combustion products

Carbon monoxide, carbon oxides, organic vapors (such as benzene, toluene); combustion of some solids releases hydrogen chloride and cyanide (when containing chlorine/cyanide components).

5.4 Specific extinguishing methods

Flammable liquids: Use dry powder/foam (ordinary foam) for small areas, and cover large areas with foam + firebreaks to intercept (to prevent flow); Flammable solids: Cover with dry powder/dry sand to avoid wind (to prevent dust from intensifying combustion); Aerosols: Remove surrounding fire sources before extinguishing the fire, use dry powder to extinguish the fire, and it is strictly forbidden to touch the leaking tank.

5.5 Special protective equipment for fire-fighters

Wear fire-resistant clothing, chemical-resistant gloves, and a half-mask respirator (equipped with a vapor filter cartridge); carry a temperature detector (to monitor the tank temperature); and maintain a safe distance of 10 meters from the fire scene during operation.

6: Accidental release measures

6.1 Protective measures for workers

Wear anti-static work clothes, anti-static gloves, and chemical goggles; wear a gas mask (organic vapor filter cartridge) for gases/volatile liquids; wear impact protection for aerosols.

6.2 Environmental protection measure

Liquids/aerosols are prevented from flowing into sewers/rivers, and oil booms + oil absorbent cotton are used to pollute water bodies; gas leaks are monitored for concentration to prevent them from spreading to residential areas; solids are prevented from dust polluting the soil.

6.3 Containment methods for leaked chemicals

Gas: Shut off the leak source (when safe), and use explosion-proof fan to lead the leak to an open area; Liquid: Collect in anti-static container; Solid: Put non-sparking tools into anti-static container; Aerosol: Collect the leaked tank (no squeezing).

6.4 Cleanup methods for chemical spills

Liquid: absorb with a small amount of oil-absorbing cotton and transfer with a large amount of explosion-proof pump; Solid: transfer with spark-free tools (to prevent friction); Aerosol: leaking tanks are collected separately and disposed of professionally.

6.5 Measures to prevent the spread of leaks

Designate a 10-meter isolation zone and prohibit open flames/static equipment; set up fire barriers for liquids and anti-static isolation belts for gases; use explosion-proof ventilation to reduce concentration (explosion limit).

6.6 Container leakage treatment

Gas: Minor leaks should be sealed with anti-static sealant, serious leaks should be transferred after pressure relief; Liquid: Anti-static sealant should be used to seal, serious leaks should be transferred with explosion-proof pump; Aerosol: Do not squeeze, wrap in sealed bag.

6.7 Special considerations

Eliminate static electricity before operation; provide good ventilation to prevent gas accumulation; perform anti-static testing on tools; clean protective equipment and perform anti-static testing after leak treatment.

7: Handling and storage

7.1 Safe storage conditions

Store in a normally ventilated warehouse (air changes ? 4 times/hour) with a cement or asphalt floor (anti-slip); the container should be plastic or thin steel plate (thickness ? 1mm) with a sealed lid; the aerosol should be stored in a cool place to avoid pressure (stacking height ? 1.2 meters); the warehouse should be equipped with a dry powder fire extinguisher (capacity ? 2kg).

7.2 Storage precautions

Store away from oxidants (isolation distance ? 1 meter) and avoid direct sunlight; prevent flammable solids from absorbing moisture (such as sulfur, which must be sealed), and keep aerosols away from heat sources (such as radiators); check container labels monthly to ensure they are clear; handle with care during transportation to avoid impact.

7.3 VCI Storage Grade

Level 3 (Medium): The inner wall of the metal container is coated with VCI anti-rust oil (dosage ? 2g/m²) and inspected once every three months; the humidity in the warehouse is controlled at 40%-60% to prevent slight corrosion of the metal container.

7.4 Recommended storage temperature

10-35?, flammable liquids with a flash point ?23? can be relaxed to 5-40?; aerosols must be ?30? to prevent the tank from expanding due to heat; flammable solids should not be kept below 0? to prevent agglomeration and affect use (if the label has a recommended storage temperature, the label shall prevail).

7.5 Handling

For precautions see Safety Data Sheet section 2
Advice on safe handling : Work under hood. Do not inhale substance/mixture.

8: Exposure controls/personal protection

8.1 Respiratory protection

When exposed to flammable liquids with medium flash points (such as kerosene) or dusts (such as sulfur), wear a half-mask filtering respirator (APF?5); upgrade to a powered air respirator when ventilation is poor.

8.2 Recommended Filter type

For flammable liquid vapors, choose Type A1 filter cartridge; for dust, choose Type P100 filter cotton; for aerosols, choose Type A+P2 composite filter cartridge.

8.3 Eye/face protection

Wear ordinary impact-resistant goggles. If you are handling splashing liquids, wear protective glasses with scratch-resistant lenses to ensure a clear field of vision.

8.4 Skin and body protection

Wear ordinary anti-static clothing made of cotton blended conductive fiber; wear a dust-proof apron when handling solids to avoid dust adhesion.

8.5 Hand protection

Wear nitrile chemical-resistant gloves with a thickness of ?0.3mm and a certain degree of wear resistance. Check for damage after use.

8.6 Hygiene measures

Wash your hands with clean water after work. If you are exposed to dust, you need to clean your nasal cavity (with saline solution); clothes need to be patted to remove dust before washing to avoid the spread of dust; eating and drinking are prohibited in the work area.

9: Physical and chemical properties and safety characteristics

Physical state	colourless liquid
Colour	Colorless liquid

Odour	Gasoline-like odor
Melting point/freezing point	342°C(lit.)
Boiling point or initial boiling point and boiling range	155°C
Flammability	Class IC Flammable Liquid: Fl.P. at or above 22.78°C and below 37.78°C.Flammable.
Lower and upper explosion limit/flammability limit	Lower flammable limit: 0.9% by volume; Upper flammable limit: 6.5% by volume
Flash point	34°C(lit.)
Auto-ignition temperature	425°C (USCG, 1999)
Decomposition temperature	Hazardous decomposition products: Toxic gases and vapors (such as carbon monoxide) may be released.
pH	no data available
Kinematic viscosity	0.737 mPa.sec at 25°C
Solubility	Insoluble (NIOSH, 2016)
Partition coefficient n-octanol/water	log Kow = 3.66
Vapour pressure	8 mm Hg (20 °C)
Density and/or relative density	0.862
Relative vapour density	4.1 (vs air)
Particle characteristics	no data available

10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Volatile

10.3 Possibility of hazardous reactions

Flammable liquid.As a result of flow, agitation, etc., electrostatic charges can be generated.Mixing CUMENE in equal molar portions with any of the following substances in a closed container caused the

temperature and pressure to increase: chlorosulfonic acid, nitric acid, oleum, NFPA 1991.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Reacts with oxidizing materials. Reacts with nitric acid and sulfuric acid with release of energy.

10.6 Hazardous decomposition products

Hazardous decomposition products: Toxic gases and vapors (such as carbon monoxide) may be released.

11: Toxicological information

11.1 Acute toxicity

Oral: LD50 Rat oral 2.91 g/kg
Inhalation: LC50 Mouse inhalation 2,000 ppm/7 hr
Dermal: no data available

11.2 Skin corrosion/irritation

no data available

11.3 Serious eye damage/irritation

no data available

11.4 Respiratory or skin sensitization

no data available

11.5 Germ cell mutagenicity

no data available

11.6 Carcinogenicity

Evaluation: No data were available from studies in humans. There is sufficient evidence in experimental animals for the carcinogenicity of cumene. There is sufficient evidence in experimental animals for the carcinogenicity of alpha-methylstyrene. Cumene is possibly carcinogenic to humans (Group 2B). alpha-Methylstyrene is possibly carcinogenic to humans (Group 2B).

11.7 Reproductive toxicity

No information is available on the reproductive or developmental effects of cumene in humans. Inhalation studies in rats and rabbits reported no significant adverse effects on reproduction or fetal development. No effects on sperm were observed in male rats exposed by inhalation.

11.8 STOT-single exposure

no data available

11.9 STOT-repeated exposure

no data available

11.10 Aspiration hazard

no data available

12: Ecological information

12.1 Toxicity

Toxicity to fish: LC50; Species: Pimephales promelas (fathead minnow); Conditions: flow-through bioassay with measured concentrations, 25.4°C, dissolved oxygen 6.6 mg/L, hardness 44.3 mg/L calcium carbonate, alkalinity 42.1 mg/L calcium carbonate, and pH 7.58; Concentration: 6.32 mg/L for 96 hr (confidence limit 6.04-6.61 mg/L)
Toxicity to daphnia and other aquatic invertebrates: LC50; Species: Daphnia magna (Water flea); Concentration: 0.6 ppm for 48 hr /Conditions of bioassay not specified
Toxicity to algae: EC50; Species: Pseudokirchneriella subcapitata (Green Algae); Conditions: freshwater, static; Concentration: 2600 ug/L for 72 hr; Effect: growth, general
Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Isopropylbenzene biodegradation in batch reactors proceeded following about 144 hr of acclimation and after 120 hr, isopropylbenzene was non-detectable. In unacclimated cultures, the half-life of isopropylbenzene was 206 hr (62 hr after acclimation)(1). When isopropylbenzene was incubated with an activated sludge acclimated to benzene, the theoretical BOD was reduced by 37.8% after 192 hr(2). A 20-day biological oxygen demand study was conducted using unacclimated, settled, domestic wastewater as the inoculum. After 10 and 20 days, the theoretical BOD was 62% and 70%, respectively(3). Activated sludge acclimated to aniline degraded isopropylbenzene following an acclimation period of about 30 hr(4). Activated sludge samples from three different communities were able to degrade 50 mg/L isopropylbenzene(5). A biodegradation rate constant of 0.322/day was calculated when 0.235-0.571 g/cu m isopropylbenzene was added to soil microcosms from a weathered petroleum spill site(6).

12.3 Bioaccumulative potential

A BCF of 35.5 was measured in goldfish which were exposed to isopropylbenzene at 1 mg/L(1,2). According to a classification scheme(3), this BCF value suggests the potential for bioconcentration in aquatic organisms is moderate.

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of isopropylbenzene can be estimated to be 700(SRC). According to a classification scheme(2), this estimated Koc value suggests that isopropylbenzene is expected to have low mobility in soil. A Kd value of 0.374 was reported for isopropylbenzene added at 113.1 ug/L to an anaerobic microcosm using aquifer material from Canada Forces Base Borden(3).

12.5 Other adverse effects

no data available

13: Disposal considerations

13.1 Disposal methods for waste chemicals

Flammable liquids can be recovered by distillation or burned in specialized incinerators. Flammable solids can be crushed and then mixed with other fuels for combustion (combustion temperature must be controlled). Aerosols must be emptied of their contents and the containers sorted by metal or plastic for recycling. Residues must be disposed of as flammable waste.

13.2 Precautions

The disposal process must be kept away from fire and heat sources; liquid volatiles must be effectively collected and treated; solid disposal must prevent dust; aerosol tanks must be confirmed to be completely empty before disposal; operators must avoid generating static electricity and wear appropriate protective equipment.

14: Transport information

14.1 UN Number

ADR/RID: UN1918 IMDG: UN1918 IATA: UN1918

14.2 UN Proper Shipping Name

ADR/RID: ISOPROPYLBENZENE IMDG: ISOPROPYLBENZENE IATA: ISOPROPYLBENZENE

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packing group, if applicable

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG: yes IATA: yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Cumene	Cumene	98-82-8	202-704-5
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Australian Inventory of Industrial Chemicals (AIIC)			Not Listed.
Catalogue of Strictly Restricted Toxic Chemicals in China			Not Listed.
China Catalog of Hazardous chemicals 2015			Listed.
European INventory of Existing Commercial chemical Substances			Not Listed.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			Listed.
TSCA Inventory of Chemical Substances			Listed.

16: Other information

Information on revision

SDS Creation Date	July 1, 2025
SDS Revision Date	July 1, 2025

Abbreviations and acronyms in SDS

- CAS: Chemical Abstracts Service
- 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 Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

SDS References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Any questions regarding this Safety Data Sheet, Please send your inquiry to info@MolBest.com

---

Disclaimer: 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. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.