

SAFETY DATA SHEET

Revision Date Jan 01, 2026

Product Name: Isobutane

SDS Number: 2026-007

Version: 2nd Edition 2026_

Section 1. Identification

GHS product identifier: Isobutane; 2-methylpropane

Chemical name: isobutane; 2-methylpropane

CAS No: 75-28-5

Molecular formula: C₄H₁₀

Relative molecular weight: 58.14

Technical Specification Number: 2024-007

Supplier Name: PUYANG FENGDA FINE CHEMICAL CO., LTD

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Chemical accident emergency consultation line: 0532-83889090

Recommended and restricted use: Used for synthesizing isooctane, as a gasoline octane number improver, for producing isobutylene, propylene, and methacrylic acid, and used as a refrigerant, etc.

Section 2. Hazards identification

EMERGENCY OVERVIEW: Extremely flammable gas. Contains pressurized gas: May explode when heated.

GHS Hazard Category: Flammable gas, Category 1; Pressurized gas.

Labeling elements:

Pictograms:



WARNING WORD: Danger, Warning.



Henan Lvbang Fine Chemical Co., Ltd

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Hazard Statement: Extremely flammable gas. Contains pressurized gas: May explode when heated.

Precautionary statement:

Response in Case of Accident: In case of gas leakage and fire, do not extinguish the fire unless the gas leakage can be safely stopped. If there is no danger, remove all ignition sources.

Safe Storage: Store in a well-ventilated place. Protect from sunlight. Store in a well-ventilated place.

Disposal: Return the container to the manufacturer or dispose of it in accordance with national and local regulations.

Physical And Chemical Hazards: Extremely flammable. Can form explosive mixtures when mixed with air.

Health Hazards: Has weak irritating and anesthetic effects.

Acute poisoning: Main manifestations are headache, dizziness, drowsiness, nausea, and drunken state. In severe cases, coma may occur. Contact with the liquid product can cause frostbite.

Chronic effects: Effects: Headache, dizziness, poor sleep, and easy fatigue.

Environmental hazard: May be harmful to the environment.

Section 3. Composition/information on ingredients

✓ Substances

Mixtures

Hazardous components	Concentration or concentration range	CAS No.
Isobutane	Isobutane ≥99.9%	75-28-5

Section 4. First aid measures

dermal contact	In case of frostbite, rewarm with warm water (38-42°C). Do not use hot water or radiant heat and do not rub. Seek medical attention.
eye contact	This will not occur.
Inhalation	Quickly leave the scene to a place with fresh air. Keep the respiratory tract unobstructed. If breathing is difficult, provide oxygen. If breathing and heart beat stop, immediately perform cardiopulmonary resuscitation. Seek medical attention.
Ingestion	This will not occur upon contact.
Advice on protecting the rescuer	Use personal protective equipment as needed.

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Special tips for	Provide symptomatic treatment.
doctors	

Section 5. Fire-fighting measures

Hazardous Characteristics	It reacts violently when in contact with oxidants. The vapor is heavier than air, spreads along the ground and is easily accumulated in low-lying areas. When encountering a fire source, it will reignite.
Hazardous combustion products	Carbon monoxide.
Extinguishing agent	Use water mist, foam, carbon dioxide, and dry powder to extinguish the fire.
Fire extinguishing precautions and protective measures	Cut off the gas source. If the gas source cannot be cut off, the flame at the leak point is not allowed to be extinguished. Firefighters must wear air respirators and full-body fire-resistant and anti-virus suits and extinguish the fire upwind. Move the container from the fire site to an open area as much as possible. Spray water to keep the container at the fire site cool until the end of firefighting.

Section 6. Accidental release measures

Operator Protective Measures, Equipment and Emergency Response Procedures	Eliminate all ignition sources. Determine the warning area according to the affected area of gas diffusion. Unrelated personnel should evacuate to the safety area from the crosswind and upwind directions. It is recommended that emergency responders wear positive pressure self-contained breathing apparatuses and anti-static clothing. When liquefied gas leaks, wear anti-static and cold-proof clothing. All equipment used during operations should be grounded. Cut off the leakage source as much as possible. If possible, turn over the container to release gas instead of liquid. Spray water mist to suppress vapor or change the vapor cloud flow and avoid water flow contacting the leaked substance. It is prohibited to directly impact the leaked substance or leakage source with water.
Environmental protection	Prevent gas from spreading through sewers, ventilation
measures	systems, and confined spaces.

Color containment of spilled chemicals, removal methods and disposal materials used

Prevent gas from spreading through sewers, ventilation systems, and confined spaces.

Section 7. Handling and storage

Handling Precautions	Closed operation with comprehensive ventilation. Operators must receive specialized training and strictly abide by operating procedures. It is recommended that operators wear anti-static work clothes. Keep away from sources of ignition and heat. Smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. Prevent gas from leaking into the workplace air. Avoid contact with oxidants. During transportation, cylinders and containers must be grounded and bonded to prevent static electricity. Handle with care during transportation to prevent damage to cylinders and accessories. Equip with corresponding types and quantities of fire-fighting equipment and leakage emergency treatment equipment.
Storage Precautions	Store in a cool and ventilated special warehouse for flammable gases. Keep away from sources of ignition and heat. The warehouse temperature should not exceed 30°C. It should be stored separately from oxidants and must not be mixed. Use explosion-proof lighting and ventilation facilities. Machinery and tools that are prone to generating sparks are prohibited. The storage area should be equipped with leakage emergency treatment equipment.

Section 8. Exposure controls/personal protection

Occupational Exposure Limits	China, no standards established. United States (ACGIH), TLV-STEL: 1000 ppm.
Biological exposure limit value	No standards have been established.
Monitoring methods	Determination method for toxic substances in air: No standards have been established. Biological monitoring and inspection method: No standards have been established.
Engineering Controls	For production process, keep it closed and have comprehensive ventilation.
Individual protective equipment	Respiratory protection: Generally, no special protection is required. However, it is recommended to wear a filtering respirator (half mask) under special circumstances. Eye protection: Generally, no special protection is required. Chemical safety goggles can be worn when in high-concentration contact.

Skin and body protection: Wear anti-static work clothes.
Hand protection: Wear general operation protective gloves.

Section 9. Physical and chemical properties

Appearance and properties	Colorless gas with a slight odor characteristic of hydrocarbons.		
pH (indicated concentration)	Not significant	Melting/freezing point (°C)	-159.6
Boiling point, initial boiling point and boiling range (°C)	-11.8	Relative vapor density (air=1)	2.01
Heat of combustion (kJ/mol)	-2871.1	Relative density (water = 1)	0.56
Critical pressure (MPa)	3.56	Saturated vapor pressure (kPa)	304 (20°C)
Flash Point (°C)	-82.8	Critical temperature (°C)	134.69
Decomposition temperature (°C)	No information available	n-octanol/water partition coefficient	2.76
Lower explosion limit [% (V/V)]	1.4	Explosive Limit [% (V/V)]	8.5
Flammability (solid, gas)	flammable	Self-ignition temperature (°C)	460
solubility	Slightly soluble in water, soluble in ether, ethanol, and chloroform.	Viscosity(mPa-s)	0.238

Section 10. Stability and reactivity

Chemical stability	The product is stable
prohibition material	Strong oxidizing agents, strong acids, metal oxides, halogens
Conditions for avoiding exposure	No information available
hazardous reaction	Contact with strong oxidizers, halogens and other prohibited

	compounds may result in fire and explosion.
hazardous product	No information available

Section 11. Toxicology information

acute toxicity	No information available
Skin irritation or corrosion	No information available
Eye irritation or corrosion	No information available
Breathing or skin allergies	No information available
germ cell mutagenicity	No information available
carcinogenicity	No information available
reproductive toxicity	No information available
Specific target organ system toxicity - single exposure	No information available
Specific target organ system toxicity - repeated exposure	No information available
inhalation hazard	No information available

Section 12. Ecological information

Ecotoxicity	No information available.
Persistence and degradability	Biodegradability: No data. Abiotic degradability: In the air, when the concentration of hydroxyl radicals is 5.00×10^5 per cubic centimeter, the degradation half-life is 6.9 days (theoretical)
Potential bioaccumulation	According to the prediction based on the Kow value, the bioaccumulation of this substance may be weak.
Mobility in soil	According to the prediction based on the Koc value, this substance may have a certain degree of mobility.
Other harmful effects:	No data.

Section 13. Disposal considerations

Waste chemicals	It is recommended to dispose of it by incineration.
Contaminated packaging	Return the container to the manufacturer or dispose of it in accordance with national and local regulations.
Disposal Precautions	Before disposal, relevant national and local regulations should be referred to. Return empty containers to the manufacturer.

Section 14. Transport information

United Nations Dangerous Goods	1969
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No. (UN No.)	
United Nations risk category	2.1
United Nations shipping name	isobutane
Packaging category	II
Package Marking	
Packaging method	Steel Cylinders
Marine pollutants (Yes/No)	No
Transportation Precautions	Cylinders must be transported with the helmet on them. Cylinders are generally placed flat and should be placed with their mouths facing the same direction, not crossed. The height shall not exceed the vehicle protection railings, and use triangular wooden pads to prevent rolling. Transportation vehicles have warning signs and are equipped with appropriate varieties and quantities of fire-fighting equipment and emergency treatment equipment for leakage. In summer, it should be transported in the morning and evening to prevent sunlight exposure. The tanker used for transportation should have a grounding chain, and it is strictly prohibited to mix with oxidizers, halogens and other mixed transport. The exhaust pipe of the vehicle transporting the item must be equipped with a fire stopping device. It is forbidden to use mechanical equipment and tools that are easy to produce sparks for loading and unloading. Road transportation should be in accordance with the prescribed route, do not stop in residential areas and densely populated areas. Stopover should be away from fire, heat. Railroad transportation should be prohibited from slipping.

Section 15. Regulatory information

Regulatory Information	The following laws, regulations and standards provide for the safe use, storage, transportation, loading and unloading, classification and marking of chemicals: Law of the People's Republic of China on Prevention and Control of Occupational Diseases:
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10	Classification catalog of occupational diseases : Not included Possible occupational diseases: None Regulations on the Safe Management of Dangerous Chemicals : Catalog of Hazardous Chemicals: Included Explosive hazardous chemicals: Not included Key regulatory hazardous chemicals: Included GB18218-2018 Hazardous source identification: Critical amount (t): Regulations on Labor Protection in Workplaces with Drugs: Catalog of highly toxic substances: not included Regulations on the management of easy-to-control toxic chemicals: Catalog of easy-to-control toxic chemicals: not included International Conventions Stockholm Convention: Not included Rotterdam Convention: Not included Montreal Protocol: Not included
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Section 16. Other information

Preparation and development of information:	
Date of formulation	October 12, 2023
Formulation of instructions	This SDS is compiled in accordance with the standards such as the Content and Sequence of Items in the Technical Instructions for Chemical Safety (GB/T16483-2008) and the Content and Sequence of Items in the Technical Instructions for Chemical Safety (GB/T16483-2008). Among them, the results of GHS classification of chemicals are based on the classification carried out by itself in accordance with the Guidelines for the Implementation of the Catalog of Hazardous Chemicals (2015 Edition) (for trial implementation) and the Specification for the Classification and Labeling of Chemicals (GB30000.2-2013 to GB30000.29-2013 series of standards).
bibliography	1、Regulations on Safety Management of Dangerous Chemicals 2、Guidelines for the Preparation of Technical Instructions on Chemical Safety (GB/T17519-2013) 3、Contents and Item Order of Chemical Safety Technical Instructions (GB/T16483-2008) 4 、《 Chemical Classification and Labeling Specifications 》 (GB30000.2-2013~GB30000.29-2013 series of standards) 5. The Third Edition of the Complete Book of Safety Technology for Hazardous Chemicals



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Abbreviation Description:

MAC: The concentration of a toxic chemical that should not be exceeded at a workplace at any time during a workday.

PC-TWA: means the average permissible exposure concentration for an 8-h working day and a 40-h working week, using time as a weight.

PC-STEL: The concentration at which short-term (15min) exposure is permitted in compliance with the PC-TWA.

TLV-C: The limit value that must not be exceeded instantaneously. It is specified for certain substances such as irritant gases or substances with predominantly acute effects.

TLV-TWA: is the time-weighted average concentration of 8 hours of work per day or 40 hours of work per week, at which repeated exposure over a lifetime of work does not cause adverse effects in almost all workers.

TLV-STEL: is the maximum concentration at which continuous worker exposure for 15 min is permitted while ensuring compliance with the TLV-TWA. This concentration should not be exceeded more than four times per workday with a minimum of 60 min between exposures. it is a supplement to the TLV-TWA.

IARC: means International Agency for Research on Cancer.

RTECS: refers to the National Institute for Occupational Safety and Health's Chemical Toxicity Database.

HSDB: refers to the Hazardous Substances Database of the U.S. National Library of Medicine.

ACGIH: refers to the American Conference of Governmental Industrial Hygienists.

Disclaimer:

The information in this SDS applies only to the product specified and does not apply to mixtures of this product with other substances, etc., unless otherwise specified. This SDS provides information on the safety of use of the product only to those who have been properly trained in the use of the product. Users of this SDS must make independent judgment on the applicability of this SDS under special conditions of use. The authors of this SDS are not responsible for injuries resulting from the use of this SDS under special conditions of use.