Safety Data Sheet

Issue Date: 11-Apr-2023 **Revision Date:** 01-Jul-2024 **Version** 2

1. IDENTIFICATION

Product identifier

Product Name ISOBUTYLENE

Other means of identification

SDS # EF-059

Synonyms 1- Propene, 2-methyl-; Isobutene; Isobutylene; 1-Propene, 2-methyl- (isobutene).

UN/ID No UN1055

Recommended use of the chemical and restrictions on use

Recommended Use Synthetic/Analytical chemistry.

Details of the supplier of the safety data sheet

Supplier Address

EFC Gases & Advanced Materials
3266 Bergey Road
Hatfield, PA 19440
Email: efcsafety@efcgases.com

Emergency telephone number

Company Phone Number 215-443-9600

Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Colorless liquified gas **Physical state** Gas **Odor** Characteristic

Classification

Flammable gases	Category 1
Gases under pressure	Liquefied gas

Signal Word

Danger

Hazard statements

Extremely flammable gas
Contains gas under pressure; may explode if heated

Precautionary Statements - Prevention

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

Precautionary Statements - Response
LEAKING GAS FIRE: Do not extinguish, unless leak can be stopped safely
Eliminate all ignition sources if safe to do so

Precautionary Statements - Storage
Store in a well-ventilated place
Protect from sunlight. Store in a well-ventilated place

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms 1- Propene, 2-methyl-; Isobutene; Isobutylene; 1-Propene, 2-methyl- (isobutene).

Chemical name	CAS No	Weight-%
Isobutylene	115-11-7	100

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General Advice Provide this SDS to medical personnel for treatment.

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. If irritation develops or persists seek medical attention.

Skin Contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion As this product is a gas, refer to the inhalation section.

Most important symptoms and effects, both acute and delayed

Symptoms Not determined.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Extremely flammable gas. Contains gas under pressure; may explode if heated. In a fire or if heated, a pressure increase will occur and the container may burst, with risk of a subsequent explosion.

Hazardous combustion products Carbon oxides.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Stop leak if possible without personal risk.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Put on appropriate personal protective equipment (see section 8). Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Incompatible Materials Oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Isobutylene 115-11-7	TWA: 250 ppm	-	-

Appropriate engineering controls

Engineering Controls Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side shields. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Gas		
Appearance	Colorless liquified gas	**Odor**	Characteristic
Color	Colorless	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	No data available	
Melting point / freezing point	-140.7 °C / -221.3 °F	
Initial boiling point and boiling range	-6.9 °C / 19.6 °F	
Flash point	-76.1 °C / -105 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.	
Flammability Limit in Air		
Upper flammability or explosive limits	9.6%	
Lower flammability or explosive limits	1.8%	
Vapor Pressure	24.3 (psig)	

Vapor Density	No data available
Relative Density	Not determined
Water Solubility	0.263 g/l
Solubility in other solvents	Not determined
Partition Coefficient	2.34
Autoignition temperature	465 °C / 869 °F
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined

Other information

Molecular weight	56.12 g/mole
VOC Content	Molecular formula C4-H8
Liquid Density	Specific Volume (ft 3/lb) 6.6845
Bulk density	Gas Density (lb/ft 3) 0.1496 (25°C /77 °F

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Avoid all possible sources of ignition, spark or flame. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials
Oxidizers.

Hazardous decomposition products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Do not inhale.

Ingestion Do not ingest.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Isobutylene 115-11-7	-	-	= 620 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility

Chemical name	Partition coefficient
Isobutylene 115-11-7	2.34

Other adverse effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN1055
Proper Shipping Name	Isobutylene
Transport hazard class(es)	2.1

IATA Cargo Aircraft only

UN number or ID number	UN1055
Proper Shipping Name	Isobutylene
Transport hazard class(es)	2.1

IMDG

UN number or ID number	UN1055
Proper Shipping Name	Isobutylene
Transport hazard class(es)	2.1

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AIIC
Isobutylene	X	ACTIVE	X	X	X	X	X	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Isobutylene 115-11-7	X	X	X

16. OTHER INFORMATION

NFPA	**Health hazards**	**Flammability**	**Instability**	**Special hazards**
	1	4	2	-
HMIS	**Health hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	-	-	-	Not determined

Issue Date: 11-Apr-2023
Revision Date: 01-Jul-2024
Revision Note: Regulatory review

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet