

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : 2-Butene, mixture of *cis* and *trans*

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No1272/2008  
Flammable gases (Category 1)  
Gases under pressure (Liquefied gas)

According to European Directive 67/548/EEC as amended.  
Extremely flammable.

Label elements

Pictogram



Signal word Danger

Hazard statement(s)  
H220 Extremely flammable gas.  
H280 Contains gas under pressure; may explode if heated.

Precautionary statement(s)  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P410 + P403 Protect from sunlight. Store in a well-ventilated place.

Hazard symbol(s)  
F+ Extremely flammable

R-phrases(s)  
R12 Extremely flammable.

S-phrases(s)  
S9 Keep container in a well-ventilated place.  
S16 Keep away from sources of ignition - No smoking.  
S33 Take precautionary measures against static discharges.

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C4H8  
Molecular Weight : 56,11 g/mol

CAS-No.	EC-No.	Classification	Concentration
<b>2-Butene, mixture of <i>cis</i> and <i>trans</i></b> 107-01-7	203-452-9	- Flam. Gas 1; Press. Gas ; H220, H280 F+, R12	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Wipe up with absorbent material (e.g. cloth, fleece).

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapour or mist.  
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place.

Contents under pressure.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form gaseous

Safety data

pH no data available  
Melting point -140 °C - lit.  
Boiling point 1 °C - lit.  
Flash point -34 °C - closed cup  
Ignition temperature no data available  
Lower explosion limit 1,7 %(V)  
Upper explosion limit 9,3 %(V)  
Vapour pressure 2,5 hPa at 20 °C  
Water solubility no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Ingestion** May be harmful if swallowed.  
**Skin** May be harmful if absorbed through skin. May cause skin irritation.  
**Eyes** May cause eye irritation.

Signs and Symptoms of Exposure

May be harmful., Acts as a simple asphyxiant by displacing air., Dizziness, Disorientation, Headache, excitement, Central nervous system depression

Additional Information

RTECS: EM2932000

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. It does not damage professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID

UN-Number: 1012 Class: 2.1  
Proper shipping name: 1-BUTYLENE

IMDG

UN-Number: 1012 Class: 2.1 EMS-No: F-D, S-U  
Proper shipping name: BUTYLENE  
Marine pollutant: No

IATA

UN-Number: 1012 Class: 2.1  
Proper shipping name: Butylene  
IATA Passenger: Not permitted for transport

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

Text of H-code(s) and R-phrases(s) mentioned in Section 3

Flam. Gas Flammable gases  
H220 Extremely flammable gas.  
H280 Contains gas under pressure; may explode if heated.  
Press. Gas Gases under pressure  
F+ Extremely flammable  
R12 Extremely flammable.

Further information

For R&D use only. Not for drug, household or other uses.  
WARRANTY:



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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. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.