



Safety Data Sheet
According to Regulation (EC) No 1907/2006, Annex II,
Amended by COMMISSION REGULATION (EU) 2015/830,
According to REGULATION (EC) No 1272/2008

But-1-ene

Version 1.0

Issue date: 04-11-2019

Revision date: 04-11-2019

SDS Record Number: CSSS-TCO-010-132802

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name: But-1-ene
Additional identification: Not available
Identification of the product: CAS#106-98-9 EC#203-449-2
Index Number: 601-012-00-4
REACH registration No.: 01-2119456615-34-0033

1.2 Relevant identified uses of the substance or mixture and uses advised against:

1.2.1 Identified uses:

Chemical feedstock.

1.2.2 Uses advised against:

No uses advised against are identified.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative): CS3 Gmbh (Consulting for sustainable supply solutions)
Supplier(Manufacturer): Sidi Kerir Petrochemicals Co. (SIDPEC)
Address: Alex.: Km. 36 Alex / Cairo Desert Road
Al Nahda - Al Ameria
Alexandria - Egypt
Contact person(E-mail): Marketingspc@sidpec.com (technical information)
Telephone: + 203 4770131
Fax: + 203 4770900

1.4 Emergency telephone Number:

Grauestrasse 12, 81545 Munich

www.csthree.eu

info@csthree.com

+49-1732314210

Available outside office hours?

YES

NO

Section 2 Hazards Identification

2.1 Classification of the substance or mixture:

2.1.1 Classification:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Flam. Gas 1	H220
Press. Gas	H280

For full text of H- phrases: see section 2.2.

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2.2 Label elements:

Hazard Pictograms:



Signal Word(S):

Danger

Hazard Statement:

H220: Extremely flammable gas.

H280: Contains gas under pressure; may explode if heated.

Precautionary statement:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P377: Leaking gas fire: DO NOT extinguish, unless leak can be stopped safely.

P381: In case of leakage, eliminate all ignition sources.

P403: Store in a well-ventilated place.

P410 + P403: Protect from sunlight. Store in a well-ventilated place.

2.3 Other hazards:

The substance is not PBT / vPvB.

Section 3 Composition/information on ingredients

Substance/Mixture: Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
but-1-ene	01-2119456615-34-0033	106-98-9	203-449-2	> 99%

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

4.1.2 In case of skin contact:

Immediately wash with water and soap and rinse thoroughly. Take off all contaminated clothing. In cases of frost bites, rinse with plenty of water. Do not remove clothing. If skin irritation is experienced, consult a doctor.

4.1.3 In case of eyes contact:

Rinse opened eye for several minutes under running water. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention in case of problems or if problems persist.

4.1.4 In case of ingestion:

Ingestion by swallowing is not considered a possible mode of exposure.

4.2 Most important symptoms and effects, both acute and delayed:

Irritating to eyes. Frost bites. Burns. Dizziness. Drowsiness. Choking. Anesthetic state (at vapor concentrations above about 10%). Risk of suffocation (asphyxiation). Risk of burns due to freezing effect.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:

Foam, Carbon dioxide (CO₂), Water, Water spray, Fire-extinguishing powder.

Unsuitable extinguishing media:
5.2 Special hazards arising from the substance or mixture

Water with full jet.

The product is highly flammable. Vapors may form explosive mixtures with air. Vapors are heavier than air and will spread at floor level. Resignation possible at long range. Heating causes rise in pressure with risk of bursting. In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.: Carbon monoxide (CO), Carbon dioxide (CO₂).

5.3 Advice for firefighters:

Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

Keep away from ignition sources. Avoid skin contact with the liquefied material. Allow liquid spills to evaporate and disperse vapor with water spray.

6.1.2 For emergency responders:

Wear an appropriate NIOSH/MSHA approved respirator if vapor is generated.

6.2 Environmental Precautions:

Dumping into the environment must be prevented.

6.3 Methods and material for Containment and Cleaning up:

Keep away from ignition sources. Use only non-sparking tools. Ensure adequate ventilation. In case of inadequate ventilation wear respiratory protection. Allow to evaporate.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures:

Handle with care. Avoid jolting, friction and impact. Do not inhale gas/vapors/aerosols. Ensure adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels low. Purge air from system before introducing gas. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Keep ignition sources away - Do not smoke. Use explosion-proof apparatus / fittings and spark-proof tools. Take precautionary measures against electrostatic discharges. Ground/bond container and receiving equipment.

7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a cool and dry location. Store only in the original container. Keep container tightly closed in a well-ventilated place. Keep ignition sources away. Keep away from food, drink and animal feeding stuffs. Observe instructions for use if available. Ensure that local, federal and national legislation on storage conditions are observed.

7.3 Specific end use(s):

Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

Not available.

8.1.2 Additional exposure limits under the conditions of use:

Not available.

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=769 mg/m ³
Workers - Hazard via inhalation route	Local effects-Long term exposure	DNEL=1530 mg/m ³

General Population - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=163 mg/m ³
General Population - Hazard via inhalation route	Local effects-Long term exposure	DNEL=918 mg/m ³

8.2 Exposure controls:

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

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety goggles.

Hand protection: Tested protective gloves are to be worn. When handling chemical substances, chemical protective gloves must be worn with CE label including a four digit code.
Recommendation: Leather gloves.

Body protection: Select body protection specific to the task and event.

Respiratory protection: If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. Suitable respiratory protective equipment: Self-contained respiratory protective device.

Thermal hazards: Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment. According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Gaseous
Colour:	Colorless
Odour:	Nearly odorless
Odour threshold:	Not available
pH:	Not available
Melting point/range (°C):	-185 °C
Boiling point/range (°C):	-6.26
Flash point (°C):	-80 °C
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Highly flammable
Ignition temperature (°C):	Not available
Upper/lower explosive limits:	10 %/1.6 %
Vapour pressure (20°C):	1100 kPa
Vapour density:	Not available
Density:	0.59 g/cm ³ (25 °C)
Bulk density (kg/m³):	Not available
Water solubility (g/l):	0.222 g/L (25 °C)
n-Octanol/Water (log Po/w):	2.4
Auto-ignition temperature:	385 °C
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	0.174 cP(0 °C)
Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Oxidising properties:	Not available
Molecular Formula:	C ₄ H ₈

Molecular Weight: 56.11

9.2. Other information:

Fat solubility(solvent-oil to be specified) Not available

etc:

Surface tension: Not available

Dissociation constant in water(pKa): Not available

Oxidation-reduction Potential: Not available

Section 10 Stability and reactivity

10.1 Reactivity:

The substance is stable under normal storage and handling conditions.

10.2 Chemical stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

10.3 Possibility of hazardous reactions:

Contains gas under pressure; may explode if heated. Vapors may form explosive mixtures with air. Vapor is heavier than air and spreads along the ground. Re-ignition possible at long-range.

10.4 Conditions to avoid:

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

10.5 Incompatible materials:

Oxidizing agents. Plastics / rubbers. Halogens.

10.6 Hazardous decomposition products:

Carbon monoxide (CO) and carbon dioxide (CO₂).

Section 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

LD50(Oral, Rat): Not available

LD50(Dermal, Rabbit): Not available

LC50(Inhalation, Rat): > 10000 ppm 4 h

Skin corrosion/Irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

STOT- single exposure: Not classified

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified

Section 12 Ecological information

12.1 Toxicity:

Acute (short-term) toxicity:

LC50(96h, Fish): 19 mg/L

LC50(48h, Crustacea): 11 mg/L

EC50(72h, Algae/aquatic plants): Not available

Chronic (long-term) toxicity:

NOEC(Fish): Not available

NOEC(Crustacea): Not available

EC50(Algae/aquatic plants): Not available

12.2 Persistence and degradability:

Expected to degrade rapidly in air.

12.3 Bioaccumulative potential:	No indication of bio-accumulation potential.
12.4 Mobility in soil:	log Koc: 2.04
12.5 Results of PBT and vPvB assessment:	The substance is not PBT / vPvB.
12.6 Other adverse effects:	Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods:	Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.
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Section 14 Transport information

	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	UN1012	UN1012	UN1012	UN1012
UN Proper shipping name	BUTYLENE	BUTYLENE	BUTYLENE	BUTYLENE
Transport hazard Class(es)	2.1	2.1	2.1	2.1
Packing group	-	-	-	-
Environmental hazards	No	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	-	-	-	-

Section 15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Relevant information regarding authorization:	Not applicable.
Relevant information regarding restriction:	Not applicable.
Other EU regulations:	Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.
Other National regulations:	Not applicable
15.2 Chemical safety assessment	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2015/830

16.2 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

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RID: Regulation for rail International transportation of Dangerous goods

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Classification and procedure used to derive the classification for mixtures according to Regulation (EC)

1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008		Classification procedure
Flam. Gas 1	H220	On basis of test data
Press. Gas	H280	On basis of test data

16.5 Relevant H-statements (number and full text):

H220: Extremely flammable gas.

H280: Contains gas under pressure; may explode if heated.

16.6 Training instructions:

Not applicable.

16.7 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.8 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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