

SAFETY DATA SHEET
1,3-Butadiene, stabilized

Issue date: 16.01.2013
Revision date: 17.07.2013

Version: 1.0

SDS No.: 000010021790
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name: 1,3-Butadiene, stabilized

Additional identification

Chemical name: 1,3-butadiene; buta-1,3-diene
Chemical formula: C₄H₆
INDEX No. 601-013-00-X
CAS-No. 106-99-0
EC No. 203-450-8
REACH Registration No. 01-2119471988-16

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

Identified uses: Industrial and professional. Perform risk assessment prior to use.
Transfilling gas or liquid, Using gas alone or in mixtures for the calibration of analysis equipment. Using gas as feedstock in chemical processes.
Formulation of mixtures with gas in pressure receptacles.

Uses advised against Consumer use.

1.3 Details of the supplier of the safety data sheet

Supplier

BOC
Priestley Road, Worsley
M28 2UT Manchester

Telephone: 0800 111 333

E-Mail: ReachSDS@boc.com

1.4 Emergency telephone number: 0800 111 333

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

F+; R12 Carc. 1; R45 Muta. 2; R46

The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Flammable gas	Category 1	H220: Extremely flammable gas.
Gases under pressure	Liquefied gas	H280: Contains gas under pressure; may explode if heated.

Health hazards

Germ cell mutagenicity	Category 1B	H340: May cause genetic defects.
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Carcinogenicity Category 1A H350: May cause cancer.

2.2 Label elements

Contains: 1,3-butadiene; buta-1,3-diene



Signal words: Danger

Hazard Statement(s):
H220: Extremely flammable gas.
H280: Contains gas under pressure; may explode if heated.
H340: May cause genetic defects.
H350: May cause cancer.

Precautionary statement

Prevention: P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P308+P313: IF exposed or concerned: Get medical advice/attention.
P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381: Eliminate all ignition sources if safe to do so.

Storage: P403: Store in a well-ventilated place.

Disposal: None.

2.3 Other hazards: Contact with evaporating liquid may cause frostbite or freezing of skin.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	1,3-butadiene; buta-1,3-diene
INDEX No.:	601-013-00-X
CAS-No.:	106-99-0
EC No.:	203-450-8
REACH Registration No.:	01-2119471988-16
Purity:	100%

The purity of the substance in this section is used for classification only, and does not represent the actual purity of the substance as supplied, for which other documentation should be consulted.

Trade name: -

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SECTION 4: First Aid Measures

General: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

4.1 Description of first aid measures

Inhalation: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Eye contact: Rinse the eye with water immediately. Remove contact lenses, if present and easy to do. Continue rinsing. Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

Skin contact: Contact with evaporating liquid may cause frostbite or freezing of skin.

Ingestion: Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed: Respiratory arrest Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling.

4.3 Indication of any immediate medical attention and special treatment needed

Hazards: Respiratory arrest Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling.

Treatment: Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

SECTION 5: Firefighting Measures

General fire hazards: Heat may cause the containers to explode.

5.1 Extinguishing media

Suitable extinguishing media: Water Spray or Fog Dry powder. Foam.

Unsuitable extinguishing media: Carbon dioxide.

5.2 Special hazards arising from the substance or mixture: Incomplete combustion may form carbon monoxide

5.3 Advice for firefighters

Special fire fighting procedures: In case of fire: Stop leak if safe to do so. Do not extinguish flames at leak because possibility of uncontrolled explosive re-ignition exists. Continue water spray from protected position until container stays cool. Use extinguishants to contain the fire. Isolate the source of the fire or let it burn out.

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**Special protective equipment
for firefighters:**

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Guideline: EN 469 Protective clothing for firefighters. Performance requirements for protective clothing for firefighting. EN 15090 Footwear for firefighters. EN 659 Protective gloves for firefighters. EN 443 Helmets for fire fighting in buildings and other structures. EN 137 Respiratory protective devices — Self-contained open-circuit compressed air breathing apparatus with full face mask — Requirements, testing, marking.

SECTION 6: Accidental Release Measures

**6.1 Personal precautions,
protective equipment and
emergency procedures:**

Evacuate area. Provide adequate ventilation. Consider the risk of potentially explosive atmospheres. Eliminate all ignition sources if safe to do so. Monitor the concentration of the released product. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. EN 137 Respiratory protective devices — Self-contained open-circuit compressed air breathing apparatus with full face mask — Requirements, testing, marking.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so.

**6.3 Methods and material for
containment and cleaning up:**

Provide adequate ventilation. Eliminate sources of ignition.

6.4 Reference to other sections:

Refer to sections 8 and 13.

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SECTION 7: Handling and Storage:

- 7.1 Precautions for safe handling:** Only experienced and properly instructed persons should handle gases under pressure. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service. Purge air from system before introducing gas. Containers, which contain or have contained flammable or explosive substances, must not be inerted with liquid carbon dioxide. Assess the risk of a potentially explosive atmosphere and the need for suitable equipment i.e. explosion-proof. Take precautionary measures against static discharges. Keep away from ignition sources (including static discharges). Provide electrical earthing of equipment and electrical equipment usable in explosive atmospheres. Use only non-sparking tools. Refer to supplier's handling instructions. The substance must be handled in accordance with good industrial hygiene and safety procedures. Ensure the complete system has been (or is regularly) checked for leaks before use. Protect containers from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the container contents. When moving containers, even for short distances, use appropriate equipment eg. trolley, hand truck, fork truck etc. Secure cylinders in an upright position at all times, close all valves when not in use. Provide adequate ventilation. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Avoid suckback of water, acid and alkalis. Keep container below 50°C in a well ventilated place. Observe all regulations and local requirements regarding storage of containers. When using do not eat, drink or smoke. Store in accordance with local/regional/national/international regulations. Never use direct flame or electrical heating devices to raise the pressure of a container. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Damaged valves should be reported immediately to the supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Keep container valve outlets clean and free from contaminants particularly oil and water. If user experiences any difficulty operating container valve discontinue use and contact supplier. Never attempt to transfer gases from one container to another. Container valve guards or caps should be in place.
- 7.2 Conditions for safe storage, including any incompatibilities:** All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere. Segregate from oxidant gases and other oxidants being stored. Containers should not be stored in conditions likely to encourage corrosion. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible material.
- 7.3 Specific end use(s):** None.

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SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
1,3-butadiene; buta-1,3-diene	TWA	10 ppm 22 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)

DNEL-Values

Critical component	Type	Value	Remarks
1,3-butadiene; buta-1,3-diene	Worker - inhalative, long-term - systemic	2,21 mg/m ³	
	Worker - dermal, long-term - local	324 mg/kg bw/day	

8.2 Exposure controls

Appropriate engineering controls:

Consider a work permit system e.g. for maintenance activities. Ensure adequate air ventilation. Provide adequate general and local exhaust ventilation. Keep concentrations well below lower explosion limits. Gas detectors should be used when quantities of flammable gases or vapours may be released. Systems under pressure should be regularly checked for leakages. Product to be handled in a closed system. Use only permanent leak tight installations (e.g. welded pipes) Take precautionary measures against static discharges.

Individual protection measures, such as personal protective equipment

General information:

A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered. Keep self contained breathing apparatus readily available for emergency use. Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment. Do not eat, drink or smoke when using the product.

Eye/face protection:

Safety eyewear, goggles or face-shield to EN166 should be used to avoid exposure to liquid splashes. Wear eye protection to EN 166 when using gases. Guideline: EN 166 Personal Eye Protection.

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Skin protection

Hand protection:

Wear working gloves while handling containers
Guideline: EN 388 Protective gloves against mechanical risks
Chemically resistant gloves complying with EN 374 should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Material: Butyl rubber.
Break-through time: 30 min
Chemically resistant gloves complying with EN 374 should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Material: Fluoroelastomer.
Break-through time: 480 min
Guideline: EN 374-1/2/3 Protective gloves against chemicals and micro-organisms.

Body protection:

Wear fire/flame resistant/retardant clothing.
Guideline: ISO/TR 2801:2007 Clothing for protection against heat and flame --
General recommendations for selection, care and use of protective clothing.

Other:

Wear safety shoes while handling containers
Guideline: ISO 20345 Personal protective equipment - Safety footwear.

Respiratory Protection:

Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.
Material: Filter AX
Guideline: EN 14387 Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking.
Guideline: EN 136 Respiratory protective devices. Full face masks. Requirements, testing, marking.

Thermal hazards:

No precautionary measures are necessary.

Hygiene measures:

Specific risk management measures are not required beyond good industrial hygiene and safety procedures. Do not eat, drink or smoke when using the product.

Environmental exposure controls:

For waste disposal, see section 13.

SECTION 9: Physical And Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	Gas
Form:	Liquefied gas
Colour:	Colourless
Odour:	Mild aromatic odour
Odour Threshold:	Odour threshold is subjective and is inadequate to warn of over exposure.
pH:	No data available.
Melting Point:	-108,97 °C

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Boiling Point:	-4,5 °C (101,325 kPa)
Sublimation Point:	Not applicable.
Critical Temp. (°C):	152,0 °C
Flash Point:	Not applicable to gases and gas mixtures
Evaporation Rate:	Not applicable to gases and gas mixtures
Flammability (solid, gas):	Flammable Gas
Flammability limit - upper (%)-:	16,3 %(V)
Flammability limit - lower(%)-:	1,4 %(V)
Vapour pressure:	281,3052 kPa (25 °C)
Vapour density (air=1):	1,87 AIR=1
Relative density:	0,65
Solubility(ies)	
Solubility in Water:	735 mg/l
Partition coefficient (n-octanol/water):	1,99
Autoignition Temperature:	415 °C
Decomposition Temperature:	> 200 °C May decomp explosively when heated above 200°C 1 kbar. When heated to decomp, emits acrid smoke and fumes.
Viscosity:	No data available.
Dynamic Viscosity:	0,008 mPa.s (20 °C)
Explosive properties:	Not applicable.
Oxidising Properties:	Not applicable.
9.2 Other information:	None.
Molecular weight:	54,09 g/mol (C ₄ H ₆)
Minimum ignition energy:	0,13 mj

SECTION 10: Stability and Reactivity

10.1 Reactivity:	No reactivity hazard other than the effects described in sub-section below.
10.2 Chemical stability:	Stable under normal conditions. May polymerise. Inhibitor usually added.
10.3 Possibility of hazardous reactions:	Can form a potentially explosive atmosphere in air. May react violently with oxidants.
10.4 Conditions to avoid:	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
10.5 Incompatible materials:	Air and oxidisers. For material compatibility see latest version of ISO-11114.
10.6 Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological Information

General information: None.

11.1 Information on toxicological effects

Acute Toxicity - Oral

1,3-butadiene; buta-1,3-
diene LD 50 (Rat): 5,48 g/kg
LD 50 (Mouse): 3,21 g/kg

Acute Toxicity - Inhalation

1,3-butadiene; buta-1,3-
diene LC 50 (Rat, 4 h): 285 mg/l
LC 50 (Mouse, 2 h): 270 mg/l

Skin corrosion/irritation

1,3-butadiene; buta-1,3-
diene Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

1,3-butadiene; buta-1,3-
diene Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

1,3-butadiene; buta-1,3-
diene Based on available data, the classification criteria are not met.

Germ cell mutagenicity

1,3-butadiene; buta-1,3-
diene May cause genetic defects.

Carcinogenicity

1,3-butadiene; buta-1,3-
diene May cause cancer.

Reproductive toxicity

1,3-butadiene; buta-1,3-
diene Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure

1,3-butadiene; buta-1,3-
diene Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure

1,3-butadiene; buta-1,3-
diene Based on available data, the classification criteria are not met.

Aspiration hazard

1,3-butadiene; buta-1,3-
diene Not applicable to gases and gas mixtures.

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SECTION 12: Ecological Information

12.1 Toxicity

Acute toxicity

1,3-butadiene; buta-1,3-
diene No ecological damage caused by this product.

Acute toxicity - Fish

1,3-butadiene; buta-1,3-
diene LC50 (Fish, 96 h): 43 mg/l

Acute toxicity - Aquatic invertebrates

1,3-butadiene; buta-1,3-
diene EC50 (Water flea (Daphnia magna), 48 h): 24 mg/l

Toxicity to microorganisms

1,3-butadiene; buta-1,3-
diene EC50 (Alga, 72 h): 11 mg/l

12.2 Persistence and degradability

1,3-butadiene; buta-1,3-
diene No ecological damage caused by this product.

Biodegradation

1,3-butadiene; buta-1,3-
diene The product is not readily biodegradable.

12.3 Bioaccumulative potential

1,3-butadiene; buta-1,3-
diene

Bioconcentration factor (BCF)

1,3-butadiene; buta-1,3-
diene Because of the low log Kow, accumulation in organisms is not expected.

12.4 Mobility in soil

1,3-butadiene; buta-1,3-
diene No ecological damage caused by this product.

**12.5 Results of PBT and vPvB
assessment:**

Not classified as PBT or vPvB.

12.6 Other adverse effects:

No known effects from this product.

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SECTION 13: Disposal Considerations

13.1 Waste treatment methods

General information: Do not discharge into any place where its accumulation could be dangerous. Consult supplier for specific recommendations. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.

Disposal methods: Refer to the EIGA code of practice (Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org>) for more guidance on suitable disposal methods. Dispose of container via gas supplier only. Discharge, treatment, or disposal may be subject to national, state, or local laws.

European Waste Codes

Container: 16 05 04*: gases in pressure containers (including halons) containing dangerous substances

SECTION 14: Transport Information

ADR

14.1 UN number: UN 1010
14.2 UN proper shipping name: BUTADIENES, STABILIZED
14.3 Transport hazard class(es)
Class: 2
Label(s): 2.1
Hazard No. (ADR): 239
Tunnel restriction code: (B/D)
Emergency Action Code: 2YE
14.4 Packing group: -
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: -

RID

14.1 UN number: UN 1010
14.2 UN proper shipping name: BUTADIENES, STABILIZED
14.3 Transport hazard class(es)
Class: 2
Label(s): 2.1
14.4 Packing group: -
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: -

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IMDG

14.1 UN number: UN 1010
14.2 UN proper shipping name: BUTADIENES, STABILIZED
14.3 Transport hazard class(es)
Class: 2.1
Label(s): 2.1
EmS No.: F-D, S-U
14.3 Packing group: -
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: -

IATA

14.1 UN number: UN 1010
14.2 Proper Shipping Name: BUTADIENES, STABILIZED
14.3 Transport hazard class(es):
Class: 2.1
Label(s): 2.1
14.4 Packing group: -
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: -
Other information
Passenger and cargo aircraft: Forbidden.
Cargo aircraft only: Allowed.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

Additional identification: Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured. Ensure that the cylinder valve is closed and not leaking. Container valve guards or caps should be in place. Ensure adequate air ventilation.

SECTION 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

The packaging shall be visibly, legibly and indelibly marked as follows:
Restricted to professional users.

Chemical name	CAS-No.	Concentration
1,3-butadiene; buta-1,3-diene	106-99-0	

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work:

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Chemical name	CAS-No.	Concentration
1,3-butadiene; buta-1,3-diene	106-99-0	100%

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.:

Chemical name	CAS-No.	Concentration
1,3-butadiene; buta-1,3-diene	106-99-0	100%

Directive 96/82/EC (Seveso II): on the control of major accident hazards involving dangerous substances:

Chemical name	CAS-No.	Concentration
1,3-butadiene; buta-1,3-diene	106-99-0	100%

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work.:

Chemical name	CAS-No.	Concentration
1,3-butadiene; buta-1,3-diene	106-99-0	100%

National Regulations

Dangerous Substances and Explosive Atmospheres Regulations (DSEAR 2002 No. 2776) Management of Health and Safety at Work Regulations (1999 No. 3242) The Regulatory Reform (Fire Safety) Order 2005 (2005 No. 1541) Control of Substances Hazardous to Health Regulations (COSHH, 2002 No. 2677) Provision and Use of Work Equipment Regulations (PUWER, 1998 No. 2306) Personal Protective Equipment Regulations (1992 No. 2966) Control of Major Accident Hazards Regulations (COMAH, 1999 No. 743) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations (EPS, 1996 No. 192) Chemical Hazards Information and Packaging for Supply (CHIP, 1994 No. 3247) Pressure Systems Safety Regulations (PSSR, 2000 No. 128) Only products that comply with the food regulations 95/2/EC and 2008/84/EC and are labelled as such may be used as food additives. This Safety Data Sheet has been produced to comply with Regulation (EU) 453/2010.

15.2 Chemical safety assessment: No Chemical Safety Assessment has been carried out.

SECTION 16: Other Information

Revision Information: Not relevant.

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Key literature references and sources for data:

Various sources of data have been used in the compilation of this SDS, they include but are not exclusive to:
Agency for Toxic Substances and Diseases Registry (ATSDR)
<http://www.atsdr.cdc.gov/>
European Chemical Agency: Guidance on the Compilation of Safety Data Sheets.
European Chemical Agency: Information on Registered Substances
<http://apps.echa.europa.eu/registered/registered-sub.aspx#search>
European Industrial Gases Association (EIGA) Doc. 169 Classification and Labelling guide.
International Programme on Chemical Safety (<http://www.inchem.org/>)
ISO 10156:2010 Gases and gas mixtures - Determination of fire potential and oxidizing ability for the selection of cylinder valve outlets.
Matheson Gas Data Book, 7th Edition.
National Institute for Standards and Technology (NIST) Standard Reference Database Number 69
The ESIS (European chemical Substances Information System) platform of the former European Chemicals Bureau (ECB) ESIS (<http://ecb.jrc.ec.europa.eu/esis/>).
The European Chemical Industry Council (CEFIC) ERICards.
United States of America's National Library of Medicine's toxicology data network TOXNET (<http://toxnet.nlm.nih.gov/index.html>)
Threshold Limit Values (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH).
Substance specific information from suppliers.
Details given in this document are believed to be correct at the time of publication.
EH40 (as amended) Workplace exposure limits.

Wording of the R-phrases and H-statements in sections 2 and 3

H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H340	May cause genetic defects.
H350	May cause cancer.
R12	Extremely flammable.
R45	May cause cancer.
R46	May cause heritable genetic damage.

Training information:

Users of breathing apparatus must be trained. Ensure operators understand the flammability hazard.

Classification according to Regulation (EC) No 1272/2008 as amended

Flam. Gas 1, H220
Press. Gas Liq. Gas, H280
Muta. 1B, H340
Carc. 1A, H350

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Other information:

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Ensure adequate air ventilation. Ensure all national/local regulations are observed. Ensure equipment is adequately earthed. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. Note: When using this document care should be taken, as the decimal sign and its position complies with rules for the structure and drafting of international standards, and is a comma on the line. As an example 2,000 is two (to three decimal places) and not two thousand, whilst 1.000 is one thousand and not one (to three decimal places).

Issue date:
Disclaimer:

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This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.