

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

CARBON DIOXIDE, LIQUIFIED

Revision Date: 23-Nov-2010

Revision Number: 8

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

Product Identifier

Product Name CARBON DIOXIDE, LIQUIFIED

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

Recommended Use Fluid
Uses Advised Against No information available

Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone §45 - (EC)1272/2008

Europe	112
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Gases under pressure. Refrigerated liquefied gas- H281

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

Classification Not Classified

2. HAZARDS IDENTIFICATION

Risk Phrases None

Label Elements

Hazard Pictograms



Signal Word

Warning

Hazard Statements

H281 - Contains refrigerated gas; may cause cryogenic burns or injury

Contains

Substances
Carbon dioxide

CAS Number
124-38-9

Precautionary Statements - EU (§28, 1272/2008)

P282 - Wear cold insulating gloves/face shield/eye protection

P336 - Thaw frosted parts with lukewarm water. Do not rub affected area

P315 - Get immediate medical advice/attention

Other Hazards

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Carbon dioxide	204-696-9	124-38-9	60 - 100%	Not applicable	H281	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of first aid measures

Inhalation

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Eyes

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin

For exposure to liquid, immediately warm frostbite area with warm water (not to exceed 105 F or 41 C). In case of massive exposure, remove clothing while showering with warm water. Get medical attention.

Ingestion

If swallowed, induce vomiting immediately by giving two glasses of water and sticking fingers down throat; never give anything to an unconscious person. Get medical attention.

Most Important symptoms and effects, both acute and delayed

May cause freeze burns. Reduces oxygen available for breathing.

4. FIRST AID MEASURES

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

Special hazards arising from the substance of mixture

Special Exposure Hazards

Not applicable.

Advice for firefighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Evacuate all persons from the area.

See Section 12 for additional information

Environmental precautions

None known.

Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Ventilate area.

Reference to other sections

See Section 12 for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Store in a well ventilated area.

Specific End Use(s)

Exposure Scenario

No information available

Other Guidelines

No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Carbon dioxide	Not applicable	5000 ppm	9000 mg/m ³	5000 ppm	5000 ppm

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Carbon dioxide	5000 ppm	9000 mg/m ³	9000 mg/m ³	9000 mg/m ³	Not applicable

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

Exposure controls**Engineering Controls**

Use in a well ventilated area.

Personal protective equipment**Respiratory Protection**

Not normally necessary.

In high concentrations, supplied air respirator or a self-contained breathing apparatus.

Hand Protection

Impervious rubber gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions

None known.

Environmental Exposure Controls

No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Physical State:** Liquid**Color:** Colorless**Odor:** Odorless**Odor Threshold:** No information availablePropertyValuesRemarks/ Method**pH:**

No data available

Melting Point/Range

No data available

Freezing Point/Range (C):

No data available

Boiling Point/Range

No data available

Flash Point

No data available

Evaporation rate

No data available

Vapor Pressure

No data available

Vapor Density

No data available

Specific Gravity

1.01

Water Solubility

Soluble in water

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

Other information**Molecular Weight**

44.01

VOC Content (%)

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable

Chemical Stability

Stable

Possibility of Hazardous Reactions

Will Not Occur

Conditions to Avoid

None anticipated

Incompatible Materials

None known.

Hazardous Decomposition Products

None known.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects**Acute Toxicity****Inhalation**

Reduces oxygen available for breathing. May cause increase in respiration rate.

11. TOXICOLOGICAL INFORMATION

Eye Contact Contact with liquid causes frostbite.
Skin Contact Contact of material on skin may result in frostbite.
Ingestion Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 1% are chronic health hazards.

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Carbon dioxide	No data available	No data available	No data available

12. ECOLOGICAL INFORMATION

Toxicity
Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Carbon dioxide	No information available	No information available	No information available	No information available

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Mobility in soil

No information available

Results of PBT and vPvB assessment

No information available.

Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Method

Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations.
 Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

IMDG/IMO

UN Number: UN2187,
UN Proper Shipping Name: Carbon Dioxide, Refrigerated Liquid
Transport Hazard Class(es): , 2.2
EMS: EmS F-C, S-V

RID

UN Number: UN2187,
UN Proper Shipping Name: Carbon Dioxide, Refrigerated Liquid

14. TRANSPORT INFORMATION

Transport Hazard Class(es): , 2.2

ADR

UN Number: UN2187,
UN Proper Shipping Name: Carbon Dioxide, Refrigerated Liquid
Transport Hazard Class(es): , 2.2

IATA/ICAO

UN Number: UN2187,
UN Proper Shipping Name: Carbon Dioxide, Refrigerated Liquid
Transport Hazard Class(es): , 2.2

Special Precautions for User None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

EINECS Inventory This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

Legend

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

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

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

Germany, Water Endangering Classes (WGK) WGK 0: Generally not water endangering.

Chemical Safety Assessment

No information available

16. OTHER INFORMATION**Full text of R-phrases referred to under Sections 2 and 3**

None

Key literature references and sources for datawww.ChemADVISOR.com/

Revision Date: 23-Nov-2010

Revision Note: Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**Disclaimer Statement**

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End of Safety Data Sheet