



Safety data sheet Carbon monoxide, compressed

Creation date : 28.01.2005
Revision date : 29.11.2006

Version : 1.0

DE / E

SDS No. : 019
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1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name

Carbon monoxide, compressed

Chemical formula CO

Known uses

Not known.

Company identification

Linde AG, Gas and Engineering, Linde Gas Division Seitnerstraße
70, D-82049 Pullach

Emergency phone numbers: 089-7446-0

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance

Components/Impurities

CAS Nr: 630-08-0

EEC Nr (from EINECS) : 211-128-3

Contains no other components or impurities which will influence the classification of the product.

3 HAZARDS IDENTIFICATION

Classification

May cause harm to the unborn child.

Toxic by inhalation.

Toxic: danger of serious damage to health by prolonged exposure through inhalation.

Extremely flammable.

Risk advice to man and the environment

Compressed gas

4 FIRST AID MEASURES

Inhalation

Toxic by inhalation. Symptoms may include dizziness, headache, nausea and loss of co-ordination. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Ingestion

Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards

Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products

None

Suitable extinguishing media

All known extinguishants can be used.

Specific methods

If possible, stop flow of product. Move container away or cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire. Extinguish any other fire.

Special protective equipment for fire fighters

Use self-contained breathing apparatus and chemically protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area. Eliminate ignition sources. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Environmental precautions

Try to stop release.

Clean up methods

Ventilate area.

7 HANDLING AND STORAGE

Handling and storage

Ensure equipment is adequately earthed. Suck back of water into the container must be prevented. Purge air from system before introducing gas. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Keep away from ignition sources (including static discharges). Refer to supplier's container handling instructions.

Prevent bottles from falling down. Segregate from oxidant gases and other oxidants in store. Keep container below 50°C in a well ventilated place. Observe "Technische Regeln Druckgase (TRG) 280 Ziffer 5"

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value

Value type	value	Note
TLV (ACGIH)	25 ppm	ACGIH 1995 - 1996
Germany - MAK	30 ppm	TRGS 900

Exposure limit value

Value type	Comp.	value	Note
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Personal protection

Ensure adequate ventilation. Do not smoke while handling product. Keep self contained breathing apparatus readily available for emergency use. If concentration is below 2% you can use for escaping an ABEK- Filter Carry working gloves and protection shoes while handling gas cylinders.

9 PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance/Colour: Colourless gas

Odour: None No odour warning properties.

Important information on environment, health and safety

Molecular weight: 28 g/mol

Melting point: -205 °C

Boiling point: -192 °C

Critical temperature: -140 °C

Autoignition temperature: 620 °C

Flammability range: 11 %(V) - 74 %(V)

Relative density, gas: 1

Relative density, liquid: 0,79

Vapour Pressure 20 °C: Not applicable

Solubility mg/l water: 30 mg/l

10 STABILITY AND REACTIVITY

Stability and reactivity

Can form explosive mixture with air. May react violently with oxidants.

11 TOXICOLOGICAL INFORMATION

Acute toxicity

Damage to red blood cells (haemolytic poison).

LC50/1h (ppm) 3760 ppm



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Carcinogenic, mutagenic and teratogenic effects

May cause harm to the unborn child.

12 ECOLOGICAL INFORMATION

General

No known ecological damage caused by this product.

13 DISPOSAL CONSIDERATIONS

General

Avoid discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Waste gas should be flared through a suitable burner with flash back arrestor. Contact supplier if guidance is required.

EWC Nr. 16 05 04

14 TRANSPORT INFORMATION

ADR/RID

Class	2	Classification Code	1TF
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UN number and proper shipping name

UN 1016 Carbon monoxide, compressed

UN 1016 Carbon monoxide, compressed

Labels	2.3, 2.1	Hazard number	263
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IMDG

Class	2.3
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UN number and proper shipping name

UN 1016 Carbon monoxide, compressed

Labels 2.3,
2.1

Packing Instruction	P200
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EmS	FD, SU
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IATA

Class	2.3
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UN number and proper shipping name

UN 1016 Carbon monoxide, compressed

Labels 2.3,
2.1

Packing Instruction	P200	Packing group	II
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Other transport information

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. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548

006-001-00-2

EC Classification

F+; R12 | Repr. Cat.1; R61 | T; R23, R48/23

Labelling

- Symbols

F+ Extremely flammable.

T Toxic.

- Risk Phrases

R61 May cause harm to the unborn child.

R23 Toxic by inhalation.

R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.

Extremely flammable.

R12

- Safety Phrases

S53 Avoid exposure, obtain special instructions before use.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Further national regulations

Pressure Vessel Regulation

Gefahrstoffverordnung (GefStoffV)

Technische Regeln für Gefahrstoffe (TRGS)

Regulations for the prevention of industrial accidents

Water pollution class

according to §19 WGH Annex 1 : WGK 1 (slightly water endangering)

16 OTHER INFORMATION

Ensure all national/local regulations are observed. Ensure operators understand the flammability hazard. Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Advice

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. Details given in this document are believed to be correct at the time of going to press.

Further informations

Kühn-Birett: Merkblätter gefährliche Arbeitsstoffe

Hommel: Handbook of dangerous goods

Linde safety advice

End of document