

Safety data sheet

Carbon dioxide, solid (Dry ice).

Creation date : 27.01.2005
Revision date : 26.10.2009

Version : 1.2

DE / E

SDS No. : 9390
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1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name

Carbon dioxide, solid (Dry Ice).

Chemical formula CO₂
Known uses

Not known.

Company identification

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

E-Mail Address Direkt@de.linde-gas.com

Emergency phone numbers (24h): 089-7446-0

2 HAZARDS IDENTIFICATION

Classification

Asphyxiant in high concentrations.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance.

Components/Impurities
CAS Nr: 124-38-9

EEC Nr (from EINECS) : 204-696-9

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

4 FIRST AID MEASURES

Inhalation

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Low concentrations of CO₂ cause increased respiration and headache. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Skin/eye contact

Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

Ingestion

To swallow must be absolutely avoided, since coldness and developing pressure could be dangerous. Obtain medical assistance.

5 FIRE FIGHTING MEASURES

Specific hazards

Exposure to fire may cause containers to rupture/explode. Non flammable.

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.

Special protective equipment for fire fighters

In confined space use self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

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

Environmental precautions

Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Clean up methods

Ventilate area.

7 HANDLING AND STORAGE

Handling

Ensure adequate air ventilation. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's handling instructions.

Storage

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 |
|---------------|-----------|----------|
| Germany - AGW | 5.000 ppm | TRGS 900 |

Personal protection

Ensure adequate ventilation.

9 PHYSICAL AND CHEMICAL PROPERTIES

General information
Odour: No odour warning properties.

Important information on environment, health and safety
Molecular weight: 44 g/mol

Melting point: -56,6 °C

Sublimation point: -78,5 °C

Critical temperature: 31 °C

Autoignition temperature: Not applicable.

Flammability range: Not applicable.

Relative density, gas: 1,52

Relative density, liquid: 0,82

Vapour Pressure 20 °C: 57,3 bar

Solubility mg/l water: 2000 mg/l

Other data

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 STABILITY AND REACTIVITY

Stability and reactivity

Stable under normal conditions.

11 TOXICOLOGICAL INFORMATION

General

No known toxicological effects from this product.

12 ECOLOGICAL INFORMATION

General

When discharged in large quantities may contribute to the greenhouse effect.

Global Warming Potential GWP

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13 DISPOSAL CONSIDERATIONS

General

Do not discharge into any place where its accumulation could be dangerous. To atmosphere in a well ventilated place. Discharge to atmosphere in large quantities should be avoided. Contact supplier if guidance is required.

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14 TRANSPORT INFORMATION**ADR/RID**

Not submitted to ADR/RID.

IMDG

Class 9
UN number and proper shipping name
UN 1845 Carbon dioxide, solid
Labels 9
Packing Instruction P003 Packing group III
EmS FC, SV

IATA

Class 9
UN number and proper shipping name
UN 1845 Carbon dioxide, solid
Labels 9
Packing Instruction P904 Packing group III

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. Ensure adequate ventilation.

15 REGULATORY INFORMATION**Number in Annex I of Dir 67/548**

Not included in Annex I.

EC Classification

Not classified as hazardous to health.

Labelling**- Symbols**

No symbol required.

- Risk Phrases

RAs Asphyxiant in high concentrations.

Further national regulations

Pressure Vessel Regulation
Regulations for the prevention of industrial accidents

Water pollution class

Not polluting to waters according to VwVwS from 27.07.2005.

TA-Luft

Not classified according to TA-Luft.

16 OTHER INFORMATION

Ensure all national/local regulations are observed. The hazard of asphyxiation is often overlooked and must be stressed during operator training. 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

Linde safety advice

No. 3 Oxygen deficiency
No. 11 Transport of gas receptacles in vehicles
No. 12 Handling of carbon dioxide CO₂

End of document