

Safety data sheet Sulphur dioxide

Creation date : 28.01.2005
Revision date : 11.01.2011

Version : 2.0

DE / E

SDS No. : 113
page 1 / 3

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name

Sulphur dioxide
EC No (from EINECS): 231-195-2
CAS No: 7446-09-5
Index-Nr. 016-011-00-9

Chemical formula SO₂

REACH Registration number:

Not available.

Known uses

Industrial application.

Company identification

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

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

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

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Press. Gas (Liquefied gas) - Contains gas under pressure; may explode if heated.

Acute Tox. 3 - Toxic if inhaled.

Skin Corr. 1B - Causes severe skin burns and eye damage.

- Corrosive to the respiratory tract.

Classification acc. to Directive 67/548/EEC & 1999/45/EC

T; R23 | C; R34

Toxic by inhalation.

Cause burns (to eyes, respiratory system and skin).

Risk advice to man and the environment

Liquefied gas.

Label Elements

- Labelling Pictograms



- Signal word

Danger

- Hazard Statements

H280	Contains gas under pressure; may explode if heated.
H331	Toxic if inhaled.
H314	Causes severe skin burns and eye damage.
EUH071	Corrosive to the respiratory tract.

- Precautionary Statements

Precautionary Statement Prevention

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe gas, vapours.

Precautionary Statement Reaction

P304+P340+P315	IF INHALED: Remove victim to fresh air
----------------	--

P303+P361+P353+P315

P305+P351+P338+P315

and keep at rest in a position comfortable for breathing. Get immediate medical advise/attention.
IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothes. Rinse skin with water/shower. Get immediate medical advise/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advise/attention.

Precautionary Statement Storage

P403	Store in a well-ventilated place.
P405	Store locked up.

Precautionary Statement Disposal

None.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance.

Components/Impurities

Sulphur dioxide

CAS No: 7446-09-5

Index-Nr.: 016-011-00-9

EC No (from EINECS): 231-195-2

REACH Registration number:

Not available.

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

4 FIRST AID MEASURES

Inhalation

Toxic by inhalation. Possible symptoms are provoking the mucous membranes, dry coughs and respiratory difficulty. Delayed fatal pulmonary oedema possible. Delayed adverse effects possible. 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

May cause chemical burns to skin and cornea (with temporary disturbance to vision) Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical assistance.

Ingestion

Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards

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

Hazardous combustion products

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. Prevent water used in emergency cases from entering sewers and drainage systems.

Special protective equipment for fire fighters

Use self-contained breathing apparatus and chemically protective clothing.

Safety data sheet

Sulphur dioxide

Creation date : 28.01.2005
Revision date : 11.01.2011

Version : 2.0

DE / E

SDS No. : 113
page 2 / 3

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area. Use self-contained breathing apparatus and chemically protective clothing. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Monitor concentration of released product.

Environmental precautions

Try to stop release. Reduce vapour with fog or fine water spray.

Clean up methods

Ventilate area. Hose down area with water. Wash contaminated equipment or sites of leaks with copious quantities of water.

7 HANDLING AND STORAGE

Handling

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Do not allow backfeed into the container. Refer to supplier's handling instructions. The substance must be handled in accordance with good industrial hygiene and safety procedures. Avoid exposure, obtain special instructions before use. Avoid suckback of water, acid and alkalis. Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service. Do not smoke while handling product. Only experienced and properly instructed persons should handle gases under pressure. Protect cylinders from physical damage; do not drag, roll, slide or drop. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. 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. Ensure the complete gas system has been (or is regularly) checked for leaks before use. If user experiences any difficulty operating cylinder valve discontinue use and contact 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. Damaged valves should be reported immediately to the supplier. 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. Never attempt to transfer gases from one cylinder/container to another. Installation of a cross purge assembly between the cylinder and the regulator is recommended.

Storage

Keep container below 50°C in a well ventilated place. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent falling over. 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 materials. Observe "Technische Regeln Druckgase (TRG) 280 Ziffer 5"

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value

Value type	value	Note
Germany - AGW	0,5 ppm	TRGS 900

Personal protection

Keep suitable chemically resistant protective clothing readily available for emergency use. Keep self contained breathing apparatus readily available for emergency use. Do not smoke while handling product. Ensure adequate ventilation. Protect eyes, face and skin from liquid splashes. Carry working gloves and protection shoes while handling gas cylinders.

9 PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance/Colour: Colourless gas.
Odour: Pungent

Important information on environment, health and safety

Molecular weight: 64,0 g/mol
Melting point: -75,5 °C
Boiling point: -10 °C
Critical temperature: 158 °C
Autoignition temperature: Not applicable.
Flammability range: Non flammable.
Relative density, gas: 2,3
Relative density, liquid: 1,5
Vapour Pressure 20 °C: 3,3 bar
Solubility mg/l water: Hydrolyses.

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

Reacts with most metals in the presence of moisture, liberating hydrogen, an extremely flammable gas. Reacts with water to form corrosive acids. May react violently with alkalis. With water causes rapid corrosion of some metals.

11 TOXICOLOGICAL INFORMATION

Acute toxicity

Severe corrosion to skin, eyes and respiratory tract at high concentrations.
LC50/1h (ppm) 2520 ppm

12 ECOLOGICAL INFORMATION

General

May cause pH changes in aqueous ecological systems.

13 DISPOSAL CONSIDERATIONS

General

Do not discharge into any place where its accumulation could be dangerous. Avoid discharge to atmosphere. Contact supplier if guidance is required. Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction.

EWC Nr. 16 05 04*

14 TRANSPORT INFORMATION

ADR/RID

Class	2	Classification Code	2TC
UN number and proper shipping name			
UN 1079 Sulphur dioxide			
UN 1079 Sulphur dioxide			
Labels	2.3, 8	Hazard number	268

Safety data sheet Sulphur dioxide

Creation date : 28.01.2005
Revision date : 11.01.2011

Version : 2.0

DE / E

SDS No. : 113
page 3 / 3

IMDG

Class 2.3

UN number and proper shipping name

UN 1079 Sulphur dioxide

Labels 2.3, 8

Packing Instruction P200

EmS FC,SU

IATA

Class 2.3

UN number and proper shipping name

UN 1079 Sulphur dioxide

Labels 2.3, 8

Packing Instruction P200

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

Further national regulations

Regulations for the prevention of industrial accidents

Pressure Vessel Regulation

Gefahrstoffverordnung (GefStoffV)

Technische Regeln für Gefahrstoffe (TRGS)

Water pollution class

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

16 OTHER INFORMATION

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

Kühn-Birett: Merkblätter gefährliche Arbeitsstoffe

Hommel: Handbook of dangerous goods

Linde safety advice

End of document