

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 03.01.2012
Revision 03.01.2012 (GB) Version 13.0

Sulphur dioxide
0800 - 0805



! 1. Identification of the substance/mixture and of the company/undertaking

Product identifier

Name of product Sulphur dioxide
Art-Nr.: 0800 - 0805
Name of substance sulphur dioxide
Index No 016-011-00-9
EC No 231-195-2
CAS No 7446-09-5

Manufacturer/distributor

GHC Gerling, Holz & Co. Handels GmbH
Ruhrstraße 113, D-22761 Hamburg
Phone +49 (0) 40 853 123-0, Fax +49 (0) 40 853 123-66
E-Mail msds@ghc.de
Internet www.ghc.de

Advice

Phone +49 (0) 40 853 123-0
Fax +49 (0) 40 853 123-66

Emergency advice

GHC Gerling, Holz & Co. Handels GmbH
Phone +49 (0) 40 853 123-0

Recommended intended purpose(s)

Basic substance.
Biocidal product.
Food additive.

2. Hazards identification

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

T; R23
C; R34

R-phrases

23 Toxic by inhalation.
34 Causes burns.

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
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Liquef. Gas	H280
Acute Tox. 3	H331
Skin Corr. 1B	H314

Hazard statements for physical hazards

H280 Contains gas under pressure; may explode if heated.

Hazard statements for health hazards

H314 Causes severe skin burns and eye damage.
H331 Toxic if inhaled.

Additional hints

Listed substance (Regulation (EC) No 1272/2008, Annex VI, part 3).

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Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]



GHS04



GHS05



GHS06

Signal word

Danger

Hazard statements for physical hazards

H280 Contains gas under pressure; may explode if heated.

Hazard statements for health hazards

H314 Causes severe skin burns and eye damage.

H331 Toxic if inhaled.

Precautionary Statements

! Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P315 Get immediate medical advice/attention.

Storage

P403 Store in a well-ventilated place.

P405 Store locked up.

Supplemental Hazard information (EU)

Health properties

Corrosive to the respiratory tract.

Special rules for supplemental label elements for certain mixtures

In case of use as a food additive: 'E 220', 'for food' and 'not for retail sale'.

Information pertaining to special dangers for human and environment

Irritating to eyes and respiratory system.

Dangerous substances are released in case of decomposition.

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

Contact with liquid may cause cold burns/frostbite.

Receptacle under pressure.

3. Composition/information on ingredients

CAS No 7446-09-5

EC No 231-195-2

Index No 016-011-00-9

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4. First aid measures

General information

Remove contaminated soaked clothing immediately.
Adhere to personal protective measures when giving first aid.
Seek medical advice immediately.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.
In the event of pulmonary irritation treat initially with corticoid spray, e.g. Ventolair- or Pulmicort- metered-dose aerosol (Ventolair and Pulmicort are registered trademarks).
In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Send for a doctor.

In case of skin contact

In case of contact with skin wash off immediately with plenty of water.
In case of frostbite spray with lukewarm (not hot) water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call for a doctor immediately.

In case of ingestion

Ingestion is not considered a potential route of exposure.

Physician's information / possible dangers

Risk of pulmonary oedema

Treatment (Advice to doctor)

Continue to monitor for pneumonia and pulmonary oedema.

! 5. Firefighting measures

Suitable extinguishing media

Product does not burn, fire-extinguishing activities according to surrounding.

Extinguishing media which must not be used for safety reasons

Full water jet

Special hazards arising from the substance or mixture

Sulfur oxide

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply (isolated).
Wear full protective clothing.

! Additional information

Cool endangered containers with water spray jet.
Exposure to fire may cause containers to rupture / explode.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.
Collect contaminated firefighting water separately, must not be discharged into the drains.

6. Accidental release measures

Personal precautions

See chapter 8.
Remove persons to safety.
Evacuate area.
Keep people away and stay on the upwind side.

Environmental precautions

Do not discharge into the drains or bodies of water..
Collect contaminated water / firefighting water separately.

Safety Data Sheet according to Regulation (EC)

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Sulphur dioxide

0800 - 0805

If possible, stop flow of product.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Suppress gases/vapours/mists with water spray jet
Do not discharge into the subsoil/soil.

Methods for cleaning up

Ensure adequate air ventilation.
Take up with absorbent material (e.g. sand, kieselguhr, acid binder, general-purpose binder, sawdust).
Clean contaminated objects and floor thoroughly under consideration of environment regulations.
After taking up the material dispose according to regulation.

Additional Information

Informations for safe handling see chapter 7.
Informations for personal protective equipment see chapter 8.
No water on the leaks.

! 7. Handling and storage

! Advice on safe handling

Use only in thoroughly ventilated areas.
Transfer and handle only in enclosed systems.
Provide good room ventilation even at ground level (vapours are heavier than air).
Prevent cylinders from falling over.
Ensure valve outlet cap nut or plug is correctly fitted.
Ensure valve protection device is correctly fitted.
Open valve slowly to avoid pressure shock.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature.
Do not allow backfeed into the container.
Suck back of water into the container must be prevented.
No water to valves, flanges and other fittings.
Purging of pipes and valves with inert gases - to avoid: water, solvents.

Advice on protection against fire and explosion

The product is not combustible.

Requirements for storage rooms and vessels

Ventilate store-rooms thoroughly.
Use transportable pressure equipment.
Suitable materials: Normalised steel and carbon steel, tempered steel, aluminium alloys, stainless steel.
Valve: Suitable materials: Brass, copper alloys, carbon steels, aluminium alloys, stainless steel.

Advice on storage compatibility

Do not store with combustible materials.
Do not store with spontaneously flammable materials.
Do not store together with combustible liquids or combustible solids.
Do not store together with feedstuff.
Do not store together with explosives.
Do not store together with infectious substances.
Do not store together with radioactive material.
Do not store together with toxic liquids or toxic solids.
Do not store together with food.
Do not store together with oxidizing liquids or oxidizing solids.

Further information on storage conditions

Ensure valve protection device is correctly fitted.
Store closed container at cool and aired place.
Store only in original container at temperature of 50°C maximum (=122°F).
Prevent cylinders from falling over.
Protect from heat/overheating.

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Sulphur dioxide

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Information on storage stability

Unlimited stability.

Recommendation(s) for intended use

Use as biocidal product in accordance with Directive 98/8/EC concerning the placing of biocidal products on the market.

Use in foods in accordance with regulation (EC) No 178/2002 laying down the general principles and requirements of food law and regulation (EC) No 1333/2008 on food additives.

! 8. Exposure controls/personal protection

! Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m ³]	[ppm]	Remark
7446-09-5	Sulfur dioxide	PEL, 8 hours	13	5	OSHA (USA)
7446-09-5	Sulfur dioxide	REL, 8 hours	5	2	NIOSH (USA)
		Short-term	13	5	
7446-09-5	Sulfur dioxide	TLV, 8 hours		2	ACGIH (USA)
		Short-term		5	

Respiratory protection

Short term: filter apparatus, filter E

Breathing apparatus in the event of high concentrations.

Keep self contained breathing apparatus readily available for emergency use.

Hand protection

chemical-resistant gloves

Leather gloves

Eye protection

safety goggles, in case of increased risk add protective face shield

Skin protection

Safety shoes with steel toe.

Body covering work clothing, or chemical resistant suit at increased risk.

General protective measures

Do not inhale gases/vapours/aerosols.

Hygiene measures

At work do not eat, drink, smoke or take drugs.

Wash hands before breaks and after work.

9. Physical and chemical properties

Form

compressed liquified gas

Colour

colourless

Odour

pungent

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	not applicable				
Acid number	not applicable				

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Sulphur dioxide
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	Value	Temperature	at	Method	Remark
boiling point	-10,1 °C		1013 hPa		
melting point	-75,5 °C				
Flash point	no				
Flammable solid	not applicable				
Flammability (gas)	no				
Ignition temperature	no				
Autoignition	no				
Lower explosion limit	no				
Upper explosion limit	no				
Vapour pressure	3305 hPa	20 °C			
Density	1,46 g/cm ³	-10 °C			liquid phase
Bulk density	not applicable				
Rel. vapour density	2,26				air = 1
Solubility in water	112 g/l	20 °C			hydrolyses
Viscosity dynamic	0,304 mPa*s	20 °C			liquid phase
Solvent concentration	not applicable				

Explosive properties

no

Additional information

Product effects hygroscopic.
Vapours are heavier than air.

10. Stability and reactivity

Conditions to avoid

Heat sources / heat - risk of bursting.
Humidity.

Materials to avoid

Reactions with strong oxidising agents.
Reactions with numerous chemical compounds.

Hazardous decomposition products

Sulphurous oxides (SO_x)
Oxygen

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Thermal decomposition

Remark Above 2000 °C.

Additional information

Stable under normal conditions.

11. Toxicological information

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LC50 acute inhalation	2520 ppm (1 h)	rat		
Irritability skin	irritant			experiences
Irritability eye	irritant - risk of strong eye injuries			experiences
Skin sensitization		not determined		
Sensitization respiratory system		not determined		

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Mutagenicity				Data insufficient.
Carcinogenicity				No indications of carcinogenic effects are available from long-term trials.

Experiences made from practice

Risk of strong health injuries in case of long-term exposition.
May cause frostbite.
Inhalation can cause damage to the respiratory tract or lungs.
Irritates respiratory tract.
Pulmonary damage is possible.
Irritates mucous membranes.

12. Ecological information

Data on elimination (persistence and degradability)

	Elimination rate	Method of analysis	Method	Validation
Physico-chemical degradability				not determined
Biological degradability	Inorganic product, cannot be eliminated from the water by biological purification processes.			

Safety Data Sheet according to Regulation (EC)**No. 1907/2006 (REACH)**

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Sulphur dioxide

0800 - 0805

	Elimination rate	Method of analysis	Method	Validation
Biological eliminability	Inorganic product, cannot be eliminated from the water by biological purification processes.			
Ecotoxicological effects				
	Value	Species	Method	Validation
Fish	LC50 220 - 460 mg/l (1 h)	Leuciscus idus		
Daphnia	EC50 89 mg/l (48 h)	Daphnia magna		The product can hydrolyse. The effect given can be caused partly by the decomposition products.
Algae	EC50 48,1 mg/l (72 h)	Scenedesmus subspicatus		

Behaviour in sewage plant

When low concentrations are discharged correctly into adapted biological sewage treatment plants, interference with the degradation activity of activated sludge is not likely.

Treat by state-of-the-art technology before discharging into drains.

Additional ecological information

	Value	Method	Remark
COD	250 mg/l	calculated	
BOD			not determined

General regulation

Do not allow uncontrolled leakage of product into the environment.

Product is not allowed to be discharged into the ground water or aquatic environment.

13. Disposal considerations**Waste code No.**

16 05 04*

Name of waste

gases in pressure containers (including halons) containing dangerous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

Recommendations for the product

Dispose of as hazardous waste.

Recommendations for packaging

Transportable pressure equipment (empty, residual pressure): Return to supplier / manufacturer.

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Sulphur dioxide

0800 - 0805

14. Transport information

Land and inland navigation transport ADR/RID

UN 1079 SULPHUR DIOXIDE, 2.3 (8), (C/D), Classification code: 2TC

Marine transport IMDG

UN 1079 SULPHUR DIOXIDE, 2.3 (8), Marine Pollutant: No

Ems: F-C, S-U

Air transport ICAO/IATA-DGR

UN 1079 Sulphur dioxide, 2.3 (8)

FORBIDDEN

! 15. Regulatory information

16. Other information

Recommendend uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

All declarations of safety-data-sheet refer to pure substance.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Wording of the R/H-phrases specified in chapter 3 (not the classification of the mixture!)

R 23 Toxic by inhalation.

R 34 Causes burns.

H280 Contains gas under pressure; may explode if heated.

H314 Causes severe skin burns and eye damage.

H331 Toxic if inhaled.