

# Safety Data Sheet

Product : **Silane** Page : 1/4  
MSDS Nr : 309-00-0002BOC(A) Version : 1.04 Date : 02/09/2004  
Replaces version dated : 26/08/1994

## 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name Silane  
Chemical formula SiH<sub>4</sub>  
Company identification see heading and/or footer  
Emergency phone numbers see heading and/or footer

## 2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation Substance.  
Components/Impurities Contains no other components or impurities which will influence the classification of the product.  
CAS Nr 7803-62-5  
EC Nr (from EINECS) 232-263-4

## 3 HAZARDS IDENTIFICATION

Hazards identification Compressed gas  
Extremely flammable  
May ignite spontaneously in contact with air

## 4 FIRST AID MEASURES

Inhalation May cause headache, nausea and irritation of respiratory tract.  
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.  
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.  
Escaping gas cannot be extinguished.  
Hazardous combustion products Silica dust (inert - but may irritate respiratory tract and eyes)  
Suitable extinguishing media All known extinguishants can be used.  
Specific methods If possible, stop flow of product.  
Move away from the container and 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.  
Special protective equipment for fire fighters 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

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	be safe.
	Ensure adequate air ventilation.
	Eliminate ignition sources.
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.
	Dust deposited may be vacuum cleaned or the area hosed down with water.

## 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).
	Segregate from oxidant gases and other oxidants in store.
	Refer to supplier's container handling instructions.
	Keep container below 50°C in a well ventilated place.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value for country	UK: LTEL: 0.5ppm; STEL: 1ppm (EH40/2002)
Personal protection	Ensure adequate ventilation.
	Do not smoke while handling product.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	32
Melting point	-186 °C
Boiling point	-111 °C
Critical temperature	-3.5 °C
Relative density, gas	1.1 (air=1)
Relative density, liquid	Not applicable.
Vapour Pressure 20°C	Not applicable.
Solubility mg/l water	Not known, but considered to have low solubility.
Appearance/Colour	Colourless gas
Odour	Earthy.
Flammability range	Pyrophoric.
Other data	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

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## 10 STABILITY AND REACTIVITY

Stability and reactivity

Can form explosive mixture with air.

May react violently with oxidants.

Can ignite spontaneously in air (fire cannot be put out). Can form an explosive mixture in air.

## 11 TOXICOLOGICAL INFORMATION

General

May cause nausea and irritation of the respiratory tract. Hydrolysis of silanes in the body forms silicic acid or hydrated silica.

## 12 ECOLOGICAL INFORMATION

General

No known ecological damage caused by this product.

## 13 DISPOSAL CONSIDERATIONS

General

Do not discharge into areas where there is a risk of forming an explosive mixture with air.

Waste gas should be flared through a suitable burner with flash back arrestor.

Gases formed by combustion should be washed with water to remove silica.

Do not discharge into any place where its accumulation could be dangerous.

Contact supplier if guidance is required.

## 14 TRANSPORT INFORMATION

Proper shipping name

SILANE

UN Nr

2203

Class

2.1

ADR/RID Classification code

2F

ADR/RID Hazard Nr

23

Packing group

None

Labelling ADR

Label 2.1: flammable gas

IMDG EmS codes

F-D, S-U

IMDG Marine pollutant

No

IATA passenger packing instruction

Forbidden

IATA passenger max. quantity/pack

Forbidden

IATA cargo packing instruction

Forbidden

IATA cargo max. quantity/pack

Forbidden

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 and:

- cylinder valve is closed and not leaking

- valve outlet cap nut or plug (where provided) is correctly fitted

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- valve protection device (where provided) is correctly fitted
- there is adequate ventilation.
- compliance with applicable regulations.

## 15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548	Not included in Annex I.
EC Classification	F+;R12,R17
-Symbols	F+: Extremely flammable
Labelling of cylinders	
-Symbols	Label 2.1: flammable gas
-Risk phrases	R12 Extremely flammable. R17 Spontaneously flammable in air.
-Safety phrases	S9 Keep container in well ventilated place. S16 Keep away from ignition sources - No smoking. S33 Take precautionary measures against static discharges.

## 16 OTHER INFORMATION

Ensure all national/local regulations are observed.

Ensure operators understand the flammability hazard.

Users of breathing apparatus must be trained.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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

**End of document.**

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