

SAFETY DATA SHEET

095

Product Name **SILANE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier name BOC LIMITED (AUSTRALIA)
Address 10 Julius Avenue, North Ryde, NSW, 2113, AUSTRALIA
Telephone 131 262, (02) 8874 4400
Fax 132 427 (24 hours)
Emergency 1800 653 572 (24/7) (Australia only)
Web site <http://www.boc.com.au/>
Synonym(s) 095 - MSDS NUMBER • PRODUCT CODES: 235, 229 • SILICON TETRAHYDRIDE
Use(s) CHEMICAL VAPOUR DEPOSITION • SEMICONDUCTOR MANUFACTURE
SDS date 15 March 2013

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

R12 Extremely Flammable.
R20 Harmful by inhalation.

SAFETY PHRASES

S9 Keep container in a well ventilated place.
S16 Keep away from sources of ignition - No smoking.
S33 Take precautionary measures against static discharges.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN number 2203 **DG division** 2.1
Packing group None Allocated **Subsidiary risk(s)** None Allocated
Hazchem code 2SE

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content
SILANE	CAS: 7803-62-5 EC: 232-263-4	Not Available	>99.9%

4. FIRST AID MEASURES

Eye Hold eyelids apart and flush the eye continuously with water. Continue for at least 15 minutes
Inhalation Remove from exposure area immediately. If assisting a victim, avoid becoming a casualty by wearing an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. If victim is not breathing apply artificial
Skin In the event of skin contact, the affected area should be washed with tap water for 15 minutes. If irritation persists, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.
Ingestion Ingestion is not considered a potential route of exposure.

Product Name **SILANE**

PPE

Eye / Face Wear safety glasses.
Hands Wear leather gloves.
Body Wear safety boots.
Respiratory Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS
Odour	REPULSIVE ODOUR
Flammability	HIGHLY FLAMMABLE
Flash point	NOT APPLICABLE
Boiling point	-111.5°C
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	NOT AVAILABLE
Vapour pressure	NOT APPLICABLE
Upper explosion limit	96.0 %
Lower explosion limit	1.37 %
Autoignition temperature	-50°C
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
Critical pressure	4834 kPa
% Volatiles	100 %
Critical temperature	-3.4°C

10. STABILITY AND REACTIVITY

Chemical stability	Stable under recommended conditions of storage.
Conditions to avoid	Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.
Material to avoid	Will spontaneously ignite in contact with air. Incompatible with oxidising agents, acids, heat and ignition sources. Do not use natural rubber flexible hoses. Also incompatible (potentially violently) with oxygen, halogens and metal halides.
Hazardous Decomposition Products	This material will not decompose to form hazardous products other than that already present.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Asphyxiant gas - irritant. Considered toxic although little is known of the effects due to its spontaneous flammability in air. Acute exposure may result in hydrolysis of silane in the body tissues would form silicic acid or hydrated silica. Ensure safe work practices to avoid exposure.
Eye	Irritant vapour. Injury to eyes may occur if wearing contact lenses.
Inhalation	Irritating vapour. Over exposure may result in headache, nausea and irritation of the respiratory tract.
Skin	Irritant. Contact may result in irritation.
Ingestion	Ingestion is considered unlikely due to product form.
Toxicity data	SILANE (7803-62-5) LC50 (inhalation) 9600 ppm/4 hours (rat)

Product Name **SILANE**

SILANE (7803-62-5)
LCLo (inhalation)

9600 ppm/4 hours (mouse)

12. ECOLOGICAL INFORMATION

Toxicity No information provided.
Persistence and degradability No information provided.
Bioaccumulative potential No information provided.
Mobility in soil No information provided.
Other adverse effects No information provided.

13. DISPOSAL CONSIDERATIONS

Waste disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.
Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN number	2203	-	-
Proper shipping name	SILANE, COMPRESSED	-	-
DG class/ Division	2.1	-	-
Subsidiary risk(s)	None Allocated	-	-
Packing group	None Allocated	-	-
GTEPG	2B2		
Hazchem code	2SE		
Other information	Ensure cylinder is separated from driver and foodstuffs.		

15. REGULATORY INFORMATION

Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)
Inventory Listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.

Application method: Gas regulator of suitable pressure and flow rating fitted to cylinder valve with low pressure distribution to specialised equipment.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
TLV	Threshold Limit Value
TWA/OEL	Time Weighted Average or Occupational Exposure Limit

Revision history

Revision	Description
2.1	Standard SDS Review.
2.0	Standard SDS Review.
1.0	Initial SDS creation

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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End of SDS