

SAFETY DATA SHEET

Product Name **RECLAIMED SULPHUR HEXAFLUORIDE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name BOC LIMITED (AUSTRALIA)
Address 10 Julius Avenue, North Ryde, NSW, AUSTRALIA, 2113
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) PRODUCT CODE: 266 • RECLAIMED SF6 • RECLAIMED SULPHUR HEXAFLUORIDE • RECOVERED SULFUR HEXAFLUORIDE (FORMERLY) • USED SULFUR HEXAFLUORIDE FROM ELECTRICAL INSTALLATIONS
Use(s) GAS
SDS Date 03 Sep 2010

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.

SAFETY PHRASES

S7/9 Keep container tightly closed and in a well ventilated place.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37 Wear suitable protective clothing and gloves.
S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

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

UN No. 3308 **DG Class** 2.3 **Subsidiary Risk(s)** 8
Packing Group None Allocated **Hazchem Code** 2XE

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
SULPHUR HEXAFLUORIDE	F6-S	2551-62-4	>95%
HYDROFLUORIC ACID	HF	7664-39-3	<3%
THIONYL DIFLUORIDE	F2-O-S	7783-42-8	<2%

4. FIRST AID MEASURES

Eye	Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. Apply artificial respiration if not breathing. Give oxygen if available. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.
Skin	Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.
Ingestion	Due to product form and application, ingestion is considered unlikely.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable. May evolve sodium fluoride, hydrogen fluoride and sulphur dioxide when heated to decomposition.
Fire and Explosion	Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot.
Extinguishing	Use water fog to cool containers from protected area.
Hazchem Code	2XE

6. ACCIDENTAL RELEASE MEASURES

Spillage	Release of liquid to atmosphere will generate vapour fog clouds which can travel considerable distances and affect visibility. These clouds should be treated as asphyxiating atmospheres as the evaporated liquid will have displaced air. Refer to vessel operating instructions. In an emergency allow liquid and gas to escape to atmosphere. Monitor oxygen concentration in confined spaces. Contact manufacturer for guidance. Leak checking may be done by pressure drop test or soapy water at joints and outlets. Shut liquid and gas supply valves to stop leak if possible and safe to do so.
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7. STORAGE AND HANDLING

Storage	Tanks should be located to minimize risk to personnel and property and should be protected from damage (from vehicles or work processes). Tanks are best located outdoors. A hard stand of non-porous concrete (NOT bitumen or pebbles) should be provided for the pipework, and must be kept clean and oil-free.
Handling	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds

Ingredient	Reference	TWA		STEL	
Hydrofluoric Acid	SWA (AUS)	3 ppm	2.6 mg/m ³	--	--
Sulphur hexafluoride	SWA (AUS)	1000 ppm	5970 mg/m ³	--	--
Fluorides, as F	SWA (AUS)	--	2.5 mg/m ³	--	--

Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE Wear splash-proof goggles and rubber or neoprene or PVC gloves. Where an inhalation risk exists, wear: self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS LIQUEFIED GAS	Solubility (water)	SLIGHTLY SOLUBLE
Odour	PUNGENT ODOUR	Specific Gravity	NOT APPLICABLE
pH	NOT APPLICABLE	% Volatiles	100 %
Vapour Pressure	21.4 bar @ 20°C	Flammability	NON FLAMMABLE
Vapour Density	5.1 (Air = 1)	Flash Point	NOT RELEVANT
Boiling Point	-63.8°C	Upper Explosion Limit	NOT RELEVANT
Melting Point	-50.8°C	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT APPLICABLE		

10. STABILITY AND REACTIVITY

Material to Avoid	Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), heat and ignition sources. Do not use natural rubber flexible hoses. Also incompatible (potentially violently) with oxygen, halogens and metal halides.
Hazardous Decomposition Products	May evolve sodium fluoride, hydrogen fluoride and sulphur dioxide when heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Toxic gas - corrosive. Direct contact with eyes or skin may result in severe tissue damage. Over exposure may result in asphyxiation and dizziness. Use safe work practices to avoid vapour generation - inhalation. Symptoms of exposure are directly related to displacement of oxygen. Symptoms of asphyxiation may not be detected by exposed individuals, which can prove fatal.
Eye	Corrosive - irritant. Contact with liquid may result in corneal burns and severe frost-bite with possible permanent damage.
Inhalation	Irritant gas - asphyxiant. Effects are proportional to oxygen displacement with symptoms of air hunger, rapid breathing, elevated heart rate, drowsiness and loss of mental alertness. High level exposure may result in incoordination, vomiting, mental instability, lung damage, convulsions, coma and death.
Skin	Corrosive. Direct contact with the liquefied material or escaping compressed gas may cause frost-bite injury.
Ingestion	Ingestion is considered unlikely due to product form.
Toxicity Data	SULPHUR HEXAFLUORIDE (2551-62-4) LD50 (Intravenous): 5790 mg/kg (rabbit) HYDROFLUORIC ACID (7664-39-3) LC50 (Inhalation): 342 ppm/1 hour (mouse) LCLo (Inhalation): 50 ppm/30 minutes (human) LDLo (Intraperitoneal): 25 mg/m3 (rat) LDLo (Skin): 500 mg/kg (mouse) LDLo (Subcutaneous): 112 mg/m3 (frog) TCLo (Inhalation): 100 mg/m3/1 minute (man -eye, lung) TDLo (Ingestion): 143 mg/kg (rat) THIONYL DIFLUORIDE (7783-42-8) LCLo (Inhalation): 260 ppm/1hour (mouse)

12. ECOLOGICAL INFORMATION

Environment	Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.
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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**

Shipping Name	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.				
UN No.	3308	DG Class	2.3	Subsidiary Risk(s)	8
Packing Group	None Allocated	Hazchem Code	2XE	GTEPG	2C2

15. REGULATORY INFORMATION

Poison Schedule	Classified as a Schedule 7 (S7) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

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.
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ASPHYXIANTS (1): When present in the atmospheres in high concentrations, asphyxiants reduce the oxygen concentration by displacement. Atmospheres deficient in oxygen do not provide adequate sensory warning of danger and most simple asphyxiants are odourless. Therefore it is not appropriate to recommend an exposure standard for each asphyxiant, but to maintain oxygen concentrations. However, some asphyxiants may be given an exposure standard due to the potential for narcotic effects at high concentrations or an explosion hazard.

ASPHYXIANTS (2): There is a significant hazard associated with workers entering poorly ventilated areas (eg. tanks) where oxygen may be deficient. An air supplied breathing apparatus may be required if adequate ventilation is not ensured.

ABBREVIATIONS:

ACGIH - American Conference of Industrial Hygienists.

ADG - Australian Dangerous Goods.

BEI - Biological Exposure Indice(s).

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EC No - European Community Number.

HSNO - Hazardous Substances and New Organisms.

IARC - International Agency for Research on Cancer.

mg/m3 - Milligrams per Cubic Metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

STEL - Short Term Exposure Limit.

SWA - Safe Work Australia.

TWA - Time Weighted Average.

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 Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert 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.

Report Status	This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the
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Product Name**RECLAIMED SULPHUR HEXAFLUORIDE**

manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer 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.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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End of Report