BOC
A Member of The Linde Group

SAFETY DATA SHEET

 # 2254

Product Name **<10% FLUORINE IN NEON**

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)	2-COMPONENT SPECIAL GAS MIXTURE • 2254 - MSDS NUMBER
Use(s)	CALIBRATION • INDUSTRIAL APPLICATIONS
SDS date	09 April 2013

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

R26	Very toxic by inhalation.
R35	Causes severe burns.

SAFETY PHRASES

S23	Do not breathe gas/fumes/vapour/spray (where applicable).
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

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

UN number	1955	**DG division**	2.3
Packing group	None Allocated	**Subsidiary risk(s)**	None Allocated
Hazchem code	2RE		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content
FLUORINE	CAS: 7782-41-4 EC: 231-954-8	T+;R26 C;R35 O;R8	<10%
NEON	CAS: 7440-01-9 EC: 231-110-9	Not Available	Remainder

4. FIRST AID MEASURES

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if breathing is difficult. Seek immediate medical attention. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running

water.

Ingestion Ingestion is not considered a potential route of exposure.

Advice to doctor If inhalation has occurred observe for premonitary signs of pulmonary oedema. Otherwise, treatment is symptomatic and supportive.

5. FIRE FIGHTING MEASURES

Flammability Non flammable.

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. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot.

Extinguishing Use water fog to cool containers from protected area.

Hazchem code 2RE

2	Water Fog (or fine water spray if fog unavailable)
R	Full protective equipment including Self Contained Breathing apparatus.
E	Evacuation of people in the vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment as detailed in Section 8 of this SDS.

Environmental precautions Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Methods of cleaning up Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.

References See Sections 8 and 13 for exposure controls and disposal.

7. STORAGE AND HANDLING

Storage Do not store near incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.

Handling Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Fluorine	SWA (AUS)	1	1.6	2	3.1
Neon	SWA (AUS)	Asphyxiant			

Biological limits No biological limit allocated.

Engineering controls Maintain vapour levels below the recommended exposure standard. Use with adequate ventilation. In poorly ventilated areas, mechanical extraction ventilation is recommended.

PPE

Eye / Face	Wear safety glasses.
Hands	Wear rubber gloves.
Body	Wear safety boots.
Respiratory	Wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS
Odour	SHARP PENETRATING ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT APPLICABLE
Melting point	NOT APPLICABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	NOT APPLICABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	INSOLUBLE (Fluorine is SOLUBLE)
Vapour pressure	NOT APPLICABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
% Volatiles	100 %

10. STABILITY AND REACTIVITY

Chemical stability	Stable under recommended conditions of storage.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to avoid	Incompatible with oxidising agents (eg. hypochlorites) and acids (eg. nitric acid). Fluorine will form hydrofluoric acid on contact with water.
Hazardous Decomposition Products	May evolve toxic gases if heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Highly corrosive - toxic. Use safe work practices to avoid eye or skin contact and inhalation. Contact with eyes or skin may result in severe tissue damage. Over exposure may result in asphyxiation and dizziness. 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	Highly corrosive. Contact may result in irritation, lacrimation, pain, redness and corneal burns with possible permanent damage.
Inhalation	Corrosive - toxic. Over exposure may result in burns to the respiratory tract, convulsions and loss of consciousness.
Skin	Corrosive. Contact may result in burns.
Ingestion	Ingestion is considered unlikely due to product form.
Toxicity data	FLUORINE (7782-41-4) LC50 (inhalation) 150 ppm/1hr (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 Return to manufacturer for recycling/ reuse. Contact Waste Disposal Authorities in your state for further details and required approvals.

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	1955	-	-
Proper shipping name	COMPRESSED GAS, TOXIC, N.O.S.	-	-
DG class/ Division	2.3	-	-
Subsidiary risk(s)	None Allocated	-	-
Packing group	None Allocated	-	-

Hazchem code 2RE

Other information Ensure cylinder is separated from driver and foodstuffs. Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.

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 withdrawal: regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment. APPLICATION METHOD: Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to 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
2.0	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.

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 SDS