AFROX
A Member of The Linde Group

SAFETY DATA SHEET (SDS)
Lasermix 321
Please ensure that this SDS is received by the appropriate persons

Review Date: 2 August 2022 v01 **Emergency: 0860 02 02 02** **Document Number: AFX-SDS-0135**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Synonym	Lasermix 321 Lasermix 321
Chemical Formula	CO_2,N_2,He
Trade Name	Lasermix 321
Colour Coding	Middle Brown body with Protea Pienk shoulder and Lime green valve guard
Product Code	521140-SE-A
Company Identification	African Oxygen Limited Grayston Office Park Building 7 128 Peter Road Sandown, Sandton, 2196 Tel. No: (011) 490-0400 Fax No: (011) 490-0530 Email: customer.service@afrox.linde.com www.afrox.com
Emergency Numbers	**0860 02 02 02 (Afrox)**

2. HAZARD IDENTIFICATION

Classification	- Classification under South African Hazardous Chemical Substances Regulations subsequently amended. (HCS) - Classification under the Globally Harmonized System of classification and labelling of chemicals (GHS)
Emergency Overview	Colour: None Odour: None Taste: None Physical State: Compressed Gas Form: Gas under pressure
	- All cylinders are portable gas containers and must be regarded as pressure vessels at all times. - Lasermix 321 does not support life.
Adverse Health Effects	- Asphyxiant in high concentrations.
Chemical Hazards	- None.
Biological Hazards	- None
Vapour Inhalation	- Asphyxiant in high concentrations
GHS Classification	- Gas under pressure
GHS Pictogram	
GHS Signal Words	Warning
GHS Hazard Statements	- H280: Contains gas under pressure, may explode if heated
GHS Precautionary Statements	**Storage:** - P403 : Store in a well-ventilated place. **Prevention:** - P280 : Wear protective gloves/eye protection/face protection. **Response:** - None **Disposal** - None
Other Hazards that do not result in classification	- S2 Keep out of reach of Children - S9 Keep container in a well-ventilated place - S15 Keep away from heat - S37 Wear suitable gloves - S39 Wear eye/face protection - S51 Use only in well-ventilated areas

3. COMPOSITION OF INGREDIENTS

Chemical name Chemical family	**Helium**
CAS No	7440-59-7
UN No	1046
ERG No	121
Hazard class	2.2
Hazchem Warning	2C Non-flammable gas
Chemical name Chemical family	**Carbon Dioxide**
CAS No	124-38-9
UN No	1013
ERG No	121
Hazard class	2.2
Hazard warning	2C Non-flammable gas
Chemical name Chemical family	**Nitrogen**
CAS No	7727-37-9
UN No	1066
ERG No	121
Hazard Class	2.2
Hazard Warning	2C Non-flammable gas

4. FIRST AID MEASURES

Eye contact	- Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.
Skin Contact	- Seek medical evaluation and treatment as soon as possible.
Ingestion	- Ingestion is not considered a potential route of exposure.
Inhalation	- In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. - Remove victim to uncontaminated area wearing self-contained breathing apparatus.

	- Keep victim warm and rested. Seek medical attention. Apply artificial respiration if breathing stopped. - Low concentrations of Lasermix 321 will not cause irritation .

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	- Material will not burn. In case of fire in the surroundings: use appropriate extinguishing agent.
Unsuitable extinguishing media:	- None
Specific Hazards	- Asphyxiant
Special fire fighting procedures:	- In case of fire: Stop leak if safe to do so. Continue water spray from protected position until container stays cool. Use extinguishants to contain the fire.
Special protective equipment for firefighters:	- Exposed Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces a self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	- Evacuate area. - Provide adequate ventilation. - Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. - In an enclosed or non-ventilated space, a self-contained breathing apparatus must be used
Environmental Precautions	- Prevent further leakage or spillage if safe to do so
Methods and material for containment and cleaning up:	- Provide adequate ventilatio

7. HANDLING AND STORAGE

Safe Handling	- Only experienced and properly instructed persons should handle gases under pressure. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Refer to supplier's handling instructions. The substance must be handled in accordance with good industrial hygiene and safety procedures. Protect containers from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the container contents. When moving containers, even for short distances, use appropriate equipment eg. trolley, hand truck, fork truck etc. Secure cylinders in an upright position at all times, close all valves when not in use. Provide adequate ventilation. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Observe all regulations and local requirements regarding storage of containers. When using do not eat, drink or smoke. Store in accordance with local/regional/national/international regulations. Never use direct flame or electrical heating devices to raise the pressure of a container. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Damaged valves should be reported immediately to the supplier Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Replace valve outlet caps or plugs and container caps were supplied as soon as container is disconnected from equipment. Keep container valve outlets clean and free from contaminants particularly oil and water. If user experiences any difficulty operating container valve discontinue use and contact supplier. Never attempt to transfer gases from one container to another. Container valve guards or caps should be in place.
Conditions for safe storage, including any incompatibilities	- Containers should not be stored in conditions likely to encourage corrosion. Keep away from food, drink and animal feeding stuffs. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep pressure containers away from combustible material.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Hazards (HCS)	- Not specified
Engineering Control Measures	- Engineering control measures are preferred to reduce exposures. General methods include mechanical ventilation, process or personal enclosure, and control of process conditions. Administrative controls and personal protective equipment may also be required. **A Risk assessment should be conducted to evaluate the suitability of PPE to the task being performed**

Personal Protection	- When allowed by a risk assessment Respiratory Protective Equipment (RPE) may be used. The selection of the Respiratory Protective Device (RPD) must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected RPD. Self-contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres
Eyes	- Wear safety glasses
Hands	- Guideline: Protective gloves against mechanical risks. - Additional Information: Wear working gloves while handling containers
Body protection:	- As per regulation for area
Feet	- Wear safety shoes while handling containers

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	**Lasermix 321**
Chemical Symbol	CO_2,N_2,He
Physical state	Gas
Form:	Gas
Colour:	Colourless
Odour:	Odourless
Odour Threshold:	No odour
pH:	No effect in water
Melting Point:	Not applicable
Boiling Point:	Not applicable
Sublimation Point:	Not applicable
Critical Temp. (°C):	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not applicable
Flammability (gas):	Non-Flammable
Flammability limit - upper (%):	Not applicable
Flammability limit - lower(%):	Not applicable
Vapour pressure:	Permanent gas
Vapour density	0.524 @ 20°C
Relative density:	0.436 @ 20 °C
Solubility(ies)	
Solubility in Water:	Not Known
Partition coefficient (n-octanol/water):	Not known
Autoignition Temperature:	Not applicable.
Decomposition Temperature:	Not known.
Viscosity	
Kinematic viscosity:	No data available.
Dynamic viscosity:	Not applicable
Explosive properties:	Not applicable
Oxidising Properties:	Not applicable
Molecular weight	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	- Not reactive
Chemical stability	- Stable under normal conditions.
Possibility of hazardous reactions	- Gas under high pressure.
Conditions to avoid	- Overheating of cylinders. Never use cylinders as rollers or supports; or for any other purpose than the storage of Lasermix 321
Incompatible Materials	None
Hazardous Decomposition of Products	Will not decompose

11. TOXOLOGICAL INFORMATION

Acute Toxicity	Non toxic
Skin & eye contact	No adverse effect
Chronic Toxicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Mutagenicity	Based on available data, the classification criteria are not met.
Reproductive Hazards	Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Toxicity	No ecological damage caused by this product.
Persistence and degradability	Not applicable
Bioaccumulative Potential Product	No bio-accumulating hazard.
Mobility in soil	No hazard
Results of PBT and vPvB assessment	Not classified as persistent, bio-accumulating and toxic (PBT).
Other adverse effects	No ecological damage caused by this product.
Effect on ozone layer	None
Effect on the global warming (CO2=1)	0

13. DISPOSAL CONSIDERATIONS

Disposal Methods	- Do not discharge into any place where its accumulation could be dangerous. Vent to atmosphere in a well-ventilated place. .
Disposal of Packaging	- The container is the property of the supplier and the disposal of the containers must only be handled by the supplier.

14. TRANSPORT INFORMATION

Road Transportation

UN No.	1956
Shipping Name	Lasermix 321
ERG No.	121

Class	2.2
Subsidiary Risk	Non- flammable,non toxic gases
Hazchem Warning	2C Non-flammable
Sea Transportation	
IMDG	1956
Shipping Name	Lasermix 321
ERG No.	121
Class	2.2
Subsidiary Risk	Non- flammable
Label	Non-flammable
Air Transportation	
ICAO/IATA Code	1956
Class	2.2
Packing Group:	-
Packaging instructions	- Cargo: 150 kg - Passenger: 75 kg

15. REGULATORY INFORMATION

EEC Hazard class: non-Toxic, non-Corrosive gas.
National legislation OHSact and Regulations 85 of 1993.

SANS 11014:2010 Edition 1	Safety data sheet for chemical products - Content and order of sections
SANS 10228:2012 Edition 6	The identification and classification of dangerous goods for transport by road and rail modes
SANS 10234:2019 Edition 2	Globally Harmonized System of classification and labelling of chemicals (GHS)
SUPPLEMENT TO SANS 10234 Edition 1	List of classification and labelling of chemicals in accordance with the Globally Harmonized System (GHS)

16. OTHER INFORMATION

- Ensure all national/local regulations are observed.
- Ensure users and relevant persons understand the asphyxiation hazard
- Regularly check supplier's information sources for updated versions of SDS's

Revision Date	5/8/2022 v01

Bibliography

Compressed Gas Association, Arlington, Virginia
Handbook of Compressed Gases - 3rd Edition
Matheson Gas Data Book - 6th Edition
SANS 11014 - Safety data sheet for chemical products: Content and order of sections
SANS 10234 - List of classification and labelling of chemicals in accordance with the Globally Harmonized System (GHS)
SANS 10265 – Classification and Labelling of Dangerous Substances

EXCLUSION OF LIABILITY