

**SAFETY DATA SHEET (SDS)**


**AfroxPac 35i Self-Contained Self-Rescuer**

Please ensure that this SDS is received by the appropriate persons

Review Date: 05/04/2023 v01

Emergency: 0860 02 02 02

Document Number: AFX-SDS-0108

1. PRODUCT AND COMPANY IDENTIFICATION		Biological Hazards	Not known
<b>Product Synonym</b>	AfroxPac35i Self-Contained Self-Rescuer (SCSR)	<b>Dust Inhalation</b>	Chemical Burns from direct exposure to chemical granules
<b>Chemical Formula</b>	LiOH + KO <sup>2</sup>	<b>GHS Classification</b>	Oxidising solid
<b>Trade Name</b>	AfroxPac 35i Self-Contained Self-Rescuer	<b>GHS Pictogram</b>	
<b>Colour Coding Product: Package:</b>	Metallic grey/silver White and black	<b>GHS Signal Words</b>	Danger
<b>Product Code</b>	W022060 W022065	<b>GHS Hazard Statements</b>	H271 May cause fire or explosion, strong oxidiser. H314 Causes severe skin burns and eye damage H318 Causes serious eye damage
<b>Company Identification</b>	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: <a href="mailto:customer.service@afrox.linde.com">customer.service@afrox.linde.com</a> <a href="http://www.afrox.com">www.afrox.com</a>	<b>GHS Precautionary Statements</b>	<b>Storage:</b> P403 : Store in a dry place 405 Store locked up. <b>Prevention:</b> <b>P210 :</b> Keep away from heat <b>P220:</b> Keep/Store away from combustible materials <b>P221:</b> Take any precaution to avoid mixing with combustibles <b>P280 :</b> Wear protective gloves/eye protection/face protection <b>P283:</b> Wear fire/flame resistant/retardant clothing. <b>Response:</b> <b>P303 + P306 + P360 + P361 + P353 IF ON SKIN or CLOTHING:</b> Rinse immediately contaminated clothing and skin with plenty of water before removing Clothes  <b>P304 + P340 IF INHALED:</b> Remove person to fresh air and keep comfortable for breathing  <b>P305 + P351 + P338 IF IN EYES:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  <b>P310</b> Immediately call a doctor for emergency medical advice  <b>P301 + P330 + P331 IF SWALLOWED:</b> Rinse mouth. Do NOT induce vomiting  <b>P371 + P380 + P375</b> In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.  <b>P370 + P378</b> In case of fire: Use dry power or CO <sub>2</sub> to extinguish, DO NOT USE WATER
<b>Emergency Numbers</b>	<b>0860 02 02 02 (Afrox)</b>		
2. HAZARD IDENTIFICATION			
<b>Classification</b>	The hazardous chemicals are safely contained in the device, which has been designed to withstand harsh underground mining conditions. If the protective container is opened small amounts of oxygen will be released as the chemical reacts to the moisture in the air – this process is very slow if not accelerated by actually donning the unit and breathing through it.		
<b>Emergency Overview</b>	Colour: Yellow Odour: None Taste: None Physical State: Solid Form: Granules		
<b>Adverse Health Effects</b>	There are no recognized hazards associated directly with unused Afroxpac 35i SCSR. If the SCSR is damaged in such a way that the chemical canister ruptures exposing and/or spilling chemicals, adverse health effects are as for the chemicals themselves.  Can cause: Skin Irritation Serious Eye Damage / Eye Irritation		
<b>Chemical Hazards</b>	Potassium superoxide is a strong oxidiser (Rating 5.1) and lithium hydroxide is a corrosive solid (Rating 8). When reacted with water, potassium superoxide produces potassium hydroxide as a by-product. Potassium hydroxide is a highly alkaline substance and must be dealt with accordingly.		

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	<b>Disposal</b> P501: Dispose of contents/container in accordance with local/regional/national regulations
<b>Other Hazards that do not result in classification</b>	S37 Wear suitable gloves S39 Wear eye/face protection

**3. COMPOSITION %**

Hazardous Ingredients	wt% of chemicals only	wt% of total device	UN No.	CAS No.
<b>SCSR CHEMICALS</b>				
Potassium Superoxide	83.3	14.0	2466	12030-88-5
Lithium Hydroxide	16.7	2.8	2680	7440-47-3
<b>GAS GENERATED</b>				
Oxygen	-		1072	7782-44-7

**4. FIRST AID MEASURES**

<b>Eye contact</b>	Contact with potassium superoxide and lithium hydroxide may cause irritation, inflammation or severe burns.
<b>Skin Contact</b>	- Seek medical evaluation and treatment as soon as possible.
<b>Ingestion</b>	Ingestion of potassium superoxide and lithium hydroxide can lead to irritation and chemical burns of the gastrointestinal tract.
<b>Inhalation</b>	Inhalation of potassium superoxide can cause chemical burns to the respiratory tract. Inhalation of lithium hydroxide can cause severe irritation of the tissues of the respiratory tract

**5. FIRE-FIGHTING MEASURES**

<b>Suitable extinguishing media</b>	- Use a dry powder or CO2 fire extinguisher
<b>Unsuitable extinguishing media:</b>	- Do not use water on large quantities of chemical
<b>Specific Hazards</b>	- Fumes may be hazardous for lungs.
<b>Special fire fighting procedures:</b>	No special procedures or precautions. If there is a fire in the vicinity of units it is preferable to extinguish and cool asap  SCSR that are on fire may release a lot of smoke
<b>Special protective equipment for firefighters:</b>	- 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**

<b>Personal precautions, protective equipment and emergency procedures:</b>	- Do not enter any area where the chemical contents of the Afoxpac 35i SCSR have been spilled unless safe to do so.
<b>Environmental Precautions</b>	Spent chemicals highly alkaline and should be disposed with care.
<b>Methods and material for containment and cleaning up:</b>	Contain the Afoxpac 35i SCSR apparatus and any material in a clean and dry container (a steel bin is recommended) and cover. Provided there is no fire, wash down spillage area with large amounts of water whilst ensuring good ventilation to dissipate any excess oxygen

**7. HANDLING AND STORAGE**

<b>Safe Handling</b>	Afoxpac 35i SCSR can be handled without any special personal protective equipment..
<b>Conditions for safe storage, including any incompatibilities</b>	Storage of the device should be in a clean and dry environment away from direct heat and sunlight. The preferred temperature range is -10 to 55 °C.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

<b>Occupational Exposure Hazards (HCS)</b>	-Occupational Exposure Hazards -Keep containers closed. In the event of accidental opening, seal the contents of the device in a durable polyethylene bag. -Engineering Control Measures applicable. -Personal Protection -Use an approved hazardous dust respirator, safety goggles, rubber gloves and overalls in the event of exposure of the chemicals contained in the Afoxpac SCSR.
<b>Engineering Control Measures</b>	- Engineering Control Measures are not applicable.
<b>Personal Protection</b>	Use an approved hazardous dust respirator, safety goggles, rubber gloves and overalls in the event of exposure of the chemicals contained in the Afoxpac 35i SCSR.
<b>Eyes</b>	Safety glasses
<b>Hands</b>	Gloves
<b>Body protection</b>	Overall, as per work regulation
<b>Feet</b>	As per work regulation.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Chemical Name</b>	<b>Potassium superoxide</b>
<b>Chemical Symbol</b>	KO2 + LiOH
<b>Physical state</b>	Solid

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<b>Form:</b>	Granules
<b>Colour:</b>	Generally yellow
<b>Odour:</b>	Odourless
<b>Odour Threshold:</b>	Not applicable
<b>pH:</b>	Not available
<b>Melting Point:</b>	560 °C
<b>Boiling Point:</b>	Not applicable
<b>Sublimation Point:</b>	Not applicable
<b>Critical Temp. (°C):</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not applicable
<b>Flammability ( gas):</b>	Not applicable
<b>Flammability limit - upper (%):</b>	Not applicable
<b>Flammability limit - lower(%):</b>	Not applicable
<b>Vapour pressure:</b>	Not applicable
<b>Vapour density</b>	Not applicable
<b>Density,solid:</b>	2.14 g/cm3
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	Hydrolysis
<b>Partition coefficient (n-octanol/water):</b>	Not available
<b>Autoignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not known.
<b>Viscosity</b>	
<b>Kinematic viscosity:</b>	No data available
<b>Dynamic viscosity:</b>	No data available
<b>Explosive properties:</b>	Not applicable
<b>Oxidising Properties:</b>	Strong oxidiser
<b>Molecular weight</b>	71.096 g·mol <sup>-1</sup>

<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive Hazards</b>	Based on available data, the classification criteria are not met.

### 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	Spent chemicals highly alkaline and should be disposed with care.
<b>Persistence and degradability</b>	Not applicable
<b>Bio-accumulative Potential Product</b>	Spent chemicals highly alkaline and should be disposed with care.
<b>Mobility in soil</b>	Not known
<b>Results of PBT and vPvB assessment</b>	Not classified as persistent, bio-accumulating and toxic (PBT).
<b>Other adverse effects</b>	Contains Potassium super oxide that will react with water to form oxygen and Potassium hydroxide
<b>Effect on ozone layer</b>	None
<b>Effect on the global warming (CO<sub>2</sub>=1)</b>	0

### 13. DISPOSAL CONSIDERATIONS

<b>Disposal Methods</b>	Return to supplier for disposal
<b>Disposal of Packaging</b>	Return to supplier for disposal

### 14. TRANSPORT INFORMATION

<b>Road Transportation</b>	
<b>UN No.</b>	3356
<b>Shipping Name</b>	Oxygen generator, chemical
<b>ERG No.</b>	140
<b>Class</b>	5.1
<b>Subsidiary Risk</b>	Strong oxidiser
<b>Hazchem Warning</b>	Oxidiser
<b>Sea Transportation</b>	
<b>IMDG</b>	3356
<b>Shipping Name</b>	UN 3356 Oxygen generator, chemical
<b>ERG No.</b>	140
<b>Class</b>	5.1
<b>Subsidiary Risk</b>	Strong oxidiser
<b>Label</b>	Oxidiser
<b>Air Transportation</b>	
<b>ICAO/IATA Code</b>	3356
<b>Class</b>	5.1
<b>Packing Group:</b>	n/a
<b>Packaging instructions</b>	- Cargo: 25 kg, under conditions - Passenger: Forbidden

### 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Not reactive
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Not known
<b>Conditions to avoid</b>	Do not submerge in water
<b>Incompatible Materials</b>	Water
<b>Hazardous Decomposition of Products</b>	There are no hazardous decomposition products from the oxygen generator; only oxygen which supports combustion is produced from the decomposition of the chemicals in the generator. When reacted with water, potassium superoxide produces oxygen and potassium hydroxide as a by-product. Potassium hydroxide is a highly alkaline substance and must be dealt with accordingly

### 11. TOXOLOGICAL INFORMATION

<b>Acute Toxicity</b>	Based on available data, the classification criteria are not met.
<b>Skin &amp; eye contact</b>	Based on available data, the classification criteria are not met.
<b>Chronic Toxicity</b>	Based on available data, the classification criteria are not met.

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<b>15. REGULATORY INFORMATION</b>	
<b>SANS 11014:2010 Edition 1</b>	Safety data sheet for chemical products - Content and order of sections
<b>SANS 10228:2012 Edition 6</b>	The identification and classification of dangerous goods for transport by road and rail modes
<b>SANS 10234:2019 Edition 2</b>	Globally Harmonized System of classification and labelling of chemicals (GHS)

<b>16. OTHER INFORMATION</b>	
<ul style="list-style-type: none"> <li>- Ensure all national/local regulations are observed.</li> <li>- Ensure users and relevant persons understand the asphyxiation hazard</li> <li>- Regularly check supplier's information sources for updated versions of SDS's</li> </ul>	
<b>Revision Date</b>	05/04/2023 v01
<b>Bibliography</b>	
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	
<b>EXCLUSION OF LIABILITY</b>	
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