

## SAFETY DATA SHEET (SDS)

### Ardrox HF-D/9D1B

**Please ensure that this SDS is received by the appropriate persons**

Review Date: 28/09/2023 v01



Emergency: 0860 02 02 02

Document Number: AFX-SDS-0074

#### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product Synonym</b>	Afrox ARDROX HF-D/9D1B NDT Developer
<b>Chemical Formula</b>	A blend of acetone and propanol
<b>Trade Name</b>	Afrox ARDROX HF-D/9D1B
<b>Package</b>	400 ml Can
<b>Product Code</b>	W033571
<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>Emergency Numbers</b>	<b>0860 02 02 02 (Afrox)</b>

#### 2. HAZARD IDENTIFICATION

<b>Classification</b>	Classification under South African Hazardous Chemical Substances Regulations subsequently amended. (HCS) Classification under the Globally Harmonized System of classification and labelling of chemicals (GHS)
<b>Emergency Overview</b>	Colour: None Odour: None Taste: None Physical State: Liquid
<b>Main Hazards</b>	Danger! Extremely flammable liquid and vapor. Vapor may cause flash fire
<b>Adverse Health Effects</b>	Harmful if swallowed or inhaled. Causes irritation to skin, eyes and respiratory tract. Affects central nervous system. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of impaired fertility.
<b>Chemical Hazards</b>	ARDROX HF-D/9D1B is Flammable
<b>Biological Hazards</b>	None
<b>Vapour Inhalation</b>	Toxic by inhalation. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention
<b>GHS Classification</b>	Extremely flammable aerosol Pressurized container: May burst if heated – Category 1
<b>GHS Pictogram</b>	 
<b>GHS Signal Words</b>	Danger
<b>GHS Hazard Statements</b>	H222: Extremely flammable aerosol

<b>GHS Precautionary Statements</b>	H229: Pressurized container: May burst if heated  <b>Prevention:</b> P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Manufacturer/supplier or the competent authority to specify applicable ignition source(s). P211: Do not spray on an open flame or other ignition source P251: Do not pierce or burn, even after use <b>Response:</b> None <b>Storage:</b> P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C <b>Disposal:</b> None
<b>Other Hazards that do not result in classification</b>	None

#### 3. COMPOSITION OF INGREDIENTS

<b>Chemical name</b>	<b>Dimethylketone</b>
<b>Chemical family</b>	<b>Acetone</b>
<b>CAS No</b>	67-64-1
<b>UN No</b>	1090
<b>ERG No</b>	127
<b>EC No.</b>	200-662-2
<b>Hazard class</b>	3
<b>Hazchem Warning</b>	F1 Extremely Flammable
<b>Chemical name</b>	<b>Propanol</b>
<b>Chemical family</b>	
<b>CAS No</b>	71-23-8
<b>UN No</b>	1274
<b>ERG No</b>	129
<b>Hazard class</b>	3
<b>EC No</b>	200-746-9
<b>Hazchem Warning</b>	F1 Extremely Flammable

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Check for and remove any contact lenses. Seek medical attention
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Get medical attention immediately
<b>Ingestion</b>	Have conscious person drink several glasses of water. DO NOT induce vomiting. Seek medical attention
<b>Inhalation</b>	Allow the victim to rest in a well-ventilated

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	area. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	SMALL FIRE: Use DRY chemical powder. Media LARGE FIRE: Use water spray, fog or foam.
<b>Unsuitable extinguishing media:</b>	- Do not use water jet.
<b>Specific Hazards</b>	- This ARDROX HF-D/9D1B fluid is extremely flammable. When handling the liquid, rubber gloves and eye protection should be worn. This product can accumulate static charges which can cause an incendiary electrical discharge if sprayed or pumped at high pressures or flow rates. AEROSOLS: In a fire, beware of exploding aerosols cans.
<b>Special fire fighting procedures:</b>	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. This product is flammable. Remove containers from the vicinity of the fire if safe to do so. Keep containers cool that cannot be removed.
<b>Special protective equipment for firefighters:</b>	Eye protection and protective gloves should be worn when handling the product for lengthy periods of time.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions.</b>	Eye protection and protective gloves should be worn when handling the product for lengthy periods of time. Splash goggles. Overalls. Vapour respirator. Boots. Gloves.
<b>Environmental Precautions</b>	FLAMMABLE. Be careful that the product precautions are not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. Warn personnel to move away. Prevent entry into sewers, basements or confined areas; dike if needed.
<b>Methods and material for containment and cleaning up:</b>	Absorb with DRY earth, sand or other non-combustible material and put the spilled material in a suitable waste disposal container for subsequent safe disposal. Do not use metal tools or equipment. Finish cleaning by spreading water on the contaminated surface and allow to evaporate. Vapour may cause explosive mixture with air.

#### 7. HANDLING AND STORAGE

<b>Safe Handling</b>	Store in a cool, dry, well-ventilated area, out of direct sunlight. Use a "First in-First-Out" inventory system to prevent full containers being stored for excessive periods of time. Keep out of reach of children.
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	Keep locked up. Keep away from heat. Keep away from source of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas / fumes / vapour / spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents.
<b>Conditions for safe storage, including any incompatibilities</b>	Exposure to excessive heat for prolonged periods. Ensure good stock rotation practices. Keep only in the original container in a cool, well-ventilated place away from sources of ignition, oxidizing materials and foodstuffs

#### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Occupational Exposure Hazards (HCS)</b>	Dimethylketone : OEL eight-hour TWA 500 OEL-STEL/C 1000 Propanol: OEL eight-hour TWA 200
<b>Engineering Control Measures</b>	Ventilation should be provided. Ensure that eye wash stations and safety showers are proximal to the work-station location. Local exhaust ventilation should be provided. Concentrations of vapours below their respective occupational exposure limits. Ensure that eye wash stations and safety showers are proximal to the work-station location.
<b>Personal Protection</b>	Eye protection and protective gloves should be worn when handling the product for lengthy periods of time Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using toilet, and at end of the day.
<b>Eyes</b>	Safety glasses
<b>Hands</b>	Protective gloves
<b>Body protection:</b>	Overalls
<b>Feet</b>	None

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Chemical Name</b>	Afrox ARDROX HF-D/9D1B
<b>Chemical Symbol</b>	C <sub>2</sub> H <sub>4</sub> O + C <sub>3</sub> H <sub>7</sub> OH
<b>Physical state</b>	Liquid
<b>Form:</b>	Liquid
<b>Colour:</b>	Clear liquid with white powder dispersion
<b>Odour:</b>	Acetone odour
<b>Odour Threshold:</b>	Weighted average: 86.5ppm
<b>pH:</b>	Neutral

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<b>Melting Point:</b>	-95.96°C
<b>Boiling Point:</b>	58.33°C
<b>Sublimation Point:</b>	No data
<b>Critical Temp. (°C):</b>	No data
<b>Flash Point:</b>	-20°C
<b>Evaporation Rate:</b>	1.3 (Propanol) compared to Butyl acetate. (butyl acetate=1)
<b>Flammability (solid, gas):</b>	Flammable liquid
<b>Flammability limit - upper (%):</b>	7.4%
<b>Flammability limit - lower(%):</b>	1.1%
<b>Vapour density:</b>	1.77g/l
<b>Liquid density</b>	0.84 - 0.87g/cm³
<b>Relative density water=1:</b>	0.84 - 0.87
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	Easily soluble in cold water, hot water, methanol, diethyl ether. Partially soluble in n-octanol
<b>Partition coefficient (n-octanol/water):</b>	No data
<b>Autoignition Temperature:</b>	400°C
<b>Decomposition Temperature:</b>	No data
<b>Viscosity</b>	
<b>Kinematic viscosity:</b>	2.25 cSt
<b>Dynamic viscosity:</b>	No data
<b>Explosive properties:</b>	Flammable liquid
<b>Oxidising Properties:</b>	Not applicable
<b>Molecular weight</b>	No data

	Acute toxicity of the vapour (LC50): 29853ppm 4 hours (Rat). (Dimethylketone)
<b>Skin &amp; eye contact</b>	Irritating to skin seek medical help immediately.
<b>Chronic Toxicity</b>	Repeated exposure to toxic material may produce general deterioration of health by an accumulation in human organs. Very hazardous in case of ingestion
<b>Carcinogenicity</b>	Classified None, by NIOSH. (Dimethylketone). Classified A4 (Not classifiable for human or animal) by ACGIH (Dimethylketone). Classified None by OSHA. Classified None by NIOSH (Propanol).
<b>Mutagenicity</b>	No data
<b>Reproductive Hazards Classified</b>	None for human (Dimethylketone)

## 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	Acute oral toxicity (LD50): 1280 mg/kg (Rat - weighted average theoretically calculated). Acute dermal toxicity (LD50): 12756 MG/KG (rabbit). (Calculated value for the mixture). Acute toxicity of the vapour (LC50): 29853ppm 4 hours (Rat). (Dimethylketone) Ecotoxicity in water: (LC50): 6500 mg/l (Weight averaged theoretically calculated), 96 hours [Fish (mosquito fish)].
<b>Persistence and degradability</b>	BOD and COD: The BOD is 80.8% [5 day(s)]
<b>Bioaccumulative Potential Product</b>	No data
<b>Mobility in soil</b>	No data
<b>Results of PBT and vPvB assessment</b>	No data
<b>Other adverse effects</b>	No data
<b>Effect on ozone layer</b>	No data
<b>Effect on the global warming (CO2=1)</b>	No data

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal Methods</b>	Product must be removed by a reputable waste disposal company. Recover or recycle if possible, otherwise incineration. Aerosol cans (used or unused) should be disposed of, without puncturing, via a licensed waste disposal contractor
<b>Disposal of Packaging</b>	As per regulation for plastic material DO NOT RE-USE CONTAINERS. Puncture all plastic containers. Flatten all metal containers. Shred all polywoven bags

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Not reactive under normal conditions
<b>Chemical stability</b>	Stable under normal conditions
<b>Possibility of hazardous reactions</b>	No data
<b>Conditions to avoid</b>	Open flame and electrical discharge
<b>Incompatible Materials</b>	Strong oxidisers Slightly reactive to reactive with oxidizing agents, strong acids and alkalis.
<b>Hazardous Decomposition of Products</b>	These products are carbon oxides (CO, CO2)

## 11. TOXOLOGICAL INFORMATION

<b>Acute Toxicity</b>	Very hazardous in case of inhalation Acute oral toxicity (LD50): 1280 mg/kg (Rat - weighted average theoretically calculated). Acute dermal toxicity (LD50): 12756 MG/KG (rabbit). (Calculated value for the mixture).
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<b>Waste Classification</b>	A3140
<b>Hazardous Waste</b>	The classification of the product may meet the criteria for a hazardous waste.

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

Whilst AFROX made best endeavour to ensure that the information contained in this publication is accurate at the date of publication, AFROX does not accept liability for an inaccuracy or liability arising from the use of this information, or the use, application, adaptation or process of any products described herein.

#### 14. TRANSPORT INFORMATION

##### Road Transportation

<b>UN No.</b>	1090
<b>Shipping Name</b>	Afrox ARDROX HF-D/9D1B
<b>ERG No.</b>	127
<b>Class</b>	3
<b>Packaging group</b>	II
<b>Subsidiary Risk</b>	Extremely Flammable
<b>Hazchem Warning</b>	Flammable liquid

<b>IMDG</b>	1090
<b>Shipping Name</b>	Afrox ARDROX HF-D/9D1B
<b>ERG No.</b>	127
<b>Class</b>	3
<b>Packaging group</b>	II
<b>Subsidiary Risk</b>	Extremely Flammable
<b>Label</b>	Flammable Liquid

<b>ICAO/IATA Code</b>	None
<b>Class</b>	3
<b>Packing Group:</b>	200
<b>Packaging instructions</b>	Passenger 75 kg Cargo 150 kg

#### 15. REGULATORY INFORMATION

EEC Hazard class: National legislation OHSact and Regulations 85 of 1993.	
<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</b>	Globally Harmonized System of classification and labelling of chemicals (GHS)
<b>SUPPLEMENT TO SANS 10234 Edition 1</b>	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

<b>Revision Date</b>	28/09/2023 v01
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<b>Bibliography</b>
Perry Chemical Engineering 6 <sup>th</sup> Edition Matheson Gas Data Book - 6th Edition