

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	
Product Synonym	Afrox ARDROX HF-D/9D1B NDT Developer
Chemical Formula	A blend of acetone and propanol
Trade Name	Afrox ARDROX HF-D/9D1B
Package	400 ml Can
Product Code	W033571
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)

	H229: Pressurized container: May burst if heated
GHS Precautionary Statements	Prevention: 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 Response: None Storage: P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C Disposal: None
Other Hazards that do not result in classification	None

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: Liquid
Main Hazards	Danger! Extremely flammable liquid and vapor. Vapor may cause flash fire
Adverse Health Effects	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.
Chemical Hazards	ARDROX HF-D/9D1B is Flammable
Biological Hazards	None
Vapour Inhalation	Toxic by inhalation. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention
GHS Classification	Extremely flammable aerosol Pressurized container: May burst if heated – Category 1
GHS Pictogram	
GHS Signal Words	Danger
GHS Hazard Statements	H222: Extremely flammable aerosol

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

4. FIRST AID MEASURES	
Eye contact	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
Skin Contact	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
Ingestion	Have conscious person drink several glasses of water. DO NOT induce vomiting. Seek medical attention
Inhalation	Allow the victim to rest in a well-ventilated area. If the victim is not breathing, perform

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	mouth-to-mouth resuscitation. Seek medical attention
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	SMALL FIRE: Use DRY chemical powder. Media LARGE FIRE: Use water spray, fog or foam.
Unsuitable extinguishing media:	- Do not use water jet.
Specific Hazards	- 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.
Special fire fighting procedures:	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.
Special protective equipment for firefighters:	Eye protection and protective gloves should be worn when handling the product for lengthy periods of time.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions.	Eye protection and protective gloves should be worn when handling the product for lengthy periods of time. Splash goggles. Overalls. Vapour respirator. Boots. Gloves.
Environmental Precautions	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.
Methods and material for containment and cleaning up:	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

Safe Handling	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.
Conditions for safe storage, including any incompatibilities	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

Occupational Exposure Hazards (HCS)	Dimethylketone : OEL eight-hour TWA 500 OEL-STEL/C 1000 Propanol: OEL eight-hour TWA 200
Engineering Control Measures	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.
Personal Protection	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.
Eyes	Safety glasses
Hands	Protective gloves
Body protection:	Overalls
Feet	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Afrox ARDROX HF-D/9D1B
Chemical Symbol	C ₂ H ₄ O +C ₃ H ₇ OH
Physical state	Liquid
Form:	Liquid
Colour:	Clear liquid with white powder dispersion
Odour:	Acetone odour
Odour Threshold:	Weighted average: 86.5ppm
pH:	Neutral
Melting Point:	-95.96°C

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Boiling Point:	58.33°C
Sublimation Point:	No data
Critical Temp. (°C):	No data
Flash Point:	-20°C
Evaporation Rate:	1.3 (Propanol) compared to Butyl acetate. (butyl acetate=1)
Flammability (solid, gas):	Flammable liquid
Flammability limit - upper (%):	7.4%
Flammability limit - lower(%):	1.1%
Vapour density:	1.77g/l
Liquid density	0.84 - 0.87g/cm ³
Relative density water=1:	0.84 - 0.87
Solubility(ies)	
Solubility in Water:	Easily soluble in cold water, hot water, methanol, diethyl ether. Partially soluble in n-octanol
Partition coefficient (n-octanol/water):	No data
Autoignition Temperature:	400°C
Decomposition Temperature:	No data
Viscosity	
Kinematic viscosity:	2.25 cSt
Dynamic viscosity:	No data
Explosive properties:	Flammable liquid
Oxidising Properties:	Not applicable
Molecular weight	No data

Skin & eye contact	4 hours (Rat). (Dimethylketone) Irritating to skin seek medical help immediately.
Chronic Toxicity	Repeated exposure to toxic material may produce general deterioration of health by an accumulation in human organs. Very hazardous in case of ingestion
Carcinogenicity	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).
Mutagenicity	No data
Reproductive Hazards Classified	None for human (Dimethylketone)

12. ECOLOGICAL INFORMATION

Toxicity	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)].
Persistence and degradability	BOD and COD: The BOD is 80.8% [5 day(s)]
Bioaccumulative Potential Product	No data
Mobility in soil	No data
Results of PBT and vPvB assessment	No data
Other adverse effects	No data
Effect on ozone layer	No data
Effect on the global warming (CO₂=1)	No data

13. DISPOSAL CONSIDERATIONS

Disposal Methods	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
Disposal of Packaging	As per regulation for plastic material DO NOT RE-USE CONTAINERS. Puncture all plastic containers. Flatten all metal containers. Shred all polywoven bags
Waste Classification	A3140
Hazardous Waste	The classification of the product may meet the criteria for a hazardous waste.

10. STABILITY AND REACTIVITY

Reactivity	Not reactive under normal conditions
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	No data
Conditions to avoid	Open flame and electrical discharge
Incompatible Materials	Strong oxidisers Slightly reactive to reactive with oxidizing agents, strong acids and alkalis.
Hazardous Decomposition of Products	These products are carbon oxides (CO, CO ₂)

11. TOXOLOGICAL INFORMATION

Acute Toxicity	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). Acute toxicity of the vapour (LC50): 29853ppm
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14. TRANSPORT INFORMATION

Road Transportation

UN No.	1090
Shipping Name	Afrox ARDROX HF-D/9D1B
ERG No.	127
Class	3
Packaging group	II
Subsidiary Risk	Extremely Flammable
Hazchem Warning	Flammable liquid
IMDG	
UN No.	1090
Shipping Name	Afrox ARDROX HF-D/9D1B
ERG No.	127
Class	3
Packaging group	II
Subsidiary Risk	Extremely Flammable
Label	Flammable Liquid
ICAO/IATA Code	
Class	3
Packing Group:	200
Packaging instructions	Passenger 75 kg Cargo 150 kg

EXCLUSION OF LIABILITY

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15. REGULATORY INFORMATION

EEC Hazard class: 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	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 28/09/2023 v01

Bibliography

Perry Chemical Engineering 6th 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