

SAFETY DATA SHEET (SDS)

AFROX Pickling paste

Please ensure that this SDS is received by the appropriate persons

Review Date: 28/09/2022 v01

Emergency: 0860 02 02 02

Document Number: AFX-SDS-0078

1. PRODUCT AND COMPANY IDENTIFICATION

Product Synonym	Afrox Pickling paste
Chemical Formula	A blend of Mixed Nitric acid and Hydrofluoric acid
Trade Name	AFROX Pickling paste
Package	1 Litre Container
Product Code	W053575
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)

GHS Pictogram



GHS Signal Words Danger

GHS Hazard Statements - None

GHS Precautionary Statements - 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: paste
Main Hazards	- Acidic reaction Pickling paste contain a combination of hydrofluoric acid and nitric acid which can cause serious burn injuries
Adverse Health Effects	- None Health hazard in case of accidental exposure (R/phrases). R23 / R24 / R25 Toxic by inhalation, in contact with skin, and if swallowed. R35 Causes severe burns.
Chemical Hazards	- Corrosive. When heated, nitrous gases will develop. Only for treatment of stainless steel. Not to be used on any other metals
Biological Hazards	- Acidic reaction
Vapour Inhalation	- Acidic reaction
GHS Classification	- Danger

3. COMPOSITION OF INGREDIENTS

Chemical name	Nitric acid
Chemical family	
CAS No	7697-37-2
UN No	3264
ERG No	154
ECC No	231-714-2
Hazard class	6.1
Hazchem Warning	Corrosive Acid liquid
Content Class	Approx. 20%
Health Risk code	C-Corrosive / R35
Chemical name	Hydrofluoric acid
Chemical family	
CAS No	7664-39-3
UN No	1790
ERG No	157
ECC No	231-634-8
Hazard class	6.1
Hazchem Warning	2XE
Content Class	Approx. 5%
Health Risk code	T-Toxic / R23 / R24 / R25 / R35

4. FIRST AID MEASURES

Eye contact	Rinse immediately with plenty of fresh water for at least 15 minutes. Thereafter consult an eye doctor
Skin Contact	- Toxic. Causes severe burns. - Wash for 15 minutes seeks medical help Rinse immediately with plenty of water. Rinse and remove contaminated clothes. Treat with calcium containing agent to neutralise harmful fluoride-ions.
Ingestion	- Toxic. Causes severe burns. Drink either water or milk immediately. Thereafter take 10-15 lime tablets dissolved in water. DO NOT induce vomiting.

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	Seek medical care
Inhalation	<ul style="list-style-type: none"> - Toxic. Causes severe burns. - Fresh air and rest. Rinse nose and mouth with fresh water. Oxygen breathing apparatus may be necessary. Seek medical attention if necessary - Seek medical help

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	<ul style="list-style-type: none"> - All medias suitable - Released product should be neutralised with slaked lime.
Unsuitable extinguishing media:	<ul style="list-style-type: none"> - None
Specific Hazards	<ul style="list-style-type: none"> - This Passivating fluid has no particularly hazardous properties. When handling the concentrate, rubber gloves, an apron and eye protection should be worn - Danger of fire / explosion. Paste is non-flammable. If in contact with metals, hydrogen gas is formed in small quantities, which together with air, can give an explosion. Bottles close to fire should be removed or cooled with water
Special fire fighting procedures:	None required. This product is non-flammable. Remove containers from the vicinity of the fire. 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, protective equipment and emergency procedures:	<ul style="list-style-type: none"> Avoid direct contact with product. Eye protection and protective gloves should be worn when handling the product for lengthy periods of time. Maintain adequate ventilation.
Environmental Precautions	<ul style="list-style-type: none"> Pickling paste will reduce pH in water. Must be neutralized Prevent any spillage from entering sewage or public water systems
Methods and material for containment and cleaning up:	<ul style="list-style-type: none"> - Neutralise with lime compound i.e. slaked lime. Contain with sand. Arrange for pick up. Rinse with large volumes of water. Spillages should be collected and disposed of via approved waste disposal authority.

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
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	periods of time. Keep out of reach of children.
Conditions for safe storage, including any incompatibilities	<ul style="list-style-type: none"> Exposure to excessive heat for prolonged periods Ensure good stock rotation practices. Storeroom should be separate, warm, dry and closed to all unauthorised personnel. All containers should be kept securely closed when not in use and in an upright position. Store in areas where temperature remains constant between 0 - 40°C. Packaging materials must be of an acid resistant plastic material. Shelf life, if bottles are stored correctly – 1 year

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Hazards (HCS)	(1) Nitric Acid: EL:OES TWA 8 hours 2 ppm STEL 15 minutes 4 ppm (2) Hydrofluoric Acid: EL:OES TWA 8 hours 3 ppm STEL 15 minutes 3 ppm
Engineering Control Measures	Isolate work area from carbon steel applications.
Personal Protection	Eye protection and protective gloves should be worn when handling the product for lengthy periods of time
Eyes	Safety glasses
Hands	Protective gloves
Body protection	Non
Feet	- None

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Pickling paste
Chemical Symbol	HNO ₃ <20% HF<10%
Physical state	Paste
Form:	Paste
Colour:	White paste
Odour:	Pungent odour
Odour Threshold:	None
pH:	<2
Melting Point:	No data
Boiling Point:	80-100 °C
Sublimation Point:	No data
Critical Temp. (°C):	No data
Flash Point:	No data
Evaporation Rate:	No data
Flammability (solid, gas):	Not flammable
Flammability limit - upper (%):	Not flammable
Flammability limit - lower(%):	Not flammable
Vapour pressure:	No data
density	1.2 g/cm
Relative density:	1.2

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Solubility(ies)	
Solubility in Water:	Soluble in water
Partition coefficient (n-octanol/water):	No data
Autoignition Temperature:	No data
Decomposition Temperature:	No data
Viscosity	
Kinematic viscosity:	No data
Dynamic viscosity:	No data
Explosive properties:	Not applicable
Oxidising Properties:	Not applicable
Molecular weight	No data

10. STABILITY AND REACTIVITY

Reactivity	- No data
Chemical stability	- Stable if stored under normal conditions
Possibility of hazardous reactions	Direct sunlight and high temperatures. When heated nitrous gases develop.
Conditions to avoid	- No data
Incompatible Materials	Alkaline compounds and water, will give an exothermal reaction with heat development.
Hazardous Decomposition of Products	- Will emit nitrous gases and hydrogen gas

11. TOXOLOGICAL INFORMATION

Acute Toxicity	LD (orally) : 650 mg/kg LC (dermal) : 200 ppm / 1 hour
Skin & eye contact	Corrosive burns with yellowish dis-colouration, blisters and slow healing wounds Intensive pain and corrosive damage. Risk of irreparable damage.
Chronic Toxicity	No data
Carcinogenicity	No data
Mutagenicity	No data
Reproductive Hazards	No data

12. ECOLOGICAL INFORMATION

Toxicity	Toxic
Persistence and degradability	No data
Bioaccumulative Potential Product	No data
Mobility in soil	No data
Results of PBT and vPvB assessment	No data
Other adverse effects	The Pickling Paste will reduce the pH balance of fresh water and should not be discharged to any clean water system without being pre-treated first
Effect on ozone layer	No data

Effect on the global warming (CO2=1)	No data
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13. DISPOSAL CONSIDERATIONS

Disposal Methods	Large amounts should be returned to the supplier for disposal. Contaminated residues, wastewater must be neutralised to pH 6 - 11 and any heavy metals resulting from the pickling of stainless should be removed. Neutralise with Lime.
Disposal of Packaging	- As per regulation for plastic material - Rinse with copious amounts of water

14. TRANSPORT INFORMATION

Road Transportation	
UN No.	3262
Shipping Name	Pickling paste
ERG No.	154
Class	2.2
Subsidiary Risk	Corrosive toxic
Hazchem Warning	2XE
IMO Class	8
Packaging Risk	6.1
IMDG	
UN No.	3262
Shipping Name	Pickling paste
ERG No.	154
Class	2.2
Subsidiary Risk	Corrosive toxic
Label	AFROX PICKLING PASTE
Packaging group	11
ICAO/IATA Code	
UN No.	3262
Class	2.2
Packing Group:	
Packaging instructions	- Passenger -Forbidden - Cargo 150 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.

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- Ensure users and relevant persons understand the asphyxiation hazard
- Regularly check supplier's information sources for updated versions of SDS's

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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

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