

MATERIAL SAFETY DATA SHEET

AFROX PICKLING PASTE

DATE: 4 August 2004

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name AFROX PICKLING PASTE
 Package 1 Litre Container
 Application Pickling of Stainless Steels
 Trade Name AFROX PICKLING PASTE
 Company Identification African Oxygen Limited
 23 Webber Street
 Johannesburg, 2001
 Tel. No: (011) 490-0400
 Fax No: (011) 490-0506

2 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Nature Strong acid paste with corrosive properties.

Chemical Name (1) Nitric Acid / HNO

CAS No. 7697-37-2
 EEC No. 231-714-2
 Contents (Class) Approx. 20%
 Health Risk Code C – Corrosive / R35

UN No. 2031

ERG No. 157

Chemical Name (2) Hydrofluoric Acid / HF

CAS No. 7664-39-3
 EEC No. 231-634-8
 Contents (Class) Approx. 5%
 Health Risk Code T – Toxic / R23 / R24 / R25 / R35

UN No. 1790

ERG No. 157

Additional information: Classification according to directive 67/548/EEC.

3 HAZARDS IDENTIFICATION

Adverse Health Effects 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.

Environmental Effects Pickling paste will reduce pH in water. Must be neutralised.

Chemical Hazards When heated, nitrous gases will develop. Only for treatment of stainless steel. Not to be used on any other metals.

Inhalation Toxic. Causes severe burns.

Skin Contact Toxic. Causes severe burns.

Ingestion Toxic. Causes severe burns.

4 FIRST AID MEASURES

Measures to be taken immediately after contact with pickling acids (5% W/W Hydrofluoric Acid)

Eye Contact Rinse immediately with plenty of fresh water for at least 15 minutes. Thereafter consult an eye-doctor.

Skin Contact Rinse immediately with plenty of water. Rinse and remove contaminated clothes. Treat with calcium containing agent to neutralise harmful fluoride-ions.

Alternatives

- HF antidote gel containing 2.5% Calcium Gluconate.
 - Dissolve calcium tablets (mfg-Sandoz-Pharm) 20 tablets into 2 litres of water, swab or immerse affected area.
 - If (a) or (b) could not be done, the skin could be bathed with milk or calcium containing solution.
- After the above, seek medical attention.

Ingestion Drink either water or milk immediately. Thereafter take 10-15 lime tablets dissolved in water. **DO NOT** induce vomiting. Seek medical care.

Inhalation Fresh air and rest. Rinse nose and mouth with fresh water. Oxygen breathing apparatus may be necessary. Seek medical attention if necessary.

Information for Medical care

Inform the Doctor the injury has been caused by contact with Hydrofluoric and Nitric Acid solution. Antidote treatment after contact is with 2.5% Gluconate Gel.

5 FIRE FIGHTING MEASURES

Extinguishing media Released product should be neutralised with slaked lime.

Specific Hazards 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.

Chemical Hazard

Chemical exposure risks caused by:
 -Esbrite Picking Paste The product will cause redness and blisters on skin contact.

-Released gases/vapours The product will emit toxic fumes and nitrous gases in the presence of heat / fire.

Emergency Actions

Protective Clothing Normal protective clothes. Breathing protection: Gas mask with chlorine filter type B (grey) and dust filter P2 to CEN.

Environmental precautions To clean or destroy soiled fire equipment, wash thoroughly with large volumes of water.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions Avoid direct contact with product. Wear eye and skin protection, rubber gloves and breathing apparatus. Maintain adequate ventilation.

Environmental Precautions (water, air, soil) Prevent any spillage from entering sewage or public water systems.

Spillages 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

Handling Work area and operational procedures should be designed to avoid direct contact with product. Work in a well ventilated area. Rinse water should be contained for treatment and disposal. Bottles close to fire should be removed or cooled down with water.

Avoid fume accumulation by using in a well ventilated area. Use in areas with general ventilation and if inadequate, use forced ventilation. Facilities to rinse eyes with water must be available at all times. Eye bath 3% Magnesium sulphate solution and Calcium Gluconate Gel for treatment after skin contact should be readily available at the work place.

Storage Store room 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 / PERSONAL PROTECTION

Engineering control Measures Isolate work area from carbon steel applications.

(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

OEL

Personal protection

Inhalation	Do not inhale fumes.
Respiratory	Gas mask with chlorine filter type B (grey) and dust filter P2.
Hands	Rubber gloves.
Skin and body	Rubber boots and acid resistant clothes.
Eyes	Face shield and goggles.

Specific hygiene measures:

Do not inhale fumes and avoid contact with eyes, skin and clothes. Do not drink, eat or smoke in the working area. Remove any contaminated clothing immediately. Always wash hands and face well after working with the product. Calcium Gluconate Gel 2.5% and 3% Magnesium Sulphate Solution must be readily available at all times at the working place.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

State at 20°C	White paste
Boiling Point	80 - 100°C
Vapour Pressure at 20°C	<0.01 kPa
Density	1.2 – 1.3 g/cm at 20°C
pH	1.0 at 20°C
Relative density	1.2 – 1.3
Colour	White

10 STABILITY AND REACTIVITY

Stability	Stable if stored under normal conditions.
Conditions to avoid	Direct sunlight and high temperatures. When heated nitrous gases develop.
Incompatible Materials	Alkaline compounds and water, will give an exothermal reaction with heat development.
Hazardous Decomposition	Will emit nitrous gases and hydrogen gas.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity	LD (orally) : 650 mg/kg LC (dermal) : 200 ppm / 1 hour
Local Effects	
Skin	Corrosive burns with yellowish dis-colouration, blisters and slow healing wounds
Eyes	Intensive pain and corrosive damage. Risk of irreparable damage.
Ingestion	Causes corrosive burns with burning pain, severe general effect and could damage the kidneys and liver.
Inhalation	Inhalation of fumes could cause aches, coughs and difficulty to breathe. Risk of oedema on the lungs.
Additional information	Symptoms of corrosive damage will not appear immediately.

12 ECOLOGICAL INFORMATION

Effect on Environment	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.
Information for Constituent (1) Nitric Acid	
Environmental Effect	Slightly toxic to living resources.
Aquatic Fate	Toxic to freshwater and saltwater fish. Biodegradable in freshwater and saltwater, leading to oxygen depletion. No evidence of bioaccumulation or tainting of seafood.
Information for Constituent (2) Hydrofluoric Acid	
Environmental Effect	Gaseous HF attacks all plants; sensitivity varies between species.
Aquatic Fate	Slightly toxic to aquatic life. No evidence of bioaccumulation or tainting of seafood.

13 DISPOSAL CONSIDERATIONS

Disposal Methods	Contaminated residues, waste water must be neutralised to pH 6 - 11 and any heavy metals resulting from the pickling of stainless should be removed.
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Neutralise with Lime.

Disposal of packaging	Rinse with copious amounts of water.
Additional information	All effluent must be separated and disposed of via recognised waste authority. Consult your local licensed waste disposal company for instructions on how to dispose of acidic waste.

14 TRANSPORT INFORMATION

ROAD TRANSPORTATION

UN No.	1790
IMO Class	8
Hazchem Code	2XE
Packing Group	11
Subsidiary Risk	6.1
Supply Symbol	Corrosive – Very Toxic
HSCN (Tariff No.)	280800000

Additional Information **The Pickling Paste is to be transported according to Dangerous Goods Regulations.**

SEA TRANSPORTATION

Class	8 - Corrosive
Packaging group	11
Label	AFROX PICKLING PASTE

15 REGULATORY INFORMATION

EC Label ICONS	C CORROSIVE
Risk phrases	R23 – Toxic by inhalation R24 – Toxic in contact with skin R25 – Toxic if swallowed R35 – Causes severe burns.
Safety phrases	S2 – Keep out of reach of children S7 – Keep container tightly closed S9 – Keep container in well-ventilated place, S23 -Do not breath fumes S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S27 – Immediately take off all contaminated clothing S36/37/39 – Wear suitable protective clothing / eye, face protection /gloves S38 – In case of insufficient ventilation, wear suitable respiratory equipment S45 – In case of accident or if you feel unwell seek medical advice immediately and show the label where possible

Recipients of this MSDS must refer to relevant legislation that implements provisions relating to the protection of man or the environment. The information contained in this document does not constitute the users own assessment of workplace risks as required by other health and safety legislation.

National Legislation: None

Refer to SABS 0265 for explanation of the above.

16 OTHER INFORMATION

The user should be trained to handle chemicals and be fully aware of the product hazards. Read the label before opening the container. We wish to point out that this MSDS refers to the product and not to its dilutions, when the associated risks may be reduced.

DATA SOURCES: Supplier Material Data Sheet.

Substances Hazardous to Health - May 1998.

VERSION / DATE: National & International Regulations (5/11/96)
MSDS Ref: EEPP

17 EXCLUSION OF LIABILITY

Information contained in this publication is accurate at the date of publication. The company does not accept liability arising from the use of this information, or the use, application, adaptation or process of any products described herein.



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For product and safety enquiries please phone **EMERGENCY N°: 0860020202 (24 hr)**