MATERIAL SAFETY DATA SHEET
FOR PICKLING PASTE

Trade Name : SWP PICKLING PASTE
Manufacturer : Specialised Welding Products Ltd
Date of Issue : 5.11.96.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : SWP Pickling Paste
Package : 2kg container
Application : Pickling of stainless steels

Manufacturer
Company Name: Specialised Welding Products Ltd
Address : 12 Farringdon Industrial Centre, Hampshire, GU34 3DP ENGLAND
Tel. Nos. +44 (0)1420 588180
Fax No. : +44 (0)1420 588184
Contact : Kevin Holton

2. COMPOSITION INFORMATION ON INGREDIENTS

Preparation
Chemical Nature: Strong acid paste with corrosive properties

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>CAS-No</th>
<th>EEC-No</th>
<th>Contents</th>
<th>Risk Code (for the preparation of R-phrase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid / HNO</td>
<td>7697-37-2</td>
<td>231-714-2</td>
<td>Approx. 20%</td>
<td>C-corrosive / R35</td>
</tr>
<tr>
<td>Hydrofluoric Acid / HF</td>
<td>7664-39-3</td>
<td>231-634-8</td>
<td>Approx. 5%</td>
<td>T-toxic / R23, 24, 25, 35</td>
</tr>
</tbody>
</table>

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

3. HAZARDS IDENTIFICATION

Health hazard in case of accidental exposure (R-phrases) R23/24/25 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.

Physical and chemical Risks : When heated, nitrous gases will develop. Only for treatment of stainless steel. Not to be used on any other Metals.

4. FIRST AID MEASURES

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

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

Ingestion Drink either water or milk immediately. Thereafter take 10-15 lime tablets dissolved in water. Do not induce vomiting. Seek medical care.
4. **FIRST AID MEASURES (continued)**

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

**Alternatives**
- a) HF antidote gel containing 2.5% Calcium Gluconate manufactured by Industrial Pharm. Serv. Manchester UK.
- b) Dissolve calcium tablets (mfg – Sandoz-Pharm) 20 tablets into 2 litres of water, swab or immerse affected area.
- c) 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.

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

**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 (HF-Antidote Gel, supplier Industrial Pharm. Serv. Manchester UK).

5. **FIRE FIGHTING MEASURES**

**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.

**Extinguishing media**
Released product should be neutralised with slaked lime.

**Chemical exposure risks**
Caused by:
- **SWP Pickling 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.
- **Protective clothing for the Firemen** Normal protective clothes. Breathing protection gas mask chlorine filter type B (grey) and dust filter P2 to CEN
- **How to clean or destroy** 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**
Prevent any spillage from entering sewage or public water systems.

**Cleaning up methods**
Neutralise with Neutralising Agent or strong alkaline compound i.e. slaked lime. Contain with sand. Arrange for pick up. Rinse with large volumes of water.

**Spillage and decontamination**
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.

**Technical measures**
Bottles close to fire should be removed or cooled down Precautions with

- 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.

**Technical measures**
Not applicable.

**Incompatible products**
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**
Isolate work area from carbon steel applications.

**Control parameters**
Limiting values: CLV 1.7 mg/m (8 hrs) – Hydrofluoric Acid
LLC 5 mg/m (15 mins) – Nitric Acid

**Personal protective equipment**
Respiratory
Gas mask with chlorine filter type B (grey) & dust filter P2

Hands
Rubber gloves

Eyes
Face shield, goggles

Skin and body
Rubber boots and acid resistant clothes

**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**

**State at 20ºC**
White paste

**Boiling point**
80 – 100 ºC

**Flash point**
Not applicable

**Specific temperatures**

**Vapour pressure at 20ºC**
<0.01 kPa

**PH**
1.0 at 20ºC

**Density**
1.2–1.3 g/cm at 20ºC

**Viscosity at 23ºC**
>10000 MPaS

**Solubility**
Freely soluble in water

10. **STABILITY AND REACTIVITY**

**Stability**
Stable under normal conditions.

**Conditions to avoid**
Direct sunlight and high temperatures. When heated nitrous gases develop.

**Materials to avoid**
Alkaline compounds and water, will give an exothermic reaction with heat development.

**Hazardous decomposition**
Will emit nitrous gases and hydrogen gas.

11. **TOXICOLOGICAL INFORMATION**

**Acute Toxity**

**LD (orally)**
650 mg/kg

**LC (dermal)**
200 ppm/1 hour

**Local Effects**
On the skin
Corrosive burns with yellowish discolouration, blisters and slow healing wounds.

On the 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**

**Effects on Environment**
The pickling paste will reduce the pH of fresh water and should not be discharged to any clean water system without being pre-treated first.

**Information for constituent Nitric Acid**

**Environmental Effect**
Slightly toxic to living resources

**Aquatic Fate**
Toxic to freshwater and saltwater fish. Biodegradable in fresh water and saltwater, leading to oxygen depletion. No evidence of bioaccumulation or tainting of seafood.

**Information for constituent 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
Methods of disposal
Residue Waste
Contaminated residues, waste water must be neutralised to pH 6-11 and any heavy metals resulting from the pickling of stainless should be removed.
Neutralise with Neutralising Agent or lime
Contaminated packing
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
International Regulations (UN)
UN-Classification Code UN 1790
Additional Information The pickling paste is to be transported according to dangerous goods regulations.
UN Substance identification 2922
Shipping Name PICKLING PASTE
Packing Group 11
Class 8 – CORROSIVE
Subsidiary Risk 6. 1
Supply Symbol CORROSIVE – VERY TOXIC
Hazchem Code 2XE
HSCN (Tariff No.) 280800000

15. REGULATORY INFORMATION
Safety Phrases S2, S7/9, S23, S26, S27, S36/37/39, S38, S45
Risk Phrases R23, 24, 25, R35

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.

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.

The first-aid of Work Regulations of 1981 indicate extended training for qualified first aiders working on sites where hydrofluoric acid is present. The extended training consists of a half-day course conducted by an HSE approved centre.
Training is obtainable from: Midlands Occupational Health Service Ltd
Pettit House, 83 Birmingham Road
West Bromwich, West Midlands, B70 6PX
Tel: 0121 553 7116

Or contact your HSE area office for further information.

We wish to point out that this MSDS refers to the product and not to its dilutions, when the associated risks may be reduced.

The information is based on the present state of our knowledge of the product at the time of publication. It is given in good faith, no warranty is implied with respect to the quality or the specification of the product. The user must satisfy himself that the product is entirely suitable for his purpose.

DATA SOURCES Supplier Material Data Sheet
National and International regulations

VERSION / DATE (5.11.96) MSDS ref: EEPP
CHEMICALS – A division of Edentec Industrial (Pty) Ltd.

PICKLING PASTE

TREMCARD CORROSIVE – ACID ( LIQUIDS / SOLIDS )

IMMEDIATE ACTION BY DRIVER : NOTIFY POLICE AND FIRE BRIGADE

- If possible move vehicle to open ground and stop engine
- Warn everybody – corrosive hazard
- Evacuate area if necessary
- Mark roads and warn other road users
- Keep public away from danger area
- Keep upwind
- No smoking
- No open sources of ignition

<table>
<thead>
<tr>
<th>HAZARD / SYMPTOMS</th>
<th>PREVENTION / PPE</th>
<th>FIRST AID / FIRE EXTINGUISHING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE</td>
<td>Wear full protective clothing and self-contained breathing</td>
<td>Dry chemical foam. Use water spray to keep containers cool</td>
</tr>
<tr>
<td>INHALATION</td>
<td>Avoid inhalation. Solid. Use suitable respiratory protection in confined areas.</td>
<td>Remove patient to fresh air. Administer artificial respiration or oxygen if breathing is difficult. Consult a doctor if difficulties persist.</td>
</tr>
<tr>
<td>SKIN</td>
<td>Avoid contact. Wear protective gloves, boots and other clothing.</td>
<td>Remove contaminated clothing. Wash affected skin with water. Consult a doctor if irritation persists.</td>
</tr>
<tr>
<td>EYES</td>
<td>Wear protective goggles or face shield.</td>
<td>Immediately flush eyes with water for at least 15 minutes. Consult a doctor.</td>
</tr>
<tr>
<td>INGESTION</td>
<td>Avoid ingestion. Wear face shield.</td>
<td>Do not induce vomiting. If conscious, allow a drink of milk or water. Obtain medical attention immediately.</td>
</tr>
</tbody>
</table>