MATERIAL SAFETY DATA SHEET

1. Identification of Substance

Product Details: EMERGENCY # 800-424-9300 (Only in the event of chemical emergencies involving a spill, leak, fire, or accident involving chemicals.)

Trade Name: Antox 73 E Manufacturer: Oakite Chemical

2. Composition/Data on Components

* Chemical Characterization
* Description: Spray Pickle for Stainless Steel

* Dangerous Components:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Designation</th>
<th>%</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>Nitric Acid</td>
<td>10-25</td>
<td>C O</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluoric Acid</td>
<td>2.5-10</td>
<td>T+ C</td>
</tr>
</tbody>
</table>

3. Hazards Identification

*T Toxic

Information pertaining to particular dangers for man and environment.
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R 35 Causes severe burns.

Classification System

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4. First Aid Measures

General Information:
Instantly remove any clothing soiled by the product.
Remove breathing apparatus only after soiled clothing has been completely removed.
After Inhalation:
Supply fresh air or Oxygen: Call for Doctor.
In case of unconsciousness bring patient into stable side position for transport.
After Skin Contact:
Instantly wash with water and soap and rinse thoroughly.
Rub in CA-Gluconate solution or CA-Gluconate gel immediately.
After Eye Contact:
Rinse opened eye for several minutes under running water. Then consult doctor.
After Swallowing:
Do not induce vomiting: instantly call for medical help.
Drink copious amounts of water and provide fresh air.
Instantly call for a Doctor.

5. Fire Fighting Measures

Suitable extinguishing agents.
Use fire fighting measures that suit the environment. Co2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Protective Equipment: Put on Breathing Apparatus.

6. Accidental Release Measures

Person related safety precautions.
Wear protective equipment. Keep unprotected persons away.
Measures for environmental protection. Dilute with much water.
Measures for Cleaning/Collecting:
  Absorb with liquid-binding material, (sand, diatomite, acid binders, universal binders.)
  Use neutralizing agent.
  Dispose of contaminated material as waste according to chapter 13.
  Ensure adequate ventilation.

7. Handling and Storage

Handling: Information for safe handling:
  Ensure good ventilation/exhaustion at workplace.
  Open and handle container with care.
  Protection from fires: Keep breathing equipment ready.

Storage: Requirements to be met by store rooms and containers:
  Provide acid resistant floor.
  Store only in unopened original containers.
  Storage in one common facility: not required.
  Store in locked cabinet and out of reach of children.
  Keep container tightly sealed.

8. Exposure Controls and Personal Protection

See 7. Handling and Storage.

COMPONENTS WITH CRITICAL VALUES THAT REQUIRE MONITORING IN THE WORKPLACE:

<table>
<thead>
<tr>
<th>CAS NO.</th>
<th>Designation of Material</th>
<th>Type</th>
<th>Value Unit</th>
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</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>Nitric Acid</td>
<td>TLV</td>
<td>5 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>2 ml/m³</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluoric Acid</td>
<td>MAK</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 ml/m³</td>
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<td>10102-44-0</td>
<td>Nitrogen Dioxide</td>
<td>MAK</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>5 ml/m³</td>
</tr>
</tbody>
</table>

Additional Information: The lists that were valid during the compilation were used as basis.

PERSONAL PROTECTIVE EQUIPMENT:
  General protective and hygienic measures:
    Keep away from food and beverages.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of work.
Store protective clothing separately.
Avoid contact with eyes and skin.

Breathing Equipment:
In case of brief exposure or low pollution use breathing filter apparatus.
In case of intensive or longer exposure use SCBA (self contained breathing apparatus)

Protection of Hands:
Neoprene Gloves

Eye Protection:
Tightly sealed safety glasses.
Face protection.

Body Protection:
Protective work clothing.

9. Physical and Chemical Properties

FORM: Pasty - Fluid    COLOR: Colorless    ODOR: Pungent
MELTING POINT: 20 C    FLASH POINT: N/A
IGNITION TEMPERATURE: N/A
DECOMPOSITION TEMPERATURE: > 100 deg. C
DANGER OF EXPLOSION: Product is not explosive.

STEAM PRESSURE at 20 deg. C  40 mbar
DENSITY at 20 deg. C  1.12g/cm3
SOLUBILITY IN / MISCIBILITY WITH WATER: Dispersible
PH value: (10 g/l) at 20 deg. C  1.5

10. Stability and Reactivity

THERMAL DECOMPOSITION / CONDITIONS TO BE AVOIDED:
No decomposition if used according to specifications.
No decomposition if used and stored according to specifications.
Thermal decomposition after vaporization of the water.

DANGEROUS REACTIONS:
Reacts with metals forming hydrogen.
Reacts with alkali (lyes)

DANGEROUS PRODUCTS OF DECOMPOSITION:
Nitrous gases.
Hydrogen Fluoride.

11. Toxicological Information
ACUTE TOXICITY / PRIMARY IRRITANT EFFECT

On the Skin: Strong caustic effect on skin and mucous membranes.  
On the Eye: Strong caustic effect.  
Sensitization: No sensitizing effect known.

ADDITIONAL TOXICOLOGICAL INFORMATION:

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

- Corrosive
- Poisonous
- Danger by skin resorption.
- Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12. Ecological Information

GENERAL NOTES:
- Water hazard Class 1 (Self-Assessment): Slightly hazardous for water.
- Do not allow undiluted product or large quantities of it to reach ground water, 
- Water bodies or sewage systems. 
- Must not reach sewage water undiluted or neutralized.

13. Disposal Considerations

RECOMMENDATION:
- Must not be disposed of together with household garbage.  
- Do not allow product to reach sewage system. 
- After prior treatment product has to be land filled under adherence to the regulations pertaining to the disposal of particularly hazardous waste. 

WASTE DISPOSAL KEY NUMBER: 31 621

PACKAGE DISPOSAL RECOMMENDATIONS:
- Disposal must be made according to official regulations. 
- Recommended cleaning agent: Water, and if necessary detergent.

14. Transport Information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)

* ADR/RID-GGVS/E Class: 8 Corrosives
* Number/Letter: 76c
* Kemler Number: 886
* UN-Number: 2922
* Label: 8+6.1

Maritime transport IMDG/GGVSea:
* IMDG/GGVSea Class: 8
15. **Regulatory Information**

**DESIGNATION ACCORDING TO EC GUIDELINES:**

The product had been classified and labeled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

**CODE LETTER AND HAZARD DESIGNATION OF PRODUCT:**

- T  Toxic
- C  Corrosive

**RISK PHRASES:**

- 23/24/25 Toxic by Inhalation, in contact with skin and if swallowed.
- 35  Causes severe burns.

**SAFETY PHRASES:**

- 7/9  Keep container tightly closed and in a well ventilated place.
- 36/37 Wear suitable protective clothing and gloves.
- 26  In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 45  In case of accident or if you feel unwell, seek medical advise immediately (show label where possible).

**NATIONAL REGULATIONS:**

- Classification according to VbF; Void
- Water Hazard Class: 1 slightly hazardous for water.

16. **Other Information**

The information provided herein relates to the specific material described herein and does
not relate it’s use by customer whether alone or in combination with any other material. Central Electropolishing Co., Inc. makes no warranties, express or implied, and assumes no liability in connection with any use of this information unless service is performed by Central Electropolishing Co., Inc.