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| 1. IDENTIFICATION OF THE SUBSTANCE/<br>PREPARATION AND COMPANY/UNDERTAKING |  |
| PRODUCT :  | SP21   |
| APPLICATION :  | DESCALING GEL  |
| COMPANY/UNDERTAKING IDENTIFICATION   |  |
|  | ADVANCED ENGINEERING LTD.<br>UNIT L, KINGSFIELD BUSINESS CENTRE,<br>PHILANTHROPIC ROAD, REDHILL,<br>SURREY, RH1 4DP, ENGLAND<br>TELEPHONE : +44 (0) 1737 859900<br>EMERGENCY TELEPHONE NO. AS ABOVE<br>FAX : +44 (0) 1737 859700 |

|   |                 |
|---|-----------------|
| 2. COMPOSITION/INFORMATION ON INGREDIENTS |                 |
| CHEMICAL DESCRIPTION :                    | ACID CLEANER    |
| HAZARDOUS COMPONENTS :                    | PHOSPHORIC ACID |

|                                  |                |
|----------------------------------|----------------|
| 3. HAZARDS IDENTIFICATION        |                |
| The most important hazards are : | CORROSIVE ACID |

|                       |   |
|-----------------------|---|
| 4. FIRST AID MEASURES |   |
| EYES                  | Immediately flush with eye wash or clean water for at least 15 minutes. Obtain medical attention.   |
| SKIN                  | Wash thoroughly with plenty of water. Remove contaminated clothing & continue washing. Obtain medical attention if symptoms develop.                                |
| INHALATION            | Remove to fresh air & remove contaminated clothing. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention. |
| INGESTION             | Do not induce vomiting. If patient is conscious wash mouth with water, give a little water to drink. Obtain medical attention.                                      |

|                           |   |
|---------------------------|---|
| 5. FIRE FIGHTING MEASURES |   |
| EXTINGUISHING MEDIA       | Consider what other flammable materials are present and act accordingly.  |
| HAZARDS                   | Although SP21 is non flammable it could react with some metals, eg. aluminium, tin, zinc, to form flammable hydrogen gas. |
| UNSUITABLE MEDIA          | Nothing specified   |
| MEDIA                     | Nothing specified   |

|   |   |
|---|---|
| 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE) |   |
| PERSONAL PRECAUTIONS:                     | Wear gloves and goggles.  |
| ENVIRONMENTAL PRECAUTIONS:                | Do not allow large amounts to enter sewers, storm drains, surface waters and soil. Notify National Rivers Authority and local Environmental Officer if major spillage occurs. Neutralised material can be washed down in small amounts. |
| Health                                    |   |
| RECOVERY                                  | Can be absorbed on sand or soil. Neutralised material should be collected into containers if possible.  |
| MAJOR SPILLAGE:                           | Contain spill with sand or soil. Collect as appropriate. Note environmental precautions.  |
| MINOR SPILLAGE:                           | Neutralise carefully (reaction) with lime, soda ash, calcium carbonate or bicarbonate. Carbon dioxide & mist will be formed so area must be well ventilated.  |

## 7. HANDLING AND STORAGE (IN NORMAL USE)

STORAGE: Keep away from direct sun.  
Store away from alkalies, sulphides, cyanides and metal powders.  
Store in original containers.  
Keep soda ash or lime available for small spills.

HANDLING: Prevent contact with skin and eyes. Contaminated clothing must be washed before re-use. Avoid breathing mist. Suitable training should, as always, be given.

## 8. EXPOSURE CONTROLS / EXPOSURE PROTECTION (NORMAL USE)

|                             |           |            |
|-----------------------------|-----------|------------|
| OCUPATIONAL EXPOSURE LIMITS | OEL       | OEL        |
|                             | Long Term | Short Term |
|                             | 1 mg/cu m | 3 mg/cu m  |

## PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY Not normally required. If misting occurs, use an appropriate respirator for acid gases/mists.

HAND Rubber or PVC gloves.

EYE Use chemical splash proof goggles.

SKIN If skin contact or contamination of clothing is likely, protective clothing must be worn.

## 9. PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE Colourless gel

ODOUR Acidic

PH Strongly acid.

BOILING POINT N/A

MELTING POINT N/A

FLASHPOINT (°C) N/A

UPPER FLAM. LIMIT N/A

LOWER FLAM. LIMIT N/A

EXPLOSIVE PROPERTIES N/A

VAPOUR PRESSURE Not determined

SOLUBILITY Completely soluble in water

## 10. STABILITY AND REACTIVITY

STABILITY: Stable

MATERIALS TO AVOID : Strong caustics will liberate much heat and cause spattering.  
Will react with some metals, eg. aluminium, tin, zinc, to form flammable hydrogen gas.  
Sulphide, phosphide, cyanide, carbide & silicides will liberate toxic gas.

RECOMMENDED MATERIALS FOR EQUIPMENT : 316, PLASTICS

HAZARDOUS DECOMPOSITION PRODUCTS :

Toxic gasses & vapours (phosphoric acid fumes) may be released.  
May liberate phosphorous oxide.

## 11. TOXICOLOGICAL INFORMATION

## ACUTE EFFECTS

|                         |   |
|-------------------------|---|
| EYES                    | Irritation & burns.<br>No permanent damage if treated immediately.                      |
| SKIN                    | Irritation & burns, dryness & cracking.<br>Dermatitis possible from prolonged exposure. |
| INGESTION               | Nausea, difficult breathing, shock, acidosis, convulsions<br>& collapse.                |
| INHALATION              | Vapours & mists are corrosive to nose, throat and mucus<br>membranes.                   |
| CARCINOGENICITY         | Not considered to be a carcinogen.  |
| MUTAGENICITY            | Not considered to be a mutagen.   |
| REPRODUCTIVE<br>EFFECTS | None identified.  |
| CHRONIC EFFECTS         | Acute effects predominate.  |

## 12. ECOLOGICAL INFORMATION

## MOBILITY PERSISTANCE &amp; DEGRADABILITY

Acidity may be reduced by natural minerals but phosphate may persist indefinitely.

## BIO ACCUMULATION

## AQUATIC TOXICITY

TLm mosquito fish  
138 mg/L/24-96hr. in turbid water @ 22-24 C

## OTHER

This is an acidic substance & a nutrient for undesirable algae. It will cause local damage to flora & fauna.

## 13. DISPOSAL CONSIDERATIONS

## DISPOSAL METHODS

Neutralised material can be buried in an approved land fill. Large quantities of soil/sand will require a specialist waste disposal firm.

CONTAMINATED PACKAGING Empty completely and flush thoroughly with fresh water.

## 14. TRANSPORT INFORMATION (REGULATIONS)

|                                 |                               |
|---------------------------------|-------------------------------|
| PACKAGING (Size & Description)  | 5 litre bottles, 4 per carton |
| TRANSPORT CLASSIFICATION        | CORROSIVE                     |
| SUBSTANCE IDENTIFICATION NUMBER | UN 1805                       |
| PROPER SHIPPING NAME            | Phosphoric acid               |
| ICAO/IATA/IMDG CLASS            | 8                             |
| SUBSIDIARY RISK                 | -                             |
| PACKING GROUP                   | III                           |
| ADR CLASS                       | 8                             |
| TRANSPORT HAZARD SYMBOL         | CORROSIVE                     |
| HAZARD IDENT NUMBER             | 80                            |
| EMERGENCY ACTION CODE           |                               |
| OTHER                           |                               |

## 15. REGULATORY INFORMATION (Supply &amp; Labelling)

## SUPPLY CLASSIFICATION

CORROSIVE

## HAZARD PICTOGRAM

## RISK PHRASES

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Causes burns.

## SAFETY PHRASES

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In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

**16. OTHER INFORMATION**

The information contained in this document only covers the hazards presented by this material, it does not constitute a workplace risk assessment.

The information contained in this Safety Data Sheet is based on present knowledge. It provides guidance on health, safety and environmental aspects of the product. The specific conditions of use of the product are outside the suppliers control.

The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. You should not use the product other than for the stated application or applications without seeking advice from us.

If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to secure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and of any precautions which should be taken.

**17. REVISIONS AND DATES**

Revision 1.1 Dec 1998. Change of address and telephone numbers