# UNITED 18
## MATERIAL SAFETY DATA SHEET

**PRODUCT IDENTIFICATION**
UNITED 18 ACIDEX DESCALER

**USE / DESCRIPTION**
Descaler

**REVISION DATE**
February 26, 2004

**FOR MEDICAL AND TRANSPORTATION EMERGENCIES:**
INFOTRAC: 800-535-5053

## HEALTH (0 = Maximum Safety)
Always follow Label Directions and Cautions.

4 Extreme. 3 High. 2 Moderate. 1 Slight. 0 Minimal.

See Health Hazard Data Section of this M.S.D.S. for more detailed information.

## FLAMMABILITY (0 = Maximum Safety)
Susceptibility of Material to Burning.

4 Extremely flammable. 3 Ignites at normal temperature. 2 Ignites when moderately heated. 1 Will not burn.

## REACTIVITY (0 = Maximum Safety)
Susceptible to Release of Energy.

2 Violent chemical change possible-use hose stream from distance. 1 Unstable if heated-use precaution.

## PERSONAL PROTECTION

### HAZARDOUS COMPONENTS

<table>
<thead>
<tr>
<th>HAZARDOUS COMPONENTS</th>
<th>CAS NUMBER</th>
<th>ACGIH TWA</th>
<th>ACGIH STEL</th>
<th>OSHA PEL</th>
<th>OTHER RECOMMENDED LIMITS</th>
<th>S.A.R.A. TITLE III QUANTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>Not established</td>
<td>C: 5 ppm</td>
<td>STEL C: 5 ppm</td>
<td></td>
<td>0.78*</td>
</tr>
<tr>
<td>Nonylphenol ethoxylate</td>
<td>9018-45-9</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

* Pounds of reportable material per gallon of UNITED product.

## PHYSICAL / CHEMICAL CHARACTERISTICS

- **BOILING POINT**
  Approximately 183°F.

- **VAPOR PRESSURE (mm Hg)**
  Not determined

- **VAPOR DENSITY (Air = 1)**
  Greater than 1.0

- **SOLUBILITY IN WATER**
  Complete

- **APPEARANCE AND ODOR**
  Clear pink liquid with hydrogen chloride odor

- **SPECIFIC GRAVITY (H₂O = 1)**
  1.055

- **MELTING POINT**
  Not determined

- **EVAPORATION RATE**
  (Water = 1) Greater than 1.0

- **VOLATILE ORGANIC COMPOUNDS (V.O.C.)**
  (Pounds Per Gallon Of Product) None

- **pH:**
  1.0

## FIRE AND EXPLOSION HAZARD DATA

- **FLASH POINT (Method Used)**
  None (Tag Closed Cup)

- **FLAMMABLE LIMITS**
  None

- **LEL**
  —

- **UEL**
  —

## EXTINGUISHING MEDIA
- Water spray, dry chemical, CO₂, alcohol foam

## SPECIAL FIRE FIGHTING PROCEDURES
- Firefighters should wear full protective equipment and NIOSH-approved self-contained breathing apparatus. Use water spray to cool fire exposed containers.

## UNUSUAL FIRE AND EXPLOSION HAZARDS
- Heating may cause release of hazardous fumes. May generate flammable, potentially explosive hydrogen gas on contact with some metals.

- Explosive levels of hydrogen may accumulate inside metal equipment. Follow appropriate NFPA codes.

(CONTINUED ON REVERSE SIDE)
REACTIVITY DATA

STABILITY: STABLE X
UNSTABLE

CONDITIONS TO AVOID
None known

INCOMPATIBILITY (Materials To Avoid)
Do not mix this product with other cleaning chemicals, especially strong bases, metal oxides, or oxidizers (like bleach).

HAZARDOUS DECOMPOSITION OR BYPRODUCTS
Heat can cause evolution of gaseous hydrogen chloride, CO₂ and miscellaneous organic compounds.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR X MAY OCCUR
CONDITIONS TO AVOID
None known

HEALTH HAZARD DATA

HEALTH HAZARDS
EYES: Causes severe burns and destruction of tissues. Small quantities can result in permanent damage and loss of vision. SKIN: May cause severe burns.

INHALATION: Vapors or mist may cause irritation to the throat, mucus membranes and upper respiratory tract. May cause damage to the lung tissue depending upon the extent of exposure. IF SWALLOWED: Can cause very serious damage to the mouth, esophagus, stomach and other contacted tissues and may be fatal.

CARCINOGENICITY:
NTP? No
IARC MONOGRAPH? No
OSHA REGULATED? No
This product contains a chemical known to the state of California to cause cancer or reproductive toxicity?

SIGNS AND SYMPTOMS OF OVEREXPOSURE
EYES: Pain, tearing, redness and swelling. SKIN: Redness and swelling. INHALATION: Irritation to the throat, mucus membranes and upper respiratory tract.

IF SWALLOWED: Severe irritation and injury characterized by pain in the mouth, throat and stomach, difficulty in swallowing, nausea and vomiting followed by diarrhea and respiratory distress.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY OVEREXPOSURE
Individuals with pre-existing disease of the lungs may have increased susceptibility to the toxicity of excessive exposures.

TARGET ORGANS
Eyes, skin, respiratory system

EMERGENCY AND FIRST AID PROCEDURES
EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician or poison center immediately. SKIN: Immediately flush with plenty of water for at least 15 minutes. Call a physician or poison center immediately. INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician or poison center. IF SWALLOWED: DO NOT induce vomiting. If conscious, drink several glasses of water. Call a physician or poison center immediately.

PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Wear appropriate personal protective equipment. Contain spill and place into container for proper disposal. Flush remaining area with water and neutralize with soda ash or lime. Maintain adequate ventilation.

WASTE DISPOSAL METHOD
Consult local, state, and federal authorities for proper disposal guidelines.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep containers tightly closed and store in a cool, dry place. Do not let containers freeze, as they may split or rupture. Do not get in eyes, on skin or clothing. Avoid breathing vapors or mists.

CONTROL MEASURES

FOR USE WHERE SIGNIFICANT EYE, SKIN OR INHALATION EXPOSURE IS LIKELY

RESPIRATORY PROTECTION (Specify Type)
If TLV is exceeded, use a NIOSH/MSHA-approved self-contained breathing apparatus.

VENTILATION: MECHANICAL (General) LOCAL EXHAUST
Provide adequate ventilation Generally adequate

PROTECTIVE GLOVES
Rubber gloves EYE PROTECTION
Safety goggles

OTHER PROTECTIVE CLOTHING OR EQUIPMENT
Long sleeves and chemical resistant apron recommended

WORK HYGIENIC PRACTICES
Remove contaminated clothing immediately and wash with soap and water before reusing. Wash hands and face with soap and water after using this product.