MATERIAL SAFETY DATA SHEET

NANO-STRIP 2X

SECTION I  MATERIAL INFORMATION

MANUFACTURER:  CYANTEK CORPORATION
3055 OSGOOD COURT
FREMONT, CA 94539 (510) 651-3341

NFPA RATING
HEALTH:  3
FIRE:  0
REACTIVITY:  2

0=LEAST, 1=SLIGHT, 2=Moderate, 3=SERIOUS, 4=SEVERE

TRADE NAME AND SYNONYMS:  NANO-STRIP 2X
Cleaning/Stripping Solution

CAS NUMBER:  N/A

CHEMICAL FAMILY:  Inorganic Acid/Oxidizer

FORMULA:  H2SO4 + H2SO5 + H2O2

SECTION II  HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENTS</th>
<th>% wt</th>
<th>EXPOSURE LIMITS</th>
<th>CAS NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>85%</td>
<td>1 mg/m3</td>
<td>7664-93-9</td>
</tr>
<tr>
<td>Peroxymonosulfuric Acid</td>
<td>10%</td>
<td>1 mg/m3</td>
<td>7722-86-3</td>
</tr>
<tr>
<td>Hydrogen Peroxide</td>
<td>&lt;1%</td>
<td>1 ppm</td>
<td>7722-84-1</td>
</tr>
</tbody>
</table>

SECTION III  PHYSICAL AND CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MOLECULAR WEIGHT</td>
<td>N/A</td>
<td>SOLUBILITY IN WATER: Complete</td>
</tr>
<tr>
<td>BOILING POINT (F)</td>
<td>&gt; 212</td>
<td>SPECIFIC GRAVITY (g/ml): 1.84</td>
</tr>
<tr>
<td>FREEZING POINT (F)</td>
<td>&lt; 0</td>
<td>APPEARANCE &amp; COLOR: Clear Colorless, Viscous Liquid</td>
</tr>
<tr>
<td>VAPOR PRESSURE (mm Hg)</td>
<td>N/A</td>
<td>ODOR: Pungent Odor</td>
</tr>
<tr>
<td>VAPOR DENSITY (Air =1)</td>
<td>N/A</td>
<td>pH: &lt;1</td>
</tr>
<tr>
<td>PERCENT VOLATILES (by vol)</td>
<td>&lt;1%</td>
<td></td>
</tr>
</tbody>
</table>

MSDS 17-141 REV. B DATED 6/10/98
SECTION IV  FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (F): N/A (TAG CLOSED CUP)
EXPLOSION LIMIT (% by vol.): N/A LOWER: UPPER:

EXTINGUISHING MEDIA:
Use water or non-combustible extinguishing media.

SPECIAL FIREFIGHTING PROCEDURES:
Use water spray to cool exposed containers. Prevent boiling of this formulation. Package and dispose of all contaminated materials. Block sewers in the path of spreading spill to prevent entry.

FIREFIGHTERS SHOULD WEAR:
Wear acid-protective clothing and full faceshield. Wear neoprene gloves and boots. Wear self-contained breathing apparatus if substance is heated.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Dangerous when heated to decomposition. Emits toxic fumes. Strong oxidizer can cause ignition of combustible material.

SECTION V  HEALTH HAZARD INFORMATION

LISTED AS CARCINOGEN:
IARC lists “strong inorganic acid mists” containing sulfuric acid as a Category 1 carcinogen. This does not apply to sulfuric acid.

EFFECTS OF OVEREXPOSURE:
Causes severe burns to eyes and skin. Ingestion causes burns of mouth and stomach. Decomposition products may cause respiratory tract injury. Overexposure causes coughing, choking, dizziness and weakness. Inhalation causes severe burning of mucous membranes, possible laryngeal, tracheal, bronchial, and pulmonary edema with possible shock, collapse. OSHA 8 hr. TWA & ACGIH TLV = 1mg/m³ (H₂SO₄)

FIRST AID PROCEDURES:

EYE CONTACT:
Hold eyelids open and flush with plenty of water for at least 15 minutes. Immediately get medical care.

SKIN CONTACT:
Flush affected areas with plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if skin shows irritation.

INHALATION:
Move to fresh air. If breathing is difficult, give oxygen. Call a physician if prolonged exposure occurs. Watch for possible delayed reaction.

INGESTION:
Give large amounts of water. Get medical attention immediately. Can be fatal if swallowed.
SECTION VI REACTIVITY DATA

STABILITY:
Stable only if high temperature and contamination are avoided.

INCOMPATIBILITY:
This formulation reacts violently with caustics and water. Avoid contact with organic materials, metal salts and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:
 Releases toxic gases (Sulfur Dioxide and Sulfur Trioxide) if heated to partial evaporation.

HAZARDOUS POLYMERIZATION:
No hazardous polymerization expected.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN:
Contain the spill by diking or absorbing the liquid, while neutralizing with lime or sodium carbonate. Avoid skin contact with substance. Wear proper spill clean-up clothing. Do not allow this substance to enter into the sewer system untreated.

WASTE DISPOSAL:
Dispose in approved disposal site following D.O.T. regulations for packaging and transporting. Dilute with large amounts of water and carefully neutralize prior to disposal. Comply with government regulations. This formulation contains no heavy metals.

SECTION VIII SPECIAL PROTECTION

Use neoprene gloves and full face shield. Use neoprene safety boots and PVC acid resistant clothing. Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain mists below exposure limits. Where required to keep exposures below exposure limits, wear NIOSH approved high efficiency particulate respirator for SO3 mists/acid vapors. Use NIOSH-approved respirator to filter Sulfur.

VENTILATION:
Provide general ventilation and local exhaust to meet TLV requirements in work place.

SECTION IX SPECIAL PRECAUTIONS

Protect against direct sunlight and store in a cool, well-ventilated area. Never add water to this acid. Always store in a vented container, separate from combustible, organic or easily oxidizable materials. Containers must be stored upright and tightly closed to prevent leakage. Safety showers and eye baths should be available in case of emergency. Avoid breathing mists or vapors.
### SECTION X  REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>SARA/TITLE III DATA (For Ingredients)</th>
<th></th>
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<tbody>
<tr>
<td>CERCLA HAZARDOUS SUBSTANCES: Sulfuric Acid (1000#)</td>
<td></td>
</tr>
<tr>
<td>EXTREMELY HAZARDOUS SUBSTANCES: Sulfuric Acid</td>
<td></td>
</tr>
<tr>
<td>TOXIC CHEMICALS (SECTION 313): Sulfuric Acid</td>
<td></td>
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**DOT INFORMATION**

<table>
<thead>
<tr>
<th>HAZARD CLASS:</th>
<th>Corrosive</th>
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<tr>
<td>PROPER SHIPPING NAME:</td>
<td>Corrosive liquids, oxidizing, N.O.S. (Sulfuric Acid, Peroxymonosulfuric Acid.)</td>
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<table>
<thead>
<tr>
<th>UN NUMBER:</th>
<th>UN 3093</th>
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**TSCA INVENTORY**

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<tr>
<th>TSCA INVENTORY: All ingredients on TSCA inventory.</th>
<th></th>
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**PROPOSITION 65 STATUS**

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<tr>
<th>PROP. 65 LIST: No ingredients on Prop. 65 list.</th>
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