

# CYANTEK CORPORATION

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## NANO-STRIP

### Material Safety Data Sheet

#### 1 Product and Company Identification:

- **Product name:** Nano-Strip
- **Manufacturer:**  
CYANTEK CORPORATION  
3055 Osgood Court  
Fremont, CA 94538  
(510) 651-3341
- **24 Hour Emergency Telephone Number:**  
CHEMTREC: (800) 424-9300 (North America): (703) 527-3887 (Int'l.)

#### 2 Composition/Information on Ingredients:

- **Chemical formula:** H<sub>2</sub>SO<sub>4</sub> + H<sub>2</sub>SO<sub>5</sub> + H<sub>2</sub>O<sub>2</sub> + H<sub>2</sub>O
- **Hazardous components:**

Component	Percent by wt.	CAS Number
Sulfuric Acid	90%	7664-93-9
Peroxymonosulfuric Acid	5%	7722-86-3
Hydrogen Peroxide	<1%	7722-84-1
Water	5%	7732-18-5

#### 3 Hazards identification

- **Hazard description:** Corrosive
- Extremely corrosive to eyes, skin and respiratory system.
- **Classification system**  
The classification was made from the hazardous components' MSDS's.

#### 4 First aid measures

- **Inhalation:** Supply fresh air; consult doctor in case of complaint.
- **Skin contact:** Flush affected areas with plenty of water, remove contaminated clothing, get medical attention if irritation persists.
- **Eye contact:** Rinse opened eye for several minutes under running water. Immediately consult a doctor.
- **Ingestion:** Give large amounts of water. Consult a doctor immediately.

#### 5 Fire fighting measures

- **Suitable extinguishing agents:** CO<sub>2</sub>, or water spray. Fight larger fires with water spray. Use water spray to cool exposed containers.
- **Protective equipment:** Wear goggles, rubber gloves and boots, self contained breathing apparatus, and acid protective clothing.

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### 6 Accidental release measures

- **Personal precautions:** Wear goggles, rubber boots and gloves, and acid-protective clothing
- **Environmental precautions:** Do not allow substance to enter sewage system, surface or ground water.
- **Methods for cleaning up:** Contain the spill by diking/absorbing with liquid-binding material (sand, diatomite, acid binders, universal binders). Ensure adequate ventilation.

### 7 Handling and storage

#### Handling

- **Information for safe handling:**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
No special measures required.

#### Storage

- Store between 50 and 77 Degrees F.
- Keep containers upright and tightly sealed.
- Store away from strong caustics, combustible, easily oxidizable materials, Ammonium Hydroxide, and Nitric Acid.
- Containers have vented caps.

### 8 Exposure controls and personal protection

- **Engineering controls:**  
No further data; see section 7.
- **Exposure limits (threshold limit values):**  
Sulfuric Acid: 1 mg/m<sup>3</sup> (TWA)  
Peroxymonosulfuric Acid: 1 mg/m<sup>3</sup> (TWA)  
Hydrogen Peroxide: 1 ppm (TWA)
- **General protective and hygienic measures:**  
Keep away from foodstuffs and beverages.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use S03 respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:** Acid resistant gloves.
- **Eye protection:** Tightly sealed goggles.
- **Body protection:** Acid resistant protective work clothing.

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### 9 Physical and chemical properties:

- **Physical state:** Liquid
- **Color:** Clear
- **Odor:** Faint acid odor
- **Boiling point:** Undetermined
- **Flash point:** Not applicable
- **Self ignition temperature:** Not applicable
- **Danger of explosion:** Product does not present an explosion hazard.
- **Vapor pressure** at (20 °C): Not applicable
- **Density** at (20 °C): 1.83 g/cm<sup>3</sup>
- **Solubility in water:** Fully soluble

### 10 Stability and reactivity

- **Thermal decomposition :** No decomposition
- **Dangerous reactions:** Reacts violently with caustics and water. Avoid contact with organic materials, metal salts, Ammonia, Nitric Acid, and reducing agents.
- **Dangerous products of decomposition:**  
Releases toxic gases (Sulfur Dioxide and Sulfur Trioxide) if heated to partial evaporation.
- **Avoid boiling of product**

### 11 Toxicological information

- **Acute toxicity:** Unknown
- **Primary irritant effect on the skin and eye:** Extremely corrosive
- **Sensitization:** No sensitizing effects known.
- **Ingestion:** Causes burns of mouth and stomach. May be fatal if swallowed.
- **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.
- IARC lists "strong inorganic acid mists" containing Sulfuric Acid as a category 1 carcinogen. This does not apply to Sulfuric Acid.

### 12 Ecological information:

- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.

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### 13 Disposal considerations

- Do not allow product to reach sewage system.
- Dispose of product (including packagings) in accordance with applicable regulations.

### 14 Transportation information

**Land (CFR 49), Maritime (IMDG), Air (ICAO)**

- **Class:** 8 (Corrosive Liquid), subsidiary risk 5.1 (Oxidizer)
- **UN Number:** 3093
- **Proper Shipping Name:** Corrosive liquids, oxidizing n.o.s. (Sulfuric Acid, Peroxymonosulfuric Acid)
- **Packing Group:** II

### 15 Regulations

- **CERCLA Hazardous Substances (with reportable quantity):** Sulfuric Acid (1000 #)
- **Extremely Hazardous Substances (with threshold quantity):** Sulfuric Acid (1000 #), Hydrogen Peroxide (1000 #)
- **Toxic Chemicals (Section 313):** Sulfuric Acid
- **TSCA Inventory:** All ingredients on TSCA inventory
- **Proposition 65 List:** None
- **Clean Water Act Hazardous Substance List (with reportable quantity):** Sulfuric Acid (1000 #)
- **Clean Air Act Synthetic Organic Chemical (CAA SOCM):** None
- **Clean Air Act Accidental Release Prevention Substance, section 112 r (with threshold quantity):** None
- **PSM Highly Hazardous Chemical List (with threshold quantity):** None
- **Safety phrases:**

Do not breathe fumes.

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

Wear suitable protective clothing.

In case of accident seek medical advice immediately.

### 16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.