

## Material Safety Data Sheet

### **1 Product and Company Identification:**

- **Product name:** CR-100 Chromium Etchant

- **Manufacturer:**  
CYANTEK CORPORATION  
3055 Osgood Court

Fremont, CA 94538

(510) 651-3341

- **24 Hour Emergency Telephone Number:**  
CHEMTREC: (800) 424-9300 or (202) 483-7676

### **2 Composition/Information on Ingredients:**

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

Component Percent by wt. CAS Number

Sodium Hydroxide 0.5% 1310-73-2

Potassium Permanganate 3% 7722-64-7

Water 96.5% 7732-18-5

### **3 Hazards identification**

- **Hazard description:** Corrosive
- Irritating 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. If irritation persists, consult a doctor.
- **Ingestion:** Give large amounts of water. Consult a doctor immediately.

## **5 Fire fighting measures**

- **Suitable extinguishing agents:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment** Wear goggles, rubber gloves and boots, self contained breathing apparatus, and caustic resistant protective clothing.

## **6 Accidental release measures**

- **Personal precautions:** Wear goggles, rubber boots and gloves, and caustic resistant 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, caustic 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 tightly sealed

- Store away from strong acids, water reactive materials, organic solvents

## **8 Exposure controls and personal protection**

- **Engineering controls:**

No further data; see section 7.

### **Exposure limits:**

Sodium Hydroxide: 2 mg/m<sup>3</sup> (TLV)

Potassium Permanganate: 0.2 mg/m<sup>3</sup> (TLV)

- **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 respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:** Caustic resistant gloves.

- **Eye protection:** Tightly sealed goggles.

- **Body protection:** Caustic resistant protective work clothing.

## **9 Physical and chemical properties:**

- **Physical state:** Liquid
- **Color:** Deep purple
- **Odor:** Odorless
- **Boiling point:** >100 degrees C
- **Flash point:** Not applicable
- **Self ignition temperature:** Not applicable

- **Danger of explosion:** Product does not present an explosion hazard.
- **Vapor pressure** at (20 °C): None established
- **Density** at (20 °C): 1.05 g/cm<sup>3</sup>
- **Solubility in water:** Fully soluble
- **Percent Water:** 96.5 %

#### **10 Stability and reactivity**

- **Thermal decomposition:** None known
- **Dangerous reactions:** No dangerous reactions known
- **Dangerous products of decomposition:** Toxic fumes emitted upon elevated temperatures
- **Avoid boiling of product**

#### **11 Toxicological information**

- **Acute toxicity:** Unknown
- **Primary irritant effect on the skin and eye:** Irritant
- **Sensitization:** No sensitizing effects known.

#### **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.

#### **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)
- **UN Number:** 3266
- **Proper Shipping Name:** Corrosive Liquid, Basic, Inorganic, N.O.S.,

(Potassium Permanganate, Sodium Hydroxide)

- **Packing Group:** III

**15 Regulations**

- **CERCLA Hazardous Substances (with reportable quantity):** Sodium Hydroxide (5000#), Potassium Permanganate (100#)
- **Extremely Hazardous Substances:** None
- **Toxic Chemicals (Section 313):** Sodium Hydroxide, Potassium Permanganate
- **TSCA Inventory:** All ingredients on TSCA inventory
- **Proposition 65 List:** 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.