

## Section 1: Identification

**MANUFACTURER:** PACE Technologies  
 3601 E. 34<sup>th</sup> St.  
 Tucson, AZ 85713

**INFORMATION PHONE:** 520-882-6598

**EMERGENCY PHONE:** CHEMTREC 800-424-9300 (US) Day or night  
 Customer No. 16568

**TRADE NAME:** Modified Tucker's reagent


**CHEMICAL FAMILY:** Corrosive Liquid, Toxic, N.O.S. (Contains Hydrochloric Acid, Nitric Acid, Hydrofluoric Acid, and Chromium Trioxide)

**HMIS RATING:** HEALTH: 4 FLAMMABILITY: 0 REACTIVITY: 2

**HAZARD RATING:**

LEAST: 0 SLIGHT: 1 MODERATE: 2 HIGH: 3 EXTREME: 4

## Section 2: Hazard(s) Identification

<b>GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)</b>	Corrosive to metals (Category 1) Acute toxicity, oral (Category 3) Skin corrosion/irritation (Category 1A) Serious eye damage/eye irritation (Category 1) Specific target organ toxicity (single exposure) (Category 3) Carcinogenicity (Category 1B) (due to Chromium Trioxide)
<b>PICTOGRAM(s):</b>	
<b>SIGNAL WORD:</b>	Danger
<b>HAZARD STATEMENTS:</b>	<b>Hazard Statement(s):</b> H290: May be corrosive to metals. H301: Toxic if swallowed. H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage. H335: May cause respiratory irritation. H350: May cause cancer.

**PRECAUTIONARY  
STATEMENTS:**

**Precautionary Statement(s):**

**Preventions:**

P202: Do not handle until all safety precautions have been read and understood.  
P260: Do not breathe dust/fume/gas/mist/vapors/spray.  
P264: Wash hands thoroughly after handling.  
P280: Wear protective gloves, protective clothing, and eye/face protection.

**Response:**

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
P308+P313: IF exposed or concerned: Get medical advice/attention.

**Storage:**

P403+P235- Store in a well-ventilated place. Keep cool..  
P406- Store in corrosive resistant container with a resistant inner liner.

**Disposal:**

P501- Dispose of contents/container to Federal, State and Local Regulations. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of flammable organics.

**SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)**

Health Rating: 4 - Severe (Severe hazard)

Flammability Rating: 0 - Severe (Minimal hazard)

Reactivity Rating: 2 - Moderate

Contact Rating: 4 - Extreme (Corrosive and Toxic)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;  
PROPER GLOVES; CLASS B EXTINGUISHER

Storage Color Code: White (Corrosive)

**Section 3: Composition/Information on Ingredients**

Component	CAS Number	Concentration (% by volume/weight)
Distilled Water	7732-18-5	~50%
Hydrochloric Acid (HCl)	7647-01-0	~15%
Nitric Acid (HNO <sub>3</sub> )	7697-37-2	~20%
Hydrofluoric Acid (HF)	7664-39-3	~1.25%
Chromium Trioxide (CrO <sub>3</sub> )	1333-82-0	~13%

## **Section 4: First-Aid Measures**

### **Inhalation:**

Move the person to fresh air. If breathing is difficult, administer oxygen and seek medical attention immediately.

### **Ingestion:**

Do not induce vomiting. Never give anything by mouth to an unconscious person.

### **Skin Contact:**

Remove contaminated clothing. Wash skin thoroughly with water for at least 15 minutes. Seek medical attention.

### **Eye Contact:**

Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing and seek immediate medical attention.

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## **Section 5: Fire-Fighting Measures**

### **Suitable Extinguishing Media:**

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

### **Specific Hazards:**

Mixture can release toxic and corrosive fumes (e.g., hydrogen chloride, nitrogen oxides, chromium oxides).

### **Protective Equipment:**

Wear self-contained breathing apparatus and full protective clothing.

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## **Section 6: Accidental Release Measures**

### **Suitable Extinguishing Media:**

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

### **Specific Hazards:**

Mixture can release toxic and corrosive fumes (e.g., hydrogen chloride, nitrogen oxides, chromium oxides).

### **Protective Equipment:**

Wear self-contained breathing apparatus and full protective clothing.

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## **Section 6: Accidental Release Measures**

### **Personal Precautions:**

Evacuate the area. Wear appropriate protective equipment.

### **Environmental Precautions:**

Prevent entry into drains, waterways, or soil.

### **Cleanup Methods:**

Neutralize spills with a suitable neutralizing agent (e.g., sodium bicarbonate). Absorb with inert material and dispose of according to local regulations.

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## **Section 7: Handling and Storage**

### **Handling:**

Handle in a fume hood. Avoid contact with skin, eyes, and clothing. Do not inhale vapors.

### **Storage:**

Store in a cool, dry, well-ventilated area. Keep away from incompatible materials such as organic substances, reducing agents, and metals.

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## **Section 8: Exposure Controls/ Personal Protection**

### **Exposure Limits:**

- Hydrochloric Acid: ACGIH TLV 2 ppm
- Nitric Acid: ACGIH TLV 2 ppm
- Hydrofluoric Acid: ACGIH TLV 0.5 ppm
- Chromium Trioxide: OSHA PEL 0.005 mg/m<sup>3</sup>

### **Engineering Controls:**

Use local exhaust ventilation.

### **Personal Protective Equipment (PPE):**

- Eye/Face Protection: Chemical splash goggles and face shield.
  - Skin Protection: Acid-resistant gloves and protective clothing.
  - Respiratory Protection: Use a NIOSH-approved respirator.
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## **Section 9: Physical and Chemical Properties**

**Appearance:**

Clear Reddish color.

**Odor:**

Pungent.

**Solubility:**

Completely soluble in water

**pH:** <1

**Flash Point:**

Not applicable

**Boiling Point:**

~100°C

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## **Section 10: Stability and Reactivity**

**Stability:**

Stable under recommended storage conditions.

**Incompatible Materials:**

Organic materials, reducing agents, bases, and metals.

**Hazardous Decomposition Products:**

Hydrogen chloride, nitrogen oxides, fluorine compounds, and chromium oxides.

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## **Section 11: Toxicological Information**

**Acute Toxicity:**

Toxic if ingested, inhaled, or in contact with skin.

**Carcinogenicity:**

Chromium Trioxide is classified as a Group 1 carcinogen (IARC).

**Symptoms:**

Severe burns, respiratory distress, nausea, and potential organ damage.

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## Section 12: Ecological Information

### Toxicity:

Harmful to aquatic life with long-lasting effects.

### Persistence and Degradability:

Chromium compounds are persistent in the environment.

### Bioaccumulation Potential:

Chromium compounds can bioaccumulate.

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## Section 13: Disposal Considerations

Dispose of in accordance with local, regional, and national regulations. Do not discharge into waterways.

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## Section 14: Transportation Information

### Domestic (Land, D.O.T.)

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**Proper Shipping Name:** CORROSIVE LIQUID, Toxic, N.O.S. (Contains Hydrochloric Acid, Nitric Acid, Hydrofluoric Acid, and Chromium Trioxide)

**Hazard Class:** 8 (Corrosive)

**UN/NA:** UN 2922

**Packing Group:** II

**Label Codes:** 8

Limited Quantity Shipments <1 L

**NMFC:** 45615-11

Shipping Class CL125

### International (Air, I.C.A.O.)

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**Proper Shipping Name:** CORROSIVE LIQUID, Toxic, N.O.S. (Contains Hydrochloric Acid, Nitric Acid, Hydrofluoric Acid, and Chromium Trioxide)

**Hazard Class:** 8 (Corrosive)

**UN/NA:** UN 2922

**Packing Group:** II

**Label Codes:** 8

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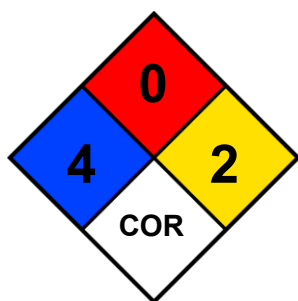
## Section 15: Regulatory Information

### US Regulations:

- OSHA: Hazardous
  - TSCA: Listed
  - SARA 313: Chromium Trioxide
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## Section 16: Other Information

### 16.1 NFPA 704



**Top, Flammability: 0 – Minimal Hazard**

**Left, Health Hazard: 3 – Severe Hazard**

**Right, Reactivity: 2 – Moderate Hazard**

**Bottom, Special Notice: COR – Corrosive**

### Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. In all cases call a physician.

### Product Use:

Laboratory Reagent.

### Disclaimer:

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