

# MATERIAL SAFETY DATA SHEET

Issue Date: 1-October-2008  
Revised: November 20, 2008

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**MANUFACTURER:** Union Etchants International, Inc.

**ADDRESS:** 8-10 Green Street, Bldg. A  
Woburn, MA 01801

**Telephone:** 1-781-935-8878

**EMERGENCY TELEPHONE NUMBER:** CHEMTREC (24 hours): 1-800-424-9300

**PRODUCT NAME:** CR-1A CHROME ETCHANT

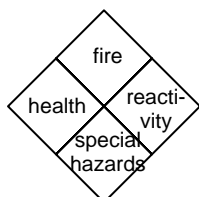
## SECTION II - COMPOSITION, INFORMATION ON INGREDIENTS

### INGREDIENTS

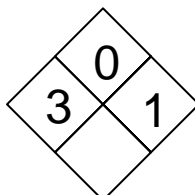
Material	%	CAS #
CERIC AMMONIUM NITRATE	5-8	16774-21-3
PERCHLORIC ACID	7-10	7601-90-3
WATER	70-85	7732-18-5

## SECTION III - HAZARDS IDENTIFICATION

### NFPA FIRE HAZARD SYMBOL:



4 – extreme  
3 – high  
2 – moderate  
1 – slight  
0 – insignificant



### Hazard Categories:

1- Causes severe skin burns; 1- Causes serious eye damage; 4- Harmful if swallowed



## SECTION III - HAZARDS IDENTIFICATION (continued)

### Hazard Signal Word

**DANGER**

### Hazards

Causes Severe Eyes and Skin Burns  
Causes Severe Respiratory and Digestive Tract Burns  
Contact with Other Material May Cause Fire  
Corrosive to metals

### Precautionary Measures

Do not get in eyes, on skin or clothing  
Do not breathe fumes or mist  
Keep away from heat, sparks, open flame, flammables, oxidizers, combustible materials  
Do not ingest  
Use only with adequate ventilation  
Do not let evaporate to near dryness  
Keep container tightly closed  
Wash thoroughly after handling

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## INGREDIENT EXPOSURE LIMITS

OSHA PEL or ACGIH TLV have not been established for either perchloric acid or ceric ammonium nitrate.

## SECTION IV- FIRST AID MEASURES

### EYE CONTACT:

In case of eye contact, immediately flush eyes with plenty of water for at least fifteen minutes. Remove contact lenses if worn. Seek Medical attention immediately.

### SKIN CONTACT:

In case of skin contact, seek Medical attention immediately. Immediately flush skin with plenty of water for at least fifteen minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean (or destroy) shoes before reuse.

### INHALATION:

If inhaled get Medical attention immediately. Remove to fresh air.

### INGESTION:

If swallowed get Medical attention immediately. Do NOT induce vomiting, unless directed by Medical personnel. Never give anything by mouth to an unconscious person

## **SECTION V - FIRE FIGHTING MEASURES**

### **Recommended Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fires.

### **Special/Unusual Fire Fighting Procedures:**

Wear self-contained breathing apparatus with a full face piece and full protective gear.

Fight fire from protected location or maximum possible distance. Use flooding quantities of water as a spray to keep fire-exposed containers cool.

## **SECTION VI - ACCIDENTAL RELEASE MEASURES**

Before picking up spill, wear the minimum personal protective equipment, specified in Section VIII. For large spills a higher level of personal protective equipment may be needed. After adding inert absorbing material, sweep and shovel spill into an empty plastic-lined container. Secure cover on waste container and identify for chemical waste disposal via appropriate corporate procedure.

Do not mix picked-up spills of different chemicals together.

Flush contaminated area with water ONLY AFTER spill has been picked up; use sufficient water.

## **SECTION VII - HANDLING AND STORAGE**

Store in a cool, dry place.

Store away from alkalis, organic materials, oxidizing materials and reducing agents.

## **SECTION VIII - EXPOSURE CONTROLS/ PERSONAL PROTECTION**

### **RECOMMENDED VENTILATION:**

Local exhaust ventilation at generation points for mist and fumes.

### **RESPIRATOR:**

Any dust, mist or fume respirator, except single-use or disposable respirator or appropriate particle filter as defined in 42CFR84 depending on the potential for the presence of oil particles in air and the filter efficiency (95, 99 or 99.97%) needed.

### **EYE PROTECTION:**

Minimum of chemical workers goggles should be used. Full face shield should be worn where splashing is possible.

### **SKIN PROTECTION:**

Minimum of Natural rubber, Neoprene, Nitrile rubber or Polyvinyl chloride gloves. Impervious garment also required where risk of exposure is high.

## SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance and Odor:</b>	Orange liquid
<b>Warning Properties:</b>	None
<b>Melting point:</b>	Not applicable
<b>Boiling point:</b>	Not available
<b>Specific Gravity (H<sub>2</sub>O=1):</b>	Not available
<b>pH:</b>	< 1
<b>% Solubility in Water:</b>	Dilutable
<b>Vapor Density:</b>	Not available
<b>% Volatiles by Volume:</b>	75-85
<b>Vapor Pressure:</b>	@ 20°C: ND

## SECTION X - STABILITY AND REACTIVITY

### Hazardous Reactivity:

Compound is considered stable.

Compound is incompatible with alkalis, oxidizing materials, organic materials, acetic acid, acetic anhydride and reducing agents.

Avoid exposure to high heat.

Do not allow solution to get dry. Concentrated solutions of perchloric acid are strong oxidizers.

Compound on combustion may produce oxides of Nitrogen and Hydrogen Chloride

Corrosive to metals

## SECTION XI - TOXICOLOGICAL INFORMATION

### INHALATION:

Slightly acutely toxic; corrosive

### SKIN CONTACT:

Corrosive

### SKIN ABSORPTION:

Not likely to be absorbed in toxic amounts

### EYE CONTACT:

Corrosive

### INGESTION:

Slightly acutely toxic; corrosive

### EFFECTS OF ACUTE OVEREXPOSURE:

Eye, skin, esophagus and stomach burns. If ingested abdominal pains, nausea, vomiting, general gastro-intestinal upset.

## SECTION XI - TOXICOLOGICAL INFORMATION (continued)

### EFFECTS OF CHRONIC OVEREXPOSURE

None of the ingredients are listed by OSHA, IARC or NTP

## SECTION XII - ECOLOGICAL INFORMATION

No information available

## SECTION XIII - DISPOSAL CONSIDERATION

Observe all federal, state and local regulations when disposing of this substance.

## SECTION XIV - TRANSPORT INFORMATION

**D.O.T PROPER SHIPPING NAME (49 CFR 171.101)** Corrosive liquid, acid, inorganic, n.o.s.  
(Ceric Ammonium Nitrate, Perchloric Acid)

<b>D.O.T. HAZARD CLASS:</b>	Corrosive (8)
<b>D.O.T IDENTIFICATION NUMBER (UN/NA):</b>	UN 3264
<b>D.O.T. PACKING GROUP:</b>	II
<b>D.O.T. PRIMARY HAZARD LABEL:</b>	CORROSIVE

## SECTION XV - REGULATORY INFORMATION

**TSCA Inventory:** All chemicals listed

**EPCRA Section 313:** Not listed

**California Prop 65:** Not listed

**New Jersey Worker and Community Right to Know Act:** Perchloric acid- R3, E

**Pennsylvania Worker and Community Right to Know Act:** Perchloric acid

## SECTION XVI - OTHER INFORMATION

**Users Responsibility:** A bulletin such as this cannot be expected to cover all possible individual situations of chemical handling and exposure. As the user has the responsibility to ensure a safe working environment and proper training of those handling this and other chemicals, all aspects of individual operation should be examined to determine if, or where, precautions are required. Any health hazard and safety information herein should be passed on to your employees, customers and anyone who may come in contact with the material.

**Disclaimer of Liability:** The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards beyond those described herein, and we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user.

No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations concerning the safe handling, use, storage and disposal of this material.