

Safety Data Sheet

Chrome Etch (TI)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chrome Etch (TI)

Synonyms/Generic Names: None

Product Number: 1476

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Word: Danger

Pictograms:



GHS Classification:

Oxidizing liquids	Category 1
Skin corrosion	Category 1A
Serious eye damage	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H271	May cause fire or explosion; strong oxidizer.
H314	Causes severe skin burns and eye damage.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking
P220	Keep/Store away from clothing/ combustible materials.
P221	Take any precautions to avoid mixing with combustibles.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P283	Wear fire/flame resistant/retardant clothing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/ physician.

P306+P360	IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P371+P380+P375	In case of major fire and large quantities evacuate area. Fight fire remotely due to the risk of explosion.
P370+P378	In case of fire: Use water for extinction.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303+P351+P335	IF ON SKIN (or hair): Remove/take off immediately all clothing. Rinse skin with water/shower.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P405	Store lock up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes eye burns.
Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Harmful if absorbed through skin. Causes skin burns.
Ingestion	Harmful if swallowed.

NFPA Ratings

Health	3
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	3
Fire	0
Reactivity	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Perchloric Acid	7.5	7601-90-3	231-512-4	HClO ₄	100.46 g/mol
Ceric Ammonium Nitrate	1.88	16774-21-3	240-827-6	Ce(NH ₄) ₂ (NO ₃) ₆	548.22 g/mol
Water	Balance	7732-18-5	231-791-2	H ₂ O	18.00 g/mol

4. FIRST-AID MEASURES

Eyes	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (hydrogen chloride gas, chlorine, nitrogen oxides, cerium oxides, ammonia) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Contains no substances with occupational exposure limit values.

Personal Protection

Eyes	Wear chemical safety glasses or goggles with face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, and full body suit. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid.
Odor	Not Available
Odor threshold	Not Available
pH	<1
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Density	1.0490 (water = 1)
Solubility (ies)	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Not Available
Incompatible Materials	Strong bases, strong acids, amines, phosphorus halides, alcohols, organic materials, powdered metals, strong reducing agents.
Hazardous Decomposition Products	Hydrogen chloride gas, chlorine, nitrogen oxides, cerium oxides, ammonia.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Perchloric Acid

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral – rat – 1100 mg/kg

Ceric Ammonium Nitrate

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral – rat - >300-2,000 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
-------------	--

Signs & Symptoms of Exposure

Skin	Burns, deep penetrating ulcers of the skin.
Eyes	Irritation, redness, watering eyes.
Respiratory	Sore throat, coughing, shortness of breath and delayed lung edema.
Ingestion	Pain, dysphagia, necrotic areas, epigastric pain, which may be associated with nausea, and vomiting, corrosive ulceration, gastric bleeding, profound thirst, scanty urine, shock and circulatory collapse. May also affect behavior, respiration (dyspnea), and metabolism, liver, kidneys, and cardiovascular system.

Chronic Toxicity	Repeated or prolonged skin contact may cause skin sensitization, an allergic reaction and possible destruction and/or ulceration. Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Chronic ingestion may cause effects similar to those of acute ingestion.
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Perchloric Acid

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Ceric Ammonium Nitrate

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residues.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN3093, Corrosive liquid, oxidizing, n.o.s., (Perchloric acid and Ceri ammonium nitrate), 8, (5.1), pg II
TDG	UN3093, CORROSIVE LIQUID, OXIDIZING, N.O.S., (PERCHLORIC ACID AND CERIC AMMONIUM NITRATE), 8, (5.1), PG II
IMDG	UN3093, CORROSIVE LIQUID, OXIDIZING, N.O.S., (PERCHLORIC ACID AND CERIC AMMONIUM NITRATE), 8, (5.1), PG II
Marine Pollutant	No
IATA/ICAO	UN3093, Corrosive liquid, oxidizing, n.o.s., (Perchloric acid and Ceri ammonium nitrate), 8, (5.1), pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Massachusetts: Toxic or Hazardous Substance List	Listed: Perchloric acid
New Jersey: Right to Know Hazardous Substance List	Listed: Perchloric acid
Pennsylvania: Hazardous Substance List	Listed: Perchloric acid
Rhode Island: Hazardous Substance List	Listed: Perchloric acid
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Physical Hazard, Acute Health Hazard
SARA 312	Physical Hazard, Acute Health Hazard
SARA 313	Not Listed
WHMIS Canada	Class C: Oxidizing material. Class E: Corrosive liquid.

16. OTHER INFORMATION

Revision	Date
Revision 1	01/07/2014
Revision 2	10/28/2020

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.