# SAFETY DATA SHEET

**Revision Date** 29-Mar-2017 **Version** 1

## 1. IDENTIFICATION

**Product Name** Cleaning Solution, Chromic-Sulfuric Acid

**Product Code** 9403

**Recommended Use** For laboratory, scientific, R&D or manufacturing use.

**Company**
E K Industries, Inc.
1403 Herkimer St.
Joliet, IL 60432
Tel. (800) 283-4244

**Emergency Telephone** Call CHEMTREC 1-800-424-9300 (EKI CCN 7453)

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Acute toxicity - Inhalation (Dusts/Mists) | Category 2 |
| Skin corrosion/irritation | Category 1 Sub-category A |
| Serious eye damage/eye irritation | Category 1 |
| Respiratory sensitization | Category 1 |
| Skin sensitization | Category 1 |
| Germ cell mutagenicity | Category 1B |
| Carcinogenicity | Category 1A |
| Reproductive toxicity | Category 2 |
| Corrosive to metals | Category 1 |

**Label elements**

**Signal word**
Danger

**Hazard statements**
Fatal if inhaled. Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child.
May be corrosive to metals.

**Precautionary Statements - Prevention**
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear respiratory protection. Wash face, hands and any exposed skin thoroughly after handling. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. Keep only in original container.

**Precautionary Statements - Response**
Immediately call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
Absorb spillage to prevent material damage.

**Precautionary Statements - Storage**
Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in original container or other corrosive resistant container.

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Weight-% |
|---|---|---|
| Sulfuric acid | 7664-93-9 | >90 |
| Chromium trioxide (CrO3) | 1333-82-0 | <1 |

## 4. FIRST AID MEASURES

**Description of first aid measures**

**Eye contact** Immediately flush with plenty of water for at least 15 minutes, separating eyelids occasionally. Remove contact lenses if present. Get immediate medical attention.

**Skin contact** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Immediate medical attention is required.

**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

**Ingestion** Rinse mouth. Do NOT induce vomiting. Drink 1 or 2 glasses of water. Immediate medical attention is required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Fumes/vapors are extremely irritating. Causes skin and eye irritation/burns. If swallowed, causes GI disturbances. Corrosive effects. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause damage to organs, cancer, or genetic defects.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

**Unsuitable extinguishing media**

DO NOT USE WATER; MAY REACT VIOLENTLY WITH WATER.

**Specific hazards arising from the chemical**
Thermal decomposition can lead to release of irritating and toxic gases and vapors. The product causes burns of eyes, skin and mucous membranes. React vigorously and/or explosively with water.

**Hazardous combustion products**
Sulphur oxides. Contact with metals may evolve flammable hydrogen gas.

**Protective equipment and precautions for firefighters**
Firefighters should wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

| **NFPA** | **Health hazards** 3 | **Flammability** 0 | **Instability** 2 | **Physical and Chemical Properties** W |
|---|---|---|---|---|

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.

**Environmental precautions** Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Neutralize acid prior to using absorbent materials. Absorb spill with inert material, scoop up and containerize for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling** Use personal protective equipment as required
Handle in accordance with good industrial hygiene and safety practice.

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong acids. Strong bases. Alcohols. Metals. Strong reducing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational exposure limits**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Sulfuric acid<br>7664-93-9 | TWA: 0.2 mg/m³ thoracic particulate matter | TWA: 1 mg/m³<br>(vacated) TWA: 1 mg/m³ | IDLH: 15 mg/m³<br>TWA: 1 mg/m³ |
| Chromium trioxide (CrO3)<br>1333-82-0 | TWA: 0.05 mg/m³ Cr | TWA: 5 µg/m³<br>(vacated) Ceiling: 0.1 mg/m³<br>Ceiling: 0.1 mg/m³ CrO3 applies to any operations or sectors for which the Hexavalent Chromium standard [29 CFR 1910.1026] is stayed or is otherwise not in effect | IDLH: 15 mg/m³ Cr(VI)<br>TWA: 0.0002 mg/m³ Cr |

**Appropriate engineering controls**

**Engineering Controls** Emergency showers, eyewash stations, ventilation systems.

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/face protection** | Tight sealing safety goggles. |
| **Skin and body protection** | Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. |
| **Respiratory protection** | If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| **General Hygiene Considerations** | Handle in accordance with good industrial hygiene and safety practice. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Clear, reddish brown |
| **Odor** | Odorless |
| **Odor threshold** | No information available |
| **pH** | No information available |
| **Melting point / freezing point** | No information available |
| **Boiling point / boiling range** | No information available |
| **Flash point** | No information available |
| **Evaporation rate** | No information available |
| **Flammability (solid, gas)** | No information available |
| **Flammability Limit in Air** | |
| **Upper flammability limit:** | No information available |
| **Lower flammability limit:** | No information available |
| **Vapor pressure** | No information available |
| **Vapor density** | No information available |
| **Relative density** | 1.840 |
| **Water solubility** | Miscible with water |
| **Solubility in other solvents** | No information available |
| **Partition coefficient** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability** | Stable under recommended storage conditions. |
| **Possibility of Hazardous Reactions** | None under normal processing. |
| **Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **Incompatible materials** | Strong acids. Strong bases. Alcohols. Metals. Strong reducing agents. |
| **Hazardous Decomposition Products** | Sulphur oxides. Hydrogen. |

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May be fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

**Eye contact** Corrosive to the eyes and may cause severe damage including blindness.

**Skin contact** Harmful in contact with skin. Causes burns.

**Ingestion** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Sulfuric acid<br>7664-93-9 | = 2140 mg/kg ( Rat ) | - | = 510 mg/m³ ( Rat ) 2 h |
| Chromium trioxide (CrO3)<br>1333-82-0 | = 80 mg/kg ( Rat ) | = 57 mg/kg ( Rabbit ) | = 0.217 mg/L ( Rat ) 4 h |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Causes severe burns.
**Serious eye damage/eye irritation** Causes burns and risk of serious eye damage. May cause blindness.
**Corrosivity** Corrosive to living tissue.
**Sensitization** May cause sensitization by skin contact. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
**Germ cell mutagenicity** May cause heritable genetic damage.
**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| Chromium trioxide (CrO3)<br>1333-82-0 | A1 | Group 1 | Known | X |

**Legend**
*ACGIH (American Conference of Governmental Industrial Hygienists)*
*A1 - Known Human Carcinogen*
*IARC (International Agency for Research on Cancer)*
*Group 1 - Carcinogenic to Humans*
*NTP (National Toxicology Program)*
*Known - Known Carcinogen*
*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*
*X - Present*

**Reproductive toxicity** Possible risk of impaired fertility
**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure.

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## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| Sulfuric acid<br>7664-93-9 | - | 500: 96 h Brachydanio rerio mg/L LC50 static | 29: 24 h Daphnia magna mg/L EC50 |
| Chromium trioxide (CrO3)<br>1333-82-0 | - | 40: 96 h Colisa fasciatus mg/L LC50 static | - |

**Persistence and degradability**
No information available.

**Bioaccumulation**
No information available.

**Other adverse effects** No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and

regulations.

**Contaminated packaging** Do not reuse container. Emptied containers may contain residue. Continue to follow label warnings after container is emptied.

| Chemical Name | California Hazardous Waste Status |
|---|---|
| Sulfuric acid<br>7664-93-9 | Toxic<br>Corrosive |
| Chromium trioxide (CrO3)<br>1333-82-0 | Toxic<br>Corrosive<br>Ignitable |

## 14. TRANSPORT INFORMATION

Transportation information is provided as a general reference only and may not be applicable in all situations. This information applies to non-bulk shipments only. Per 49 CFR §173.22, it is the shipper's responsibility to ensure that all materials are properly packaged, classified and labeled prior to shipment.

**DOT**

| | |
|---|---|
| **UN/ID no.** | 1830 |
| **Proper shipping name** | Sulfuric acid |
| **Hazard Class** | 8 |
| **Packing Group** | II |

**IATA**

| | |
|---|---|
| **UN/ID no.** | 1830 |
| **Proper shipping name** | Sulfuric acid |
| **Hazard Class** | 8 |
| **Packing Group** | II |

## 15. REGULATORY INFORMATION

### US Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|---|---|
| Sulfuric acid - 7664-93-9 | 1.0 |
| Chromium trioxide (CrO3) - 1333-82-0 | 0.1 |

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire hazard** | No |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | Yes |

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|---|---|---|---|
| Sulfuric acid<br>7664-93-9 | 1000 lb | - | - | X |
| Chromium trioxide (CrO3)<br>1333-82-0 | - | X | - | - |

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---|---|---|---|
| Sulfuric acid<br>7664-93-9 | 1000 lb | 1000 lb | RQ 1000 lb final RQ<br>RQ 454 kg final RQ |

## US State Regulations

### California Proposition 65

This product contains the following Proposition 65 chemicals

| Chemical Name | California Proposition 65 |
|---|---|
| Sulfuric acid - 7664-93-9 | Carcinogen |
| Chromium trioxide (CrO3) - 1333-82-0 | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

### U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Sulfuric acid<br>7664-93-9 | X | X | X |
| Chromium trioxide (CrO3)<br>1333-82-0 | X | X | X |

## 16. OTHER INFORMATION

**Prepared By** EKI Regulatory Affairs (Email: reg@eki-chem.com)
**Revision Date** 29-Mar-2017

### Disclaimer

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**End of Safety Data Sheet**