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SAFETY DATA SHEET

Revision Date 07-Oct-2015

Version 1

1. IDENTIFICATION

Product Name Chromic Acid Solution, 5% w/v

Product Code 3267

Synonyms Chromium Trioxide Solution, 5% w/v

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 - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
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
Specific target organ toxicity (repeated exposure)	Category 1

Label elements

Signal word

Danger

Hazard statements

Harmful if swallowed. Harmful 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. Causes damage to organs through prolonged or repeated exposure.



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. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

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. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Water	7732-18-5	93-97
Chromium trioxide (CrO ₃)	1333-82-0	3-7

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	Causes severe skin burns and eye damage. May cause damage to organs, cancer, or genetic defects. May cause cancer.
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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 a solid water stream as it may scatter and spread fire

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products

On decomposition product releases oxygen which may intensify fire. Chromium oxides.

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** 0 **Physical and Chemical Properties** -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

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 away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a dry, cool and well-ventilated place. Keep/store only in original container.

Incompatible materials Strong bases. Strong reducing agents. Aldehydes. Metals. Alcohols. Combustible material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chromium trioxide (CrO ₃) 1333-82-0	TWA: 0.05 mg/m ³ Cr	TWA: 5 µg/m ³ (vacated) Ceiling: 0.1 mg/m ³ Ceiling: 0.1 mg/m ³ CrO ₃ 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/m ³ Cr(VI) TWA: 0.0002 mg/m ³ 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 protective gloves and protective clothing.

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, orange
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	No information available
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	To avoid thermal decomposition, do not overheat. Extremes of temperature and direct sunlight.
Incompatible materials	Strong bases. Strong reducing agents. Aldehydes. Metals. Alcohols. Combustible material.
Hazardous Decomposition Products	Thermal decomposition can lead to release of toxic/corrosive gases and vapors. Oxygen. Chromium oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause sensitization by inhalation. Harmful by inhalation.
Eye contact	Risk of serious damage to eyes.
Skin contact	Contact causes severe skin irritation and burns. May cause an allergic skin reaction.

Ingestion

Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Chromium trioxide (CrO ₃) 1333-82-0	= 50 mg/kg (Rat)	= 55 mg/kg (Rat) = 20 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.
Sensitization	May cause sensitization by inhalation. May cause sensitization by skin contact.
Germ cell mutagenicity	Contains a known or suspected mutagen.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Chromium trioxide (CrO ₃) 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	Contains a known or suspected reproductive toxin
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Chromium trioxide (CrO ₃) 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
Chromium trioxide (CrO ₃) 1333-82-0	Toxic Corrosive

	Ignitable
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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.	UN 1755
Proper shipping name	Chromic acid solution
Hazard Class	8
Packing Group	II

IATA

UN/ID no.	UN 1755
Proper shipping name	Chromic acid solution
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 %
Chromium trioxide (CrO ₃) - 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	No

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
Chromium trioxide (CrO ₃) 1333-82-0	-	X	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Chromium trioxide (CrO ₃) - 1333-82-0	Carcinogen Developmental Female Reproductive

Male Reproductive

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Chromium trioxide (CrO3) 1333-82-0	X	X	X

16. OTHER INFORMATION**Prepared By**

EKI Regulatory Affairs (Email: reg@eki-chem.com)

Revision Date

07-Oct-2015

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End of Safety Data Sheet