



ELECTRO-CHEMICAL DEVICES

Liquid Analytical Instrumentation for Process Control

Bringing Simplicity
to a Solution

Material Safety Data Sheet

Sulfuric Acid 5% (V/V) Solution

1. Product Identification

Synonyms:	CA-6 Analyzer Chromium Reagent #2
CAS No.:	Not applicable to mixtures.
Molecular Weight:	Not applicable to mixtures.
Chemical Formula:	Not applicable to mixtures.
Product Codes:	ECD P/N 2010062-1
Manufacture By:	Electro-Chemical Devices, Inc. 1681 Kettering Irvine, CA 92614 Phone: (800) 729-1333

2. Hazards Identification

Emergency Overview

OSHA Hazards

Target Organ Effect, Corrosive

Target Organs

Teeth, Lungs

GHS Classification

Skin irritation (Category 2)

Eye irritation (Category 2A)

GHS Label elements, including precautionary statements



Pictogram

Signal word: Warning

Hazard statement(s)

H315 Causes skin irritation.



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H319

Causes serious eye irritation.

Precautionary statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



HMIS Classification

Potential Health Effects

Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin

May be harmful if absorbed through skin. Causes skin burns.

Eyes

Causes eye burns.

Ingestion

May be harmful if swallowed.

3. Composition/Information on Ingredients

Formula: H₂SO₄

Molecular Weight: 98.08 g/mol

Component	Classification	Concentration
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Sulfuric Acid	Skin Corr. 1A; H314 1 -	5 %
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CAS-No. 7664-93-9

EC-No. 231-639-5

Index-No. 016-020-00-8

Registration number 01-2119458838-20-XXXX

4. First Aid Measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.



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In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Fire Fighting Measures

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Sulphur oxides

6. Accidental Release Measures

General Information:

Use proper personal protective equipment. Avoid breathing vapors, mist or gas.

Ensure adequate ventilation.

Spills/Leaks:

May be neutralized with slaked lime, limestone, or sodium bicarbonate to a pH 7. Place in labeled plastic containers for disposal, wash area down with water.

7. Handling and Storage

Handling: Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use with adequate ventilation.

Storage: Do not store near alkaline substances. Store in labeled non-reactive containers (glass, plastic) protected from heat and incompatible substances.

8. Exposure Controls/Personal Protection



Components	CAS No.	Value	Control Parameters	Basis
Sulfuric Acid	7664-93-9	TWA	0.2 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1 mg/m ³	USA. OSHA - TABLE Z-1 Limits for Air Contaminants -1910.1000
		TWA	1 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique

(Without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 30 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.



Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection teste and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical and Chemical Properties

Appearance:	Clear, colorless liquid.
Odor:	Odorless.
Solubility:	Complete (100%)
Specific Gravity:	1.01 g/mL
pH:	Acidic, pH < 1
% Volatiles by volume @ 21C (70F):	ca. 99
Boiling Point:	No information found.
Melting Point:	No information found.
Vapor Density (Air=1):	Not applicable.
Vapor Pressure (mm Hg):	Not applicable.
Evaporation Rate (BuAc=1):	No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Oxides of sulfur

Hazardous Polymerization:

Will not occur.

Conditions to Avoid:

Incompatible materials, excess heat, combustible materials, organic materials, oxidizers, amines, bases.



11. Toxicological Information

Acute toxicity

Oral LD50

no data available

Inhalation LC50

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

Eyes: no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity:

IARC: 1 - Group 1: Carcinogenic to humans (Sulfuric acid)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: Known to be human carcinogen (Sulfuric acid)

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

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)



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no data available

Aspiration hazard

no data available

Potential health effects

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

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

no data available

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Dilute with water and flush to sewer if local ordinances allow, otherwise, whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

DOT (US)

UN number: 3264 Class: 8 Packing group: III

Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid)

Reportable Quantity (RQ): 40816 lbs



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Marine pollutant: No

Poison Inhalation Hazard: No

15. Regulatory Information

OSHA Hazards

Target Organ Effect, Corrosive

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS-No.	Revision Date
Sulfuric acid	7664-93-9	2007-07-01

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Sulfuric acid	7664-93-9	2007-07-01

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Sulfuric acid	7664-93-9	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Sulfuric acid	7664-93-9	2007-07-01
Water	7732-18-5	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Sulfuric acid	7664-93-9	2007-07-01
Water	7732-18-5	

California Prop 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

	CAS-No.	Revision Date
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Sulfuric acid

7664-93-9

2007-09-01

16. Other Information

Text of H-code(s) and R-phrases mentioned in Section 3

H314 Causes severe skin burns and eye damage.

Skin Corr. Skin corrosion

Product Use:

Laboratory Reagent

Revision Information:

MSDS-2010062-1 rev. B January 2015
