

SAFETY DATA SHEET

Preparation Date: 7/23/2014

Revision Date: 7/23/2014

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: C-223
Product Name: CHROMACLEAN(R)

Other means of identification

Synonyms: No information available
CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Regina Wachenheim (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Acute toxicity - Inhalation (Gases)	Category 2
Acute toxicity - Inhalation (Vapors)	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
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2

Label elements

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 cancer
Suspected of damaging fertility or the unborn child



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful if swallowed

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

Precautionary Statements - Response

Specific treatment is urgent (see .? on this label)
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)
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

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Sulfuric Acid 7664-93-9	7664-93-9	84-85	*
Water 7732-18-5	7732-18-5	15-16	*
Chromium Trioxide 1333-82-0	1333-82-0	0.5	*

4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact:

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.

Eye Contact:

Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation:

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Follow with Milk of Magnesia or egg whites beaten with water. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Most important symptoms and effects, both acute and delayed

Symptoms

Severe skin and eye irritation or burns. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

For Sulfuric Acid:

Contact with metals may evolve flammable hydrogen gas
Metal acetylides (Monocesium and Monorubidium), and
carbides ignite with concentrated sulfuric acid.

White Phosphorous + boiling Sulfuric acid or its vapor ignites
on contact.

May ignite other combustible materials.

May cause fire when sulfuric acid is mixed with
Cyclopentadiene, cyclopentanone oxime, nitroaryl amines,
hexalithium disilicide, phosphorous (III) oxide, and oxidizing
agents such as chlorates, halogens, permanganates.

Mixtures of sulfuric acid and any of the following can
explode: p-nitrotoluene, pentasilver
trihydroxydiaminophosphate, perchlorates, alcohols with
strong hydrogen peroxide, ammonium tetraperoxychromate,
mercuric nitrite, potassium chlorate, potassium
permanganate with potassium chloride, carbides, nitro
compounds, nitrates, carbides, phosphorous, iodides,
picrates, fulminates, dienes, alcohols (when heated)
Nitramide decomposes explosively on contact with
concentrated sulfuric acid.

1,3,5-Trinitrosohexahydro-1,3,5-triazine + sulfuric acid
causes explosive decomposition.

Containers may explode when heated or if contaminated
with water

Reaction with water may generate much heat which will
increase the concentration of fumes in the air

Special Protective Actions for Firefighters

Specific Methods:

Water mist may be used to cool closed containers. Do not
use water on material itself. Do not get water inside
containers. When material is not involved in a fire, do not
use water on material itself. DO NOT use combustible
materials such as sawdust.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus
pressure-demand, MSHA/NIOSH (approved or equivalent)
and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch
damaged containers or spilled material unless wearing appropriate protective clothing. Use
personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the
environment. Do not let product enter drains. Do not flush into surface water or
sanitary sewer system. Prevent entry into waterways, sewers, basements or confined
areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk.

Methods for cleaning up

Neutralize with Sodium carbonate or Sodium bicarbonate. Dilute with water. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling**Technical Measures/Precautions:**

Use only in area provided with appropriate exhaust ventilation. Do not allow contact with water. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. May corrode metallic surfaces. Do not store in uncoated metallic containers. Store in a segregated and approved area. Do not store near combustible materials. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents. Reducing agents. Organic materials. Combustible materials. Bases. Amines. Metals. Water. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**National occupational exposure limits****United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Sulfuric Acid - 7664-93-9	1 mg/m ³ TWA	1 mg/m ³ TWA	0.2 mg/m ³ TWA thoracic fraction	None
Water - 7732-18-5	None	None	None	None
Chromium Trioxide - 1333-82-0	None	0.0002 mg/m ³ TWA Cr	None	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Sulfuric Acid - 7664-93-9	1 mg/m ³ TWA 3 mg/m ³ STEL	0.2 mg/m ³ TWA	0.2 mg/m ³ TWA thoracic	1 mg/m ³ TWAEV 3 mg/m ³ STEV
Water - 7732-18-5	None	None	None	None
Chromium Trioxide - 1333-82-0	None	None	None	None

Australia and Mexico

Components	Australia	Mexico
Sulfuric Acid 7664-93-9	3 mg/m ³ STEL 1 mg/m ³ TWA	1 mg/m ³ TWA
Water 7732-18-5	None	None
Chromium Trioxide 1333-82-0	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Face-shield.

Skin and body protection: Chemical resistant protective suit. Gloves. boots.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Liquid.

Appearance:

No information available

Color:

Red brown.

Odor:

Odorless, but has a choking odor when hot.

Taste

No information available

Molecular/Formula weight:

No information available

Flash point (°C):

No data available

Flashpoint (°C/°F):

No information available.

Flash Point Tested according to:

Not available

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Autoignition Temperature (°C/°F):

No information available

pH:

No information available

Melting point/range(°C/°F):

No information available

Boiling point/range(°C/°F):

No information available

Decomposition temperature(°C/°F):

No information available

Specific gravity:

1.5-1.6 (calculated)

Density (g/cm³):

No information available

Bulk density:

No information available

Vapor pressure @ 20°C (kPa):

No information available

Evaporation rate:

No information available

Vapor density:

3.37

VOC content (g/L):

No information available

Odor threshold (ppm):

No information available

Partition coefficient (n-octanol/water):

No information available

Viscosity:

No information available

Miscibility:

No information available

Solubility:

Soluble in Water

10. STABILITY AND REACTIVITY

Reactivity

10. STABILITY AND REACTIVITY

For Sulfuric Acid:

Reacts violently with water

It reacts with alcohols and amines

Incompatible (can react explosively or dangerously) with the following: ACETIC ACID, ACRYLIC ACID, AMMONIUM HYDROXIDE, CRESOL, CUMENE, DICHLOROETHYL ETHER, ETHYLENE CYANOHYDRIN, ETHYLENEIMINE, NITRIC ACID, 2-NITROPROPANE, PROPYLENE OXIDE, SULFOLANE, VINYLIDENE CHLORIDE, DIETHYLENE GLYCOL MONOMETHYL ETHER, ETHYL ACETATE, ETHYLENE CYANOHYDRIN, ETHYLENE GLYCOL MONOETHYL ETHER ACETATE, GLYOXAL, METHYL ETHYL KETONE, dehydrating agents, organic materials, moisture (water), Acetic anhydride, Acetone, cyanohydrin, Acetone+nitric acid, Acetone + potassium dichromate, Acetonitrile, Acrolein, Acrylonitrile, Acrylonitrile+water, Alcohols + hydrogen peroxide, ally compounds such as Allyl alcohol, and Allyl Chloride, 2-Aminoethanol, Ammonium hydroxide, Ammonium triperchromate, Aniline, Bromate + metals, Bromine pentafluoride, n-Butyraldehyde, Carbides, Cesium acetylene carbide, Chlorates, Cyclopentanone oxime, chlorinates, Chlorates + metals, Chlorine trifluoride, Chlorosulfonic acid, 2-cyano-4-nitrobenzenediazonium hydrogen sulfate, Cuprous nitride, p-chloronitrobenzene, 1,5-Dinitronaphthlene + sulfur, Diisobutylene, p-dimethylaminobenzaldehyde, 1,3-Diazidobenzene, Dimethylbenzylcarbinol + hydrogen peroxide, Epichlorohydrin, Ethyl alcohol + hydrogen peroxide, Ethylene diamine, Ethylene glycol and other glycols, , Ethylenimine, Fulminates, hydrogen peroxide, Hydrochloric acid, Hydrofluoric acid, Iodine heptafluoride, Indane + nitric acid, Iron, Isoprene, Lithium silicide, Mercuric nitride, Mesityl oxide, Mercury nitride, Metals (powdered), Nitromethane, Nitric acid + glycerides, p-Nitrotoluene, Pentasilver trihydroxydiaminophosphate, Perchlorates, Perchloric acid, Permanganates + benzene, 1-Phenyl-2-methylpropyl alcohol + hydrogen peroxide, Phosphorus, Phosphorus isocyanate, Picrates, Potassium tert-butoxide, Potassium chlorate, Potassium Permanganate and other permanganates, halogens, amines, Potassium Permanganate + Potassium chloride, Potassium Permanganate + water, Propiolactone (beta)-, Pyridine, Rubidium acetylene carbide, Silver permanganate, Sodium, Sodium carbonate, sodium hydroxide, Steel, styrene monomer, toluene + nitric acid, Vinyl acetate, Thallium (I) azidodithiocarbonate, Zinc chlorate, Zinc iodide, azides, carbonates, cyanides, sulfides, sulfites, alkali hydrides, carboxylic acid anhydrides, nitriles, olefinic organics, aqueous acids, cyclopentadiene, cyano-alcohols, metal acetylides, Evolves flammable hydrogen gas on contact with metals
Concentrated sulfuric acid oxidizes, dehydrates, or sulfonates most organic compounds

Chemical stability

Stability: Stable at normal conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials. Exposure to water.

Incompatible Materials: Oxidizing agents. Reducing agents. Organic materials. Combustible materials. Bases. Amines. Metals. Water. Acids.

Hazardous decomposition products: Sulphur oxides.

Other Information

Corrosivity: For Sulfuric Acid:
Extremely corrosive in presence of aluminum
Extremely corrosive in presence of copper
Extremely corrosive in the presence of stainless steel (316)
Highly corrosive in the presence of stainless steel (304)
Non-corrosive in the presence of glass
Minor corrosive effect on bronze
Non-corrosive to lead and mild steel
No corrosion data on brass or zinc

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Inhalation. Ingestion.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	2548mg/kg
ATEmix (inhalation-gas)	206mg/l
ATEmix (inhalation-vapor)	0.8mg/l

Component Information

Sulfuric Acid - 7664-93-9

LD50/oral/rat = 2140 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 347 ppm 1 h
510 mg/m³ Inhalation LC50 Rat 2 h
LC50/inhalation/mouse = 320 mg/m³ Inhalation 2 h LC50 Mouse
Other LD50 or LC50information = No information available

Water - 7732-18-5

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Chromium Trioxide - 1333-82-0

LD50/oral/rat = 50-80 mg/kg Oral LD50 Rat
LD50/oral/mouse = 127 mg/kg
LD50/dermal/rabbit = 20 mg/kg Dermal LD50Rabbit
LD50/dermal/rat = 55 mg/kg Dermal LD50 Rat
LC50/inhalation/rat = 0.217 mg/L Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact:	Severe skin irritation. Causes skin burns. May cause sensitization by skin contact. May cause allergic skin reaction.
Eye Contact:	Severe eye irritation. Causes eye burns.
Inhalation	Fatal if inhaled. Causes severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, sneezing, shortness of breath, and delayed lung edema. Can cause chemical burns (corrosive action) to the respiratory tract and mucous membranes. Inhalation may be fatal as a result of bronchospasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. May affect cardiovascular system (hypotension, depressed cardiac output, bradycardia). Circulatory shock/collapse with clammy skin, weak and rapid pulse, shallow respiration, and scanty urine may follow. Ischemic liver and heart lesions, kidney failure may occur several hours after unchecked circulatory collapse. Circulatory shock is often the immediate cause of death. May also affect teeth(changes in teeth and supporting structures - erosion, discoloration).
Ingestion	May be harmful if swallowed. Causes digestive or gastrointestinal tract burns. Corrosive to the mouth, throat, and stomach. May cause permanent damage to the digestive tract. May cause perforation of the digestive tract. May cause gastritis. May cause abdominal pain. Ingestion may cause nausea, vomiting. Vomit may resemble "coffee grounds". May cause metabolic acidosis.
Aspiration hazard	No information available

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

Chronic Toxicity	<p>For Sulfuric Acid:</p> <p>Inhalation: Prolonged or repeated inhalation may affect behavior (muscle contraction or spasticity), urinary system (kidney damage), and respiratory system/lungs(pulmonary edema, lung damage/changes in lung function with chronic bronchitis and emphysema), teeth (dental discoloration, erosion).</p> <p>Skin: Prolonged or repeated skin contact may cause dermatitis.</p> <p>Eyes: Conjunctivitis is also a common finding with chronic exposure.</p> <p>For Chromium trioxide:</p> <p>Skin: Repeated or prolonged skin contact may cause allergic contact dermatitis (allergic skin reaction). May also cause slow-healing skin ulcers ("chrome sores"), particularly if skin is broken.</p> <p>Eyes: Repeated or prolonged eye contact may cause conjunctivitis.</p> <p>Inhalation: Repeated or prolonged inhalation may cause allergic respiratory reaction. It may cause chronic respiratory tract irritation with chronic rhinitis, hyperemia, chronic catarrh, congestion of the larynx, inflammation of the larynx, polyps of the upper respiratory tract, chronic inflammation of the lungs, emphysema, tracheitis, chronic bronchitis, bronchospasm (asthma), chronic pharyngitis, bronchopneumonia, ulceration and perforation of the nasal septum.</p> <p>Ingestion: Repeated or prolonged ingestion may cause nausea, vomiting, loss of appetite, kidney damage, inflammation of the liver or even hepatitis with jaundice, leukocytosis, leukopenia, monocytosis, and eosinophilia</p>
Sensitization:	May cause sensitization by inhalation and skin contact
Mutagenic Effects:	<p>For Chromium Trioxide</p> <p>May affect genetic material</p> <p>Mutations in microorganisms</p> <p>Experiments with bacteria and/or yeast have shown mutagenic effects</p> <p>Mutagenic effects in mammalian somatic cells</p> <p>Mutagenic effects on mammalian germ cells</p>

Carcinogenic effects:

For Sulfuric Acid: May cause cancer. However, evidence is inconclusive. Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC Group 1). However, this classification applies only to mists containing sulfuric acid generated during an industrial process and not to (almost) pure sulfuric acid or sulfuric acid solutions; The ACGIH has classified "strong inorganic acid mists containing sulfuric acid" as a suspected human carcinogen (ACGIH Group A2). However, this classification applies only to mists containing sulfuric acid generated during an industrial process and not to (almost) pure sulfuric acid or sulfuric acid solutions.

. For Chromium Trioxide: Carcinogenic.

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Sulfuric Acid	A2 Suspected Human Carcinogen (contained in strong inorganic acid mists)	Group 1 - Monograph 54 [1992] Occupational exposure to mists and vapours from sulfuric acid and other strong inorganic acids	Not listed	Present	Not listed	Not listed
Water	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Chromium Trioxide	Not listed	Group 1- Monograph 49 [1990] chromium[VI] Supplement 7 [1987] Monograph 23 [1980] Monograph 2 [1973]	Known Human Carcinogen Chromium hexavalent compounds	Present	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity

Suspected of damaging fertility or the unborn child

Reproductive Effects:

May cause adverse reproductive effects based on animal data. Possible risk of impaired fertility.

Developmental Effects:

May cause developmental effects based on animal data. Possible risk of harm to the unborn child.

Teratogenic Effects:

For Sulfuric Acid:

Developmental effects and Teratogenicity: According to the Registry of Toxic Effects of Chemical Substances (RTECS reference - Murry et al, "Embryotoxicity of Inhaled Sulfuric Acid Aerosol in Mice and Rabbits", Journal of Environmental Science and Health, Part C, Vol. 13, pages 251-266, 1979), musculoskeletal developmental abnormalities were found in rabbits at a dose of 20 mg/m³ for 7 hrs. However, REPROTOX and Shepard's Catalog of Teratogenic Agents, citing this same study, stated that inhalation of sulfuric acid fumes did not increase congenital anomalies in the offspring of treated pregnant mice or rabbits. Furthermore, the Hazard Substance Data Bank (HSDB) also stated that in a developmental toxicity study conducted under a method similar to OECD test Guideline 414 that no significant effects on mean numbers of implants/dam, live fetuses/litter or resorptions/litter were observed in mice and rabbits exposed by inhalation to sulfuric acid aerosol at 5 and 20 mg/m³ during gestation and therefore could not be considered embryotoxic, or fetotoxic.

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: Skin. Eyes. Respiratory system. Teeth.

12. ECOLOGICAL INFORMATION**Ecotoxicity****Ecotoxicity effects:** Aquatic environment.*Sulfuric Acid - 7664-93-9***Freshwater Fish Species Data:** 500 mg/L LC50 Brachydanio rerio 96 h static 1*Chromium Trioxide - 1333-82-0***Freshwater Fish Species Data:** 40 mg/L LC50 Colisa fasciatus 96 h static 1**Persistence and degradability:** No information available**Bioaccumulative potential:** No information available**Mobility:** No information available**13. DISPOSAL CONSIDERATIONS****Disposal Methods****Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Sulfuric Acid	None	None	None	None
Water	None	None	None	None
Chromium Trioxide	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1760
Proper Shipping Name: Corrosive liquids, n.o.s. (sulfuric acid)
Hazard Class: 8
Subsidiary Risk: Not applicable
Packing Group: II
Marine Pollutant: No data available
ERG No: 154
DOT RQ (lbs): No information available
Symbol(s): G

TDG (Canada)

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

ADR

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Hazard Class: 8
Packing Group: II
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Hazard Class: 8
Subsidiary Risk: 8
Packing Group: II
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.

14. TRANSPORT INFORMATION

Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

IATA

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 8L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Sulfuric Acid</i>	Present	Present KE-32570	Present	Present (1)-724 (1)-430	Present	Present	Present 231-639-5
<i>Water</i>	Present	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
<i>Chromium Trioxide</i>	Present R	Present KE-06020	Present	Present (1)-284	Present	Present	Present 215-607-8

U.S. Regulations

Sulfuric Acid

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey (EHS) List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List: Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
 1000 lb RQ
 100 lb RQ
Louisiana Reportable Quantity List for Pollutants: 1000lbfinal RQ
 454kgfinal RQ
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1095

Chromium Trioxide

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
Pennsylvania RTK: Special hazardous substance
Pennsylvania RTK - Special Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Sulfuric Acid</i>	Listed under strong inorganic mists containing sulfuric acid	Not Listed	Not Listed	Not Listed
<i>Water</i>	Not Listed	Not Listed	Not Listed	Not Listed

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Chromium Trioxide	carcinogen (listed as Chromium (hexavalent compounds))	Developmental toxicity (listed as Chromium (hexavalent compounds))	Male Reproductive toxicity (listed as Chromium (hexavalent compounds))	Female Reproductive toxicity (listed as Chromium (hexavalent compounds))

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Sulfuric Acid	1000 lb final RQ 454 kg final RQ	1000 lb TPQ	None	None	1.0 % de minimis concentration
Water	None	None	None	None	None
Chromium Trioxide	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Sulfuric Acid	Not Applicable	Not Applicable
Water	Not Applicable	Not Applicable
Chromium Trioxide	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

- E Corrosive material
- D1A Very toxic materials
- D2A Very toxic materials
- D2B Toxic materials

Sulfuric Acid

D1A E including >51%, <=51%

Water

Uncontrolled product according to WHMIS classification criteria

Chromium Trioxide

C D1A D2A D2B E

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Sulfuric Acid	1 %
Chromium Trioxide	0.1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Sulfuric Acid	Present	Not Listed
Water	Present	Not Listed
Chromium Trioxide	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Sulfuric Acid	Not listed	Not listed
Water	Not listed	Not listed
Chromium Trioxide	Not listed	Not listed

EU Classification

R-phrase(s)

R35 - Causes severe burns.

R45 - May cause cancer.

R62 - Possible risk of impaired fertility.

R46 - May cause heritable genetic damage.

R42/43 - May cause sensitization by inhalation and skin contact.

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S30 - Never add water to this product.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 1/2 - Keep locked up and out of the reach of children.

Components	Classification	Concentration Limits:	Safety Phrases
Sulfuric Acid	C; R35	15%≤C: C; R:35 5%≤C<15%: Xi; R:36/38	S1/2 S26 S30 S45
Water		No information	
Chromium Trioxide	T; R24/25-48/23 T+; R26 C; R35 R42/43 Carc.Cat.1; R45 Muta.Cat.2; R46 N; R50-53 Repr.Cat.3; R62 O; R9	10%≤C: C; R:35 5%≤C<10%: C; R:34 1%≤C<5%: Xi; R:36/37/38	S53 S45 S60 S61

The product is classified in accordance with Annex VI to Directive 67/548/EEC

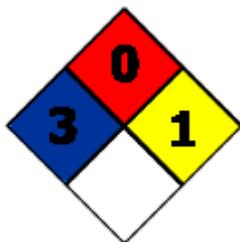
Indication of danger:

None.

16. OTHER INFORMATION

16. OTHER INFORMATION

NFPA	HMIS	Personal Protective Equipment
------	------	-------------------------------



Health Hazard	3
Fire Hazard	0
Reactivity	1



See Section 8.

Preparation Date: 7/23/2014
Revision Date: 7/23/2014
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Material Safety Data Sheet