Safety Data Sheet
CHROMIC ACID, 48% AQUEOUS

Section 1 - Chemical Product and Company Identification

SDS Name: Chromic Acid, 48% Aqueous
Catalog Numbers: SO-853
Company Identification: Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.
10 ELECTRONICS AVENUE
DANVERS, MA 01923
For information, call: 978-739-4883
Emergency Number: 800-424-9300
For CHEMTREC assistance, call: 800-424-9300

Section 2 - Hazards Identification

GHS Classifications

H271-Oxidizing liquids: 1
H290-Corrosive to metals: 1
H301-Acute toxicity, oral: 3
H310-Acute toxicity, dermal: 2
H314-Skin corrosion/irritation: 1A
H317-Sensitisation, skin: 1
H318-Serious eye damage/eye irritation: 1
H330-Acute toxicity, inhalation: 2
H334-Sensitisation, respiratory: 1
H340-Germ cell mutagenicity: 1B
H350-Carcinogenicity: 1A
H361-Reproductive toxicity: 2
H372-Specific target organ toxicity, repeated exposure: 1
H400-Hazardous to the aquatic environment, acute toxicity: 1
H410-Hazardous to the aquatic environment, chronic toxicity: 1

Pictogram or Hazard Symbols and Hazard Statement(s):

Signal Word: Danger

Hazard Statements:

H271-May cause fire or explosion; strong oxidizer
H290-May be corrosive to metals
H301-Toxic if swallowed
H310-Fatal in contact with skin
H314-Causes severe skin burns and eye damage
H317-May cause an allergic skin reaction
H318-Causes serious eye damage
H330-Fatal if inhaled
H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled
H340-May cause genetic defects
H350-May cause cancer
H361-Suspected of damaging fertility or the unborn child
H372-Causes damage to organs through prolonged or repeated exposure (target organs: kidney, liver, and blood)
H400-Very toxic to aquatic life
H410-Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P201-Obtain special instructions before use.
P202-Do not handle until all safety precautions have been read and understood.
P210-Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P220-Keep away from clothing and other combustible materials.
P234-Keep only in original packaging.
P260-Do not breathe dust/fume/gas/mist/vapours/spray.
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.
P262-Do not get in eyes, on skin, or on clothing.
P264-Wash thoroughly after handling.
P270-Do not eat, drink, or smoke when using this product.
P271-Use only outdoors or in a well-ventilated area.
P272-Contaminated work clothing should not be allowed out of the workplace.
P273-Avoid release to the environment.
P280-Wear protective gloves/protective clothing/eye protection/face protection.
P283-Wear fire resistant or flame retardant clothing.
P284-Wear respiratory protection.
P301+P310-If swallowed: Immediately call a Poison Center/doctor.
P301+P330+P331-If swallowed: Rinse mouth. Do NOT induce vomiting.
P302+P352-If on skin: Wash with plenty of soap and water.
P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340-If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338-If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P306+P360-If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P308+P313-If exposed or concerned: Get medical advice/attention.
P310-Immediately call a Poison Center/doctor.
P314-Get medical advice/attention if you feel unwell.
P330-Rinse mouth.
P333+P313-If skin irritation or rash occurs: Get medical advice/attention.
P342+P311-If experiencing respiratory symptoms: Call a Poison Center/doctor.
P361+P364-Take off immediately all contaminated clothing and wash it before reuse.
P362+P364-Take off contaminated clothing and wash it before reuse.

P363-Wash contaminated clothing before reuse.
P370+P378-In case of fire: Use dry chemical, carbon dioxide, dry sand, or alcohol-resistant foam to extinguish.
P371+P380+P375-In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P390-Absorb spillage to prevent material damage.
P391-Collect spillage.
P403+P233-Store in a well-ventilated place. Keep container tightly closed.
P405-Store locked up.
P406-Store in a corrosion resistant container with a resistant inner liner.
P420-Store separately.
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
1333-82-0	Chromic Acid (Chromium(VI) oxide)	48 w/v
7732-18-5	Water	Balance

Section 4 - First Aid Measures

Eye Exposure: May result in corneal injury and possible burns. Both liquid and vapor are corrosive. In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek immediate medical attention.

Dermal Exposure: Obtain immediate medical attention: May cause skin sensitization, and allergic reaction. Both liquid and vapor are corrosive to exposed skin. In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention.

Oral Exposure: If swallowed, obtain immediate medical attention. Will cause severe burns to the mouth and severe and permanent damage to the digestive tract. Causes gastrointestinal burns and perforation of the digestive tract. Do NOT induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation Exposure: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Seek immediate medical attention. May cause allergy, asthma symptoms, or breathing difficulties if inhaled.

Note: Chromic acid is highly toxic. It is absorbed via both the lungs and the gastrointestinal tract. It can cause burns and ulcerations on the skin and mucous membranes and irritations in the upper respiratory tract. It can lead to sensitization and allergic reactions of the respiratory tract and damage to nasal mucous membranes. It may cause an allergic skin reaction. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Chromic acid is corrosive. Use only under a chemical fume hood. Always wear personal protective equipment.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating gases may be generated by thermal decomposition or combustion.

Extinguishing media: Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam.

Hazardous Combustion Products: Chromium oxides, irritating and toxic fumes and gases.

Flash Point: Not available
Autoignition Temperature: Not available
Explosion Limits, Lower: Not available
Upper: Not available
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 1 OXIDIZER

Note: Chromic acid is an oxidizer. Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Contact with chromic acid causes burns of the eyes, skin, and mucous membranes. Do not release the material or run-off from fire to the environment. Do not release into drains.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):
Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation.

Methods for Cleaning up: Dike and cover the contaminated areas with absorbent, non-combustible material such as sand, earth, or vermiculite. Neutralize with alkaline material such as soda ash or lime. Keep away from clothing and other combustible materials. Carefully sweep up and containerize for proper disposal. Do not release to the environment. Do not release to drains.

Section 7 - Handling and Storage

Use care when handling. Wash thoroughly after handling. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not ingest. Do not breathe vapors/dust. Use only under a chemical fume hood. Keep away from clothing and other combustible materials. Store in a glass container and keep it closed tightly. Do not store

near combustibles or in direct sunlight. Protect from heat. Store in a cool, dry, and well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Exposure Limits:

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA - Final PELs
Chromic Acid CAS#1333-82-0	0.0005 mg/m3 Skin STEL 0.0002 mg/m3 TWA	0.0002 mg/m3 TWA 15 mg/m3 IDLH	0.1 mg/m3 Ceiling

OSHA Vacated PELs: Chromic Acid: 0.1 mg/m3 Ceiling

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: Reddish-violet
Odor: Odorless
Vapor Pressure: Not available
Odor Threshold: Not available
Vapor Density: Not available
pH: <0.4
Relative Density: Not available
Melting point/freezing point: Not available
Solubility: Soluble in water
Boiling Point: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability (solid, gas): Not available
Partition coefficient: n-octanol/water: Not available
Auto-ignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available

Specific Gravity/Density: Not available

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Store in a glass bottle. This material is an oxidizer. Contact with combustible/organic material may cause fire.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat, sparks, and open flame. Exposure to moist air or water. Combustible materials.
Incompatibilities with other materials: Strong acids, bases, oxidizing agents, alcohols, amines, ammonia, hydrocarbons, ketones, acetone, acid anhydrides, metals, reducing agents, finely powdered metals, alkali metals, hydrogen-hydrogen compounds, hydrazine and derivatives, nitrates, nitric acid, sulfur dioxide, metal salts, and combustible materials.
Hazardous Decomposition Products: Chromium oxides, irritating and toxic fumes and gases.

Section 11 - Toxicological Information

CAS#1333-82-0 Chromic Acid: RTECS#: GB6650000
LD50 Oral: 80 mg/kg (rat)
LD50 Dermal: 57 mg/kg (rabbit)
LC50 Inhalation: 217 mg/m3 (rat) 4h

Carcinogenicity: Chromic Acid CAS#1333-82-0 is not listed by OSHA. Chromic Acid is listed by IARC (Group 1, Carcinogenic to Humans), NTP (Known Carcinogen), ACGIH (A1, Known Human Carcinogen), and California Prop. 65 as a developmental carcinogen (female and male reproductive).

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation, and eye.

Epidemiology: Not available.
Teratogenicity: Teratogenic effects have occurred in experimental animals.
Reproductive Effects: Possible risk of impaired fertility.
Developmental Effects: Not available.
Neurotoxicity: Not available.
Mutagenicity: Mutagenic Ames test – positive.
Specific Target Organ Toxicity, Single Exposure: Respiratory system.
Specific Target Organ Toxicity, Repeated Exposure: Kidney, liver, and blood.

Symptoms associated with exposure: Chromic acid is highly toxic and corrosive. It is absorbed via both the lungs and the gastrointestinal tract. It can cause burns and ulcerations on the skin and mucous membranes and is destructive to the tissues in the upper respiratory tract, eyes, skin. It can lead to sensitization and allergic reactions of the respiratory tract and damage to nasal mucous membranes. It may cause an allergic skin reaction. Symptoms of an allergic reaction may include rash, itching, flushing, hives, swelling, trouble breathing, tingling of the hands and feet, dizziness/lightheadedness, chest pain, muscle pain. Eye contact may cause redness, burning, blindness. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Other symptoms of exposure include cough, wheezing, shortness of breath, headache, nausea, stomach irregularities.

The toxicological properties of this material have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicity: Very toxic to aquatic life with long lasting effects. Do not release to the environment. Do not release to drains.

CAS#1333-82-0 Chromic Acid:
LC50, freshwater fish: 40 mg/L 96h static (colisa fasciatus)
EC50, water flea: 0.035 mg/L 48h (daphnia magna)

Persistence and degradability: Not available.
Bio-accumulative potential: Not available.
Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13 - Disposal Considerations

DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.

Section 14 – Transport Information

DOT
Proper shipping name: Chromic Acid Solution
UN1755
PG II
Hazard class 8

Section 15 - Regulatory Information

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information

SDS Creation Date: 5-11-12
Revision #1. 7-31-14
Revision #2. 1-3-23

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