

MATERIAL SAFETY DATA SHEET
emergency telephone (262) 251-4977

Section 1 – Company Name and Product Information

Name: **Alliance Group, Inc.**
City: Germantown

Address: N114 W18621 Clinton Drive
State: Wisconsin Zip Code: 53022

Product name: **CST-C**
Product code: 0169

Revised: 6/15/09
Replaces: 11/3/08

Section 2 – Composition / Hazardous Ingredients

CAS Number	Chemical Component	% by weight	OSHA Hazard
77-92-9	Citric Acid	<55.0%	YES
7664-93-9	Sulfuric Acid	<0.30%	YES

Section 3 - Hazards Identification

Emergency Overview: DANGER! CORROSIVE. Causes eye, skin and respiratory irritation. May be harmful if swallowed. May be harmful if inhaled. May cause allergic reaction. Possible cancer hazard.

Routes of Exposure: Skin Contact. Inhalation. Ingestion. Eye Contact.

Eye Contact: May cause severe irritation. May cause: redness. pain. swelling. Tearing. Conjunctivitis. Impaired vision. Burns. Ulcerations. Corneal damage.

Skin Contact: May cause severe irritation. Contact may cause: swelling. Discomfort. Redness. itching. Pain. burns. Allergic reaction in some individuals. Prolonged or repeated contact can cause defatting and drying of the skin which may result in skin irritation and dermatitis.

Ingestion: May cause severe irritation. May cause: gastrointestinal irritation. nausea. Vomiting. Diarrhea. Gastrointestinal disturbances. Abdominal pain. hypocalcemia (possible life-threatening lowering of serum calcium). Erosion of teeth is possible.

Inhalation: May cause severe irritation. May irritate: mucuous membranes. Nose. Throat. Lungs. Respiratory tract. May cause: coughing. Sneezing. Shortness of breath. sore throat. Chest discomfort. Pain. allergic reaction in some individuals. Inhalation of high concentrations may cause: permanent damage.

Medical Conditions Aggravated by Exposure: Eye disorders. Skin disorders. Respiratory system disorders.

Cancer Information: This product does not contain greater than 0.1% of the known or potential carcinogens listed or regulated by IARC, NTP, or OSHA. The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen (IARC Category 1). This classification is for inorganic acid mists only and does not apply to sulfuric acid or sulfuric acid solutions. The National Toxicology Program (NTP) lists "Strong inorganic acid mists containing sulfuric acid" as a know human carcinogen. This limits the classification to sulfuric acid aerosols and does not extend to the liquid products, unless the acid is used under conditions that result in the formation of mists or aerosols.

The American Conference of Government Industrial Hygiene (ACGIH) lists "sulfuric acid contained in strong inorganic acid mists" as an A2 – Suspected Human Carcinogen.

Section 4 - First Aid Measures

Eye Contact: Immediately flush with large amounts of cool water for 15 minutes, holding lids apart. Get medical attention immediately. Washing within one minute is essential to achieve maximum effectiveness. Remove contact lenses if worn.

Skin Contact: Immediately flush skin with plenty of water for 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. Do not reuse clothing and shoes until cleaned. Wash with soap and water. Discard contaminated leather articles such as shoes and belt.

Ingestion: If swallowed, call a physician immediately. Do Not induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Give large amounts of water to drink.

Inhalation: Remove to fresh air. If breathing is difficult, or cyanosis (blue discoloration of the skin or lips) is noted, qualified personnel may administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get immediate medical attention.

Note to Physicians: Treatment is symptomatic and supportive.

Section 5 - Fire and Explosive Data

Flash Point: N.A.

Flammable Limits lfl: N/A ufl: N/A

Autoignition temperature: No Data

Extinguishing Media: For fires in area use appropriate media. For example: water spray. CO2. Foam. Dry chemical.

Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Move containers from fire area if possible without hazard.

Section 6- Accidental Release Measures

Spill Clean up Procedure: CORROSIVE MATERIAL. Evacuate area of unprotected personnel. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Contain spill, place in drums for proper disposal. Flush remaining area with water and neutralize with Soda Ash or Lime and dispose of properly. Avoid runoff into storm sewers and ditches which lead to waterways. Notify authorities if entry occurs.

Section 7 - Handling and Storage

Storage: CORROSIVE MATERIAL. Store in a secure, dry, clean area out of direct sunlight. Keep away from incompatible materials. Keep container tightly closed when not in use. Avoid excessive heat. Do not store in unlabeled or mislabeled containers. Citric acid can release explosive hydrogen gas if in contact with reactive metals (iron, zinc, aluminum).

Handling: Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mist, or dust. Empty containers retain product residues; observe all warnings and precautions for the product. Do not eat, drink, or smoke in work area.

Section 8 - Exposure Control / Personal Protection (Equipment)

Exposure Guidelines:

Component	ACGIH TWA	ACGIH STEL-C	OSHA PEL	OSHA STEL-C
Citric Acid	N.E.	N.E.	N.E.	N.E.
Sulfuric Acid	0.2 mg/m ³ *	N.E.	1 mg/m ³ *	N.E.

Note: *Thoracic fraction

Eye/Face Protection: Wear chemical safety goggles while handling this product. Wear additional eye protection such as a face shield when the possibility exists for eye contact with splashing or spraying liquid. Do not wear contact lenses.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Plastic. Rubber. Neoprene.

Other Protective Equipment: Rubber Apron. Rubber boots. Eye wash station. Safety shower.

Engineering Controls: General room ventilation and/or exhaust are required. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure limits, monitoring should be performed regularly.

Hygienic Practices: Wash hands with soap and water before eating and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before meal times.

Section 9 - Physical and Chemical Properties

Physical State: Liquid	Appearance: Clear. Amber.
Specific Gravity: 1.2428	Odor: Mild odor
Solubility in water: Complete	Freezing Point: ~5 ° F
Viscosity: N.D.	pH: < 2.0
Vapor Density: < 1	Boiling Range: ~ 219 °F
Odor Threshold: N.D.	Vapor Pressure: ~16 @ 20 C
% Volatile (wt%): ~ 100	Evaporation Rate: Slower than butyl acetate

Section 10- Stability and Reactivity

Stability: Product is stable under normal conditions
Hazardous Polymerization: Will not occur under normal conditions
Conditions to avoid: Avoid mist formation. Avoid elevated temperatures.

Incompatible Materials: Alkalies. Strong Bases. Strong oxidizing agents. Sulfides. Carbonates. Acetates. Potassium Tartrate. Metal Nitrates. Cyanides. Bicarbonates. Reducing Agents. Alkali metals. Sulfites. Caustics. Aluminum. Magnesium. Corrosive effect on: copper, aluminum, zinc, and their alloys.

Hazardous Decomposition Products: May liberate carbon monoxide or carbon dioxide. Smoke.

Section 11 - Toxicological Properties

LD50 Oral: Rat: 3,000 mg/kg (Citric Acid)
LD50 Skin: No Data
LC50 Inhalation: No Data

Section 12 - Ecological Information

Ecotoxicological Information:

CITRIC ACID:

Acute Aquatic Effects:

96-hour LC50 (Fathead Minnow): > 1000 mg/L

96-hour LC50 (Water Flea): > 1000 mg/L

96-hour LC50 (Goldfish): 440 – 706 mg/L

48-hour LC50 (Golden orfe minnow): 760 mg/L

EC0 (Bacteria): >10,000 mg/L

Chemical Fate Information:

CITRIC ACID

Completely soluble.

Chemical Oxygen Demand (COD): 728 mg O₂/g

Biological Oxygen Demand (BOD): 528 mg O₂/g

Readily Biodegradable: 98% after 2 days

This material is not expected to bioaccumulate

LAND: Biodegradation with some leeching into the groundwater

WATER: Biodegradation

AIR: Not expected to volatilize due to low vapor pressure

Section 13 - Disposal Information

Hazardous Waste Number: D002

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state, and federal regulations. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location. DO NOT pressurize, cut, weld, solder, drill grind or expose empty containers to heat, flame, sparks, or other sources of ignition. Since empty containers retain product residue, follow label warnings even after container is emptied.

Section 14 - Transportation Information

DOT Proper Shipping Name: Corrosive, Liquid, Acidic, Organic, N.O.S. (contains Citric Acid)

DOT Hazard Class: 8

DOT UN/NA Number: UN3265

Packing Group: III Resp. Guide Page 60

Reportable Quantity: 1000# Sulfuric Acid

Section 15 - Regulatory Information

U.S. Federal Regulations

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

OSHA: Hazardous by definition of Hazardous Communication Standard (29 CFR 1910.1200)

SARA Title III Section 311/312 Category:

Immediate (Acute) Health Hazard:	Yes
Delayed (Chronic) Health Hazard:	Yes
Fire Hazard:	No
Sudden Release of Pressure Haz:	No
Reactive Hazard:	No

SARA Section 302/304/313/HAP:

Component	CERCLA RQ	SARA RQ	SARA TPQ	SARA 313	US HAP
Citric Acid	N.A.	N.A.	N.A.	NO	NO
Sulfuric Acid	1000	1000	1000	YES*	NO

Note: * Sulfuric acid appears on the Section 313 list; however, the listing only applies to the aerosol forms of Sulfuric Acid.

US State Regulations:

California – The following components are listed under Proposition 65: Strong inorganic acid mists containing sulfuric acid

Wisconsin – The following components are listed as a Wisconsin HAP: Sulfuric Acid

Section 16 - Other Information

HMIS RATING

HEALTH	2
FLAMMABILITY	0
REACTIVITY	0

NFPA Rating System

HEALTH:	2
FLAMMABILITY:	0
REACTIVITY:	0

Legend: N.A. - Not Applicable N.E. - Not Established N.D. - Not Determined
HAP – Hazardous Air Pollutant VOC – Volatile Organic Compound C – Ceiling Limit

The above information is believed to be accurate and discloses the known hazards for this product as of this date. However, since conditions of use are outside our control it should not be taken as warranty of representation for which Alliance Group Inc. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.

REVISED MSDS: June 15, 2009

Replaces MSDS: November 3, 2008

Prepared By: P. May

** Reason for updated MSDS: Updated exposure information, toxicological/ecological data & disposal information