

# MATERIAL SAFETY DATA SHEET

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

**Manufactured by:**

Quip Laboratories, Inc.  
1500 Eastlawn Avenue  
Wilmington, DE 19802

**Non-Emergency: (302) 761-2600**

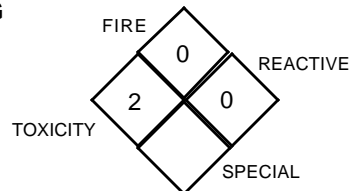
**CHEMICAL EMERGENCY NUMBER  
CHEMTREC**

**1-800-424-9300**

Product Name: **ACIDULATE 28**  
Common Name: Acid Mixture  
Chemical Name: Acid Mixture  
Formula: Organic Acid Mixture  
Product Use: Scale Remover

**HAZARD RATING**

4-EXTREME  
3-HIGH  
2-MODERATE  
1-SLIGHT  
0-INSIGNIFICANT



## SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS:

INGREDIENTS:		% / Wt.	TLV/ACGIH TLV
Water	(C.A.S.# 7732-18-5)	To qs.	None Established
Citric acid	(C.A.S.# 77-92-9)	20.0 - 30.0	None Established
Hydroxyacetic Acid	(C.A.S.# 79-14-1)	2.0 - 7.0	None Established
Gluconic Acid	(C.A.S.# 526-95-4)	Prop.	None Established
Proprietary Ingredients	(C.A.S.# N/A )	Prop.	N/A

Note: (Proprietary ingredient information available upon written request and agreement of confidentiality.)

## SECTION 3: HEALTH HAZARD IDENTIFICATION DATA:

**MOST IMPORTANT HAZARDS:** Irritating to eyes, respiratory system and skin. Harmful if swallowed. May cause pain, nausea, vomiting and diarrhea. Contact with soft metals such as aluminum can create hydrogen gas, which is explosive.

**ROUTES OF ENTRY:** Eyes; Yes                      Skin; Yes                      Inhalation; Yes                      Ingestion; Yes

**POTENTIAL HEALTH EFFECTS:**

**EYE CONTACT:** Can causes severe eye irritation, even burns or permanent eye damage with repeated exposures.

**SKIN CONTACT:** Can cause skin irritation. Prolonged contact may cause dermatitis.

**INHALATION:** Exposure to or breathing of mists generated from this material causes irritation of the respiratory tract. May result in coughing, difficulty breathing and sore throat.

**INGESTION:** Harmful if swallowed. May cause pain, nausea, vomiting, diarrhea, weakness and fatigue.

**CARCINOGENICITY:**                      NTP; No                      IARC; No                      OSHA; No                      ACGIH: No

**CONDITIONS AGGRAVATED BY EXPOSURE:** May aggravate existing respiratory and/or skin ailments.

## SECTION 4: EMERGENCY & FIRST AID PROCEDURES:

**EYE CONTACT:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open while flushing. If irritation persists, call a physician.

**SKIN CONTACT:** Wash skin with soap and water. If irritation persists, get medical attention. Launder contaminated clothing before reuse.

**SECTION 4: EMERGENCY & FIRST AID PROCEDURES (Cont.):**

**INHALATION:** Move person to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

**INGESTION:** If person is conscious and able to swallow, give large amounts of water to dilute. If vomiting occurs, keep head below hips to prevent aspiration. Get medical attention immediately.

**SECTION 5: FIRE FIGHTING MEASURES:**

**FLASH POINT:** Not Applicable    **AUTO IGNITION:** Not Applicable    **LEL / UEL:** Not Applicable

**EXTINGUISHING MEDIA:** As appropriate for surrounding fire. Product will not burn. Apply water from a protected location or from a safe distance.

**SPECIAL FIRE FIGHTING PROCEDURES:** Positive pressure, self contained breathing apparatus. Wear full protective clothing.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** As any strongly acidic solution, can react with metals, especially "soft" metals, such as aluminum or zinc (galvanized), generating hydrogen. This gas is flammable and/or explosive in the presence of an ignition source.

**SECTION 6: ACCIDENTAL RELEASE MEASURES:**

**SPILL RESPONSE:** Stop flow if possible. Use appropriate protective equipment during cleanup. Soak up small spills with dry sand, clay or diatomaceous earth. Dike large spills, and cautiously dilute and neutralize with lime or soda ash, and transfer to waste water treatment system. Prevent liquid from entering sewers, waterways, or low areas. Comply with Federal, State and local regulations.

**WASTE DISPOSAL METHODS:** Cleaned up material may be a RCRA Hazardous Waste on disposal. Do not flush to surface water or sanitary sewer system. Comply with Federal, State and local regulations. Do not re-use empty container.

**SECTION 7: HANDLING AND STORAGE:**

**HANDLING:** Use with adequate ventilation. Engineering controls should be provided to keep concentrations below the exposure limits if applicable. Chemical Splash Goggles or full length face shield/chemical splash goggle combination to prevent to prevent contact with face and eyes. Use appropriate NIOSH/MSHA respiratory protection should heavy misting occur.

**STORAGE:** Keep container tightly closed and properly labeled. Loosen closures carefully. Do not use pressure to empty. Do not wash out container or use it for other purposes. Replace closure after each use. Never move drums with open bungs.

**SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION INFORMATION:**

**RESPIRATORY PROTECTION:** Use approved respiratory protection if exposure limits are exceeded, or overexposure is likely. If respirator protection is used, follow all requirements for respiratory programs set forth in OSHA regulations (29 CFR 1910.134).

**PERSONAL PROTECTIVE EQUIPMENT:** Safety Glasses with side shields or splash goggles. Appropriate chemical resistant gloves should be used. Rubber apron.

**VENTILATION:** Local Exhaust as necessary to control PELs and TLVs while using this product.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES:**

**APPEARANCE:** Clear reddish / pink liquid

**SPECIFIC GRAVITY** (H<sub>2</sub>O = 1): 1.120

**SOLUBILITY IN WATER:** Complete

**VAPOR PRESSURE:** Not applicable

**VAPOR DENSITY** (AIR = 1): Not Applicable

**ODOR:** Odorless to slight odor.

**pH:** 1.0 - 1.5

**EVAPORATION RATE:** Not Applicable

**BOILING POINT:** 245° F Approximately

**SECTION 10: STABILITY & REACTIVITY DATA:**

**STABILITY:** Stable.

**CONDITIONS/HAZARDS TO AVOID:** None known.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Reacts with active metals (like sodium), oxidizing agents (such as strong nitric acid), cyanides, sulfides to produce hydrogen, oxides of nitrogen, hydrogen cyanide and hydrogen sulfide respectively. Do not mix with chlorine containing products.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None known.

**POLYMERIZATION:** Will not occur.

**SECTION 11: TOXICOLOGICAL INFORMATION:  
INFORMATION ON PRODUCT**

**ACUTE TOXICITY –** None established. (Citric acid: LD50 Rat - 11,700 mg/kg)

**ACUTE TOXICITY – INHALATION:** None Established (Follow ACGIH TLV/STEL).

**SKIN IRRITATION:** None established (Citric acid: Dermal acute 500 mg 24 Hr. - moderate)

**EYE IRRITATION:** None Established (Citric acid: 750 Mg / 24 Hr. - severe)

**SENSITIZATION:** No information was found or is available.

**SECTION 12: ECOLOGICAL INFORMATION:**

**ENVIRONMENTAL FATE:** No data available.

**ECOTOXICITY:** Not expected to linger in the environment.

Citric acid: Non-Toxic (Daphnia magna ; N/A)

**SECTION 13: DISPOSAL CONSIDERATIONS:**

Federal, state and local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary).

**SECTION 14: TRANSPORT INFORMATION:**

**INTERNATIONAL:** UN Number: UN1760 (Ground) / UN1760 (Air)

**US TRANSPORTATION REGULATIONS:**

DOT Classification: NA1760, 8 (Corrosive)

DOT Proper Shipping Name: Compounds, cleaning liquid.  
(Contains Acetic acid, Hydroxy)

Packing Group: III

**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:**

TDG Class: Corrosive

**SECTION 15: REGULATORY INFORMATION:**

**US FEDERAL REGULATIONS:**

**TSCA:** In TSCA (Toxic Substances Control Act)

**SARA 311 and 312 HAZARD CATEGORIES:**

Immediate (Acute): Yes	Delayed (Chronic): No	Fire: No
Reactivity: No	Sudden Release of Pressure: No	

**SARA SECTION 313 NOTIFICATION:**

This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

**CAA 602 OZONE DEPLETING SUBSTANCES (ODS):**

This product neither contains nor is manufactured with an ozone depleting substance subject to the labeling requirements of the Clean Air Act Amendments 1990 and 40 CFR Part 82.

**VOLATILE ORGANIC COMPOUNDS (VOC):** Not Applicable.

**US STATE REGULATIONS:**

**VOLATILE ORGANIC COMPOUNDS (CARB):** Not Applicable.

**CANADIAN REGULATIONS:** N/A

**DSL/NDSL:** N/A

**WHMIS CLASSIFICATION:** N/A

**SECTION 16: SPECIAL INFORMATION:**

The information in this Material Safety Data Sheet should be provided to all who use, handle, transport, or otherwise are exposed to this product. This information has been prepared for the guidance of plant engineering, operations, management and persons working with or handling this product. The information presented in this MSDS is premised upon proper handling and anticipated uses, and is for the material without chemical additions/alterations. Additionally, if this Material Safety Data Sheet is more than three years old, please contact this supplier at the phone number above Section 1 to make sure this sheet is current.

PREPARED BY: D. M. McFadden

DATE: 5/9/2006