

**Section 1 - Identification**

Product Name: D-Lime C (SO122)

K-Chem, Inc.  
 P.O. Box 530632  
 Birmingham, AL 35253-0632  
 205-592-0844

**Emergency Phone: 800-255-3924**

Product Use: Inhibited acid used to remove mineral film and scale build-up.

**Section 2 - Hazards Identification**

**GHS Ratings:**

Skin corrosive	1A	Destruction of dermal tissue: Exposure < 3 min. Observation < 1 hour, visible necrosis in at least one animal
Eye corrosive	1	Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity >= 3, Iritis > 1.5

**GHS Hazards**

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

**GHS Precautions**

P260	Do not breathe dust/fume/gas/mist/vapours/spray
P264	Wash hands thoroughly after handling
P280	Wear protective gloves/protective clothing/eye protection/face protection
P310	Immediately call a POISON CENTER or doctor/physician
P321	Specific treatment (see First Aid below or label)
P363	Wash contaminated clothing before reuse
P301+P330+P331	IF SWALLOWED: Call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P405	Store locked up
P501	Dispose of contents/container in conformance with State, Local, and Federal regulations.

**Signal Word: Danger**



**Section 3 - Composition, Information on Ingredients**

Chemical Name	CAS number	Weight Concentration %
2-hydroxy - 1,2,3, tricarboxylic acid	77-92-9	20.00% - 30.00%
Muriatic Acid	7647-01-0	1.00% - 5.00%

## Section 4 - First Aid Measures

After inhalation:

Take affected persons into fresh air and keep quiet. Supply fresh air. Call a doctor immediately

After eye contact: Rinse opened eye for several minutes under running water. Call a doctor immediately.

After skin contact: Immediately wash with water and soap and rinse thoroughly. Call a doctor immediately.

After swallowing: Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately. NOTE: Never give an unconscious person anything to drink.

· Information for doctor:

· Most important symptoms and effects, both acute and delayed. Causes severe skin burns and eye damage.

Gastric or intestinal disorders · Indication of any immediate medical attention and special treatment needed Medical supervision for at least 48 hours.

## Section 5 - Fire Fighting Measures

Flash Point: N/A

LEL:

UEL:

The product is not flammable

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents: Water with full jet

Hazardous Decomposition:

Chlorine, Hydrogen Chloride, Hydrogen gas

Advice for firefighters Protective equipment: Wear self-contained respiratory protective device .

Wear fully protective suit. Additional information Cool endangered receptacles with water spray .

Use fire extinguishing methods suitable to surrounding conditions.

## Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment . Keep unprotected persons away. Mount respiratory protective device.

Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material . Use neutralizing agent. Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

## Section 7 - Handling & Storage

Handling:

· Precautions for safe handling

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

When diluting always pour product into water and not vice versa.

· Information about fire - and explosion protection: No special measures required.

Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Use polyolefine receptacles.

Provide acid-resistant floor.

Suitable material for receptacles and pipes: Stainless steel.

- Information about storage in one common storage facility:  
Store away from reducing agents.  
Store away from metals.  
Do not store together with alkalis (caustic solutions).  
Do not store together with organic materials.
- Further information about storage conditions: Keep container tightly sealed.

## Section 8 - Exposure Controls/Personal Protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
2-hydroxy - 1,2,3, tricarboxylic acid 77-92-9	15 mg/m3 TWA	10 mg/m3	Not Established
Muriatic Acid 7647-01-0	PEL: 5 ppm (7 mg/m3) Ceiling Limit	TLV: 5 ppm (7 mg/m3) Ceiling	Not Established

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Do not eat or drink while working. Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

Respiratory protection:

Use suitable respiratory protective device only when aerosol or mist is formed.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Limitation and supervision of exposure into the environment

Avoid discharging of Hydrochloric / Phosphoric acid solutions into municipal wastewater, surface water or soils, when such discharges are expected to cause significant pH changes.

· Risk management measures

Regular control of the pH value previous to or during discharges into open waters is required. Discharges should be carried out as to minimize pH changes in receiving surface waters. In general most aquatic organisms can tolerate pH values in the range of 6-9.

· Eye protection:

Tightly sealed goggles

· Body protection:

Acid resistant protective clothing, Boots

· Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. · Material of gloves Butyl rubber, BR Fluorocarbon rubber (Viton) Nitrile rubber, NBR Natural rubber, NR Chloroprene rubber, CR Neoprene gloves

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Not suitable are gloves made of the following materials: Leather gloves

## Section 9 - Physical & Chemical Properties

<p><b>Boiling Point</b> 84 °C</p> <p><b>Color</b> Lt. Yellow</p> <p><b>Specific Gravity</b> 1.159</p> <p><b>Odor Threshold</b> N/A</p> <p><b>Boiling Range</b> 212F</p> <p><b>Evaporation Rate</b> N/A</p>	<p><b>Appearance</b> Clear Liquid</p> <p><b>pH</b> &lt;1</p> <p><b>Odor</b> Characteristic</p> <p><b>Freezing Point</b> 30F</p> <p><b>Flash Point</b> N/A</p> <p><b>Vapor Pressure</b> N/A</p>
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<b>Solubility in Water Complete</b> <b>Flammability N/A</b> <b>Partition coefficient: n- N/A</b> <b>octanol/water</b> <b>Decomposition temperature N/A</b>	<b>Viscosity &lt;= 10</b> <b>Upper/lower flammability N/A</b> <b>Auto-ignition temperature N/A</b>
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## Section 10 - Stability & Reactivity

STABLE

Oxidizing agents, acids, nitrogen containing organic, metals, iron, copper, nickel, cobalt, organic materials, and ammonia. Corrosive to most metals with evolution of hydrogen gas, which may form explosive mixtures with air.

**Instability Temperature:** 85°C. Rate of decomposition increases with heat.

**Conditions of Instability:** High heat, ultraviolet light.

**Special Remarks on Reactivity:** Rate of decomposition increases with heat.

Hazardous polymerization will not occur.

## Section 11 - Toxicological Information

### Mixture Toxicity

#### Component Toxicity

7647-01-0	Muriatic Acid
	Oral LD50: 700 mg/kg (Rat) Inhalation LC50: 1,562 ppm (Rat)

· Specific symptoms in biological assay:

Phosphoric and Hydrochloric acids are classified as corrosive to the skin, therefore, no need to perform an acute dermal and an acute inhalative toxicity tests.

· Primary irritant effect:

· on the skin: Caustic effect on skin and mucous membranes.

· on the eye: Strong caustic effect.

· Sensitization:

Phosphoric and Hydrochloric acids are classified as skin corrosive, thus a further assessment for skin sensitization is not necessary.

· Additional toxicological information:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Toxicokinetics, metabolism and distribution

This substance is not considered to have bioaccumulative potential as it is highly soluble in water.

For risk assessment purposes oral absorption is considered to be 50-100%, inhalation absorption 100% and dermal absorption 50-100%.

Wide distribution throughout the body is to be expected and excretion will be predominantly via urine.

<u>CAS Number</u>	<u>Description</u>	<u>% Weight</u>	<u>Carcinogen Rating</u>
None			N/A

## Section 12 - Ecological Information

Do not discharge into waterways. The strong lowering of pH can destroy organisms.

### Component Ecotoxicity

This product is toxic to fish and aquatic organisms. Do not contaminate water containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

**Section 13 - Disposal Considerations**

**Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

**Uncleaned packaging Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning. Packagings that may not be cleansed are to be disposed of in the same manner as the product. Disposal must be made in accordance with Local Authority requirements.

**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

**Section 14 - Transportation Information**

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT	Compound, Cleaning, Liquid (containing Hydrochloric Acid)	1760	II	8

**Section 15 - Regulatory Information**

<u>Country</u>	<u>Regulation</u>	<u>All Components Listed</u>
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**EU Risk Phrases**

**Safety Phrase**

- None

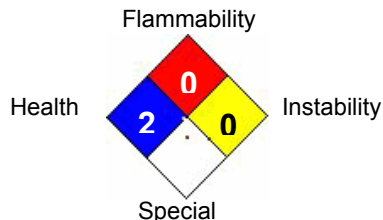
**Section 16 - Other Information**

**Hazardous Material Information System (HMIS)**

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	1
PERSONAL PROTECTION	D

**HMIS & NFPA Hazard Rating Legend**  
 \* = Chronic Health Hazard  
 0 = INSIGNIFICANT  
 1 = SLIGHT  
 2 = MODERATE  
 3 = HIGH

**National Fire Protection Association (NFPA)**



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Reviewer Revision

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