Date: 08/10/2015
Revision: 00

Safety Data Sheet
Calcium Hardness Reducer

Section 1: Identification

Product Identifier: Calcium Hardness Reducer

Other Means of Identification: None

Recommended Use: Reduces calcium hardness in water by "binding" it

Manufacturer's Name: Spec Chem Direct, Inc.

Corporate Address: 6506 S 209th St., Kent, WA, 98032

Manufacturer's Telephone: (253) 277-3143 (Monday-Friday, 8AM-5PM PT)

Emergency Phone Number: (253) 277-3143 (Monday-Friday, 8AM-5PM PT)

Section 2: Hazard(s) Identification

Hazard Classification: Harmful
Corrosive

Signal Word: WARNING

Hazard statement(s): Harmful if swallowed
Causes severe skin burns and eye damage
Harmful if inhaled
May cause respiratory irritation
Harmful to aquatic life

Pictograms:

Precautionary Statement(s): Avoid breathing fumes, mists, vapors or spray. Do not get in eyes, on skin, or on clothing. Wash contacted areas thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well ventilated area. Avoid release to the environment. Wear protective gloves, protective clothing and eye or face protection. Use personal protective equipment as required.

Hazards Not Otherwise Classified: N/A

Ingredient(s) With Unknown Toxicity: 0% of the mixture consists of ingredient(s) with unknown acute toxicity.

Section 3: Composition/Information on Ingredients

Ingredients	% by weight	CAS #
1-Hydroxyethylidene-1 1 Diphosphonic acid	30% - 60%	2809-21-4
Hydrochloric acid	1% - 3%	7647-01-0
Water	to 100%	7732-18-5

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

Impurities and Stabilizing Additives, Which Are Themselves Classified and Which Contribute to the Classification of the Chemical: None

The Chemical Name and Concentration of All Ingredients Which Are Classified As Health Hazards and Are Present Above Their Cut-Off/Concentration Limits or Present a Health Risk Below the Cut-Off/Concentration Limits: None

Chemicals Where a Trade Secret Is Claimed: None

Section 4: First-Aid Measures

Inhalation: Remove source of contamination or have victim move to fresh air. If not breathing, give artificial respiration. Obtain medical attention immediately.

Skin: Flush contaminated area with lukewarm, gently flowing water for at least 20-30 minutes while removing contaminated clothing. DO NOT INTERRUPT FLUSHING. If irritation persists, repeat flushing. Obtain medical attention. Launder contaminated clothing before re-use.

Eyes: Remove contact lenses (if applicable). Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 60 minutes while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Take care not to rinse contaminated water into the unaffected eye or onto face. Obtain medical attention.

Ingestion: NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

Most Important Symptoms or Effects, and Any Symptoms That Are Acute or Delayed: N/A

Recommendations for Immediate Medical Care and Special Treatment Needed, When Necessary: N/A

Section 5: Fire-Fighting Measures

Suitable / Unsuitable Extinguishing Equipment: Does not burn under normal handling conditions. Carbon dioxide, dry chemical powder and appropriate foam for surrounding products.

Specific Hazards: There is little risk of an explosion from this product if commercial quantities are involved in a fire. Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Special Protective Equipment or Precautions for Fire Fighters: There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Section 6: Accidental Release Measures

Personal Precautions: Refer to Section 8: Exposure Controls/Personal Protection and Section 7: Handling and Storage.

Emergency Procedures: Ventilate area of release. Eliminate all sources of ignition.

Methods and Materials for Containment and Cleanup: Contain and absorb any spilled liquid concentrate with inert absorbent material, then place material into a container for later disposal (see Section 13). Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required. Dispose of per guidelines under Section 13: Disposal Considerations.

Section 7: Handling and Storage

Handling: Before handling, it is very important that engineering controls are operating, and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Do not use near welding operations, flames or hot surfaces. Handling equipment should be properly grounded. Inspect containers for leaks before handling. Label containers appropriately. Ensure proper ventilation. Avoid breathing dusts, vapors or mists. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Avoid generating high concentrations of dusts, vapors or mists. Keep away from incompatible materials such as strong oxidizing materials. Keep containers closed when not in use. Empty containers are always dangerous. Assume that empty containers contain residues which are hazardous.

Storage: Store in original container in a cool, dry and well ventilated area away from direct heat. Store away from bases, amines, zinc, tin, aluminum and their alloys and metal salts.

Section 8: Exposure Controls/Personal Protection

OSHA Permissible Exposure Limits (PELs): Unknown.

American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs): Unknown.

Any Other Exposure Limit Used or Recommended: Hydrochloric Acid TWA (mg/m^3) 7.5, STEL (mg/m^3) Peak.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Appropriate Engineering Controls: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Individual Protection Measures (Personal Protective Equipment – PPE): Your eyes must be completely protected from this product by splash resistant goggles with face shield. All surrounding skin areas must be covered. Emergency eye wash facilities must also be available in an area close to where this product is being used. Because of the dangerous nature of this product, make sure that all skin areas are completely covered by impermeable gloves, overalls, hair covering, apron and face shield. We suggest that protective clothing be made from the following materials: rubber, nitrile, butyl rubber, neoprene, Teflon. Respirator: Usually, no respirator is necessary when using this product.

Section 9: Physical and Chemical Properties

Appearance: Clear yellow liquid

Odor: Mild Odor

Odor threshold: No data available.

pH: ~ 1.

Melting Point/Freezing Point: Below 0°C

Initial Boiling Point and Boiling Range: Approximately 100°C at 100kPa

Flash Point: No data available.

Evaporation Rate: No data available.

Flammability (Solid, Gas): No data available.

Upper/Lower Flammability or Explosive Limits: No data available.

Vapor Pressure: 2.37 kPa at 20°C (water vapor pressure).

Vapor Density: No data available.

Relative Density: 1.45 approx.

Solubility(ies): Completely soluble in water.

Partition Coefficient (n-octanol/water): No data available.

Auto-ignition Temperature: Product will not auto-ignite.

Decomposition Temperature: No data available.

Viscosity: No data available.

NOTE: *These physical data are typical values based on material tested but may vary from sample to sample. Values should not be construed as a guaranteed analysis of any specific lot or as specifications.*

Section 10: Stability and Reactivity

Reactivity: Most strong acids react with inorganic and organic bases such as amines to form salts. They also react with many metals liberating hydrogen gas. These reactions are often rapid and sometimes liberate much heat. They can also decompose many organic materials such as esters, in a reaction called hydrolysis.

Chemical Stability: Material is stable under normal temperatures.

Possibility of Hazardous Reactions: This product will not undergo polymerization reactions.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Keep containers and surrounding areas well ventilated.

Incompatible Materials: Bases, amines, zinc, tin, aluminum and their alloys and metal salts.

Hazardous Decomposition Products: Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Oxides of phosphorus and other phosphorus compounds. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Section 11: Toxicological Information

Likely Routes of Exposure (Inhalation, Ingestion, Skin and Eye Contact) and Delayed, Immediate, or Chronic Effects from Short- and Long-Term Exposure:

Inhalation:
Short term exposure: Available data shows that this product is harmful, but symptoms are not available. In addition product is a severe inhalation irritant. Symptoms may include headache, extreme irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, and may last long after exposure has ceased. If liquid enters nasal passages, it will cause pain and burn nasal membranes. Patients with inhalation burns may develop acute pulmonary edema.
Long Term exposure: No data for health effects associated with long term inhalation.

Skin Contact:
Short term exposure: Available data indicates that this product is corrosive to the skin. Capable of causing moderate to severe burns with ulceration. Can penetrate to deeper layers of skin, resulting in third degree burns. Corrosion will continue until product is removed or neutralized. Severity depends on concentration and duration of exposure. Burns may not be immediately painful; the onset of pain may be minutes to hours.
Long Term exposure: No data for health effects associated with long term skin exposure.

Eye Contact:
Short term exposure: This product is very corrosive to eyes. It will quickly cause severe pain, and corrosion of the eye and surrounding facial tissues. Unless exposure is immediately treated, permanent blindness and facial scarring will occur.
Long Term exposure: No data for health effects associated with long term eye exposure.

Ingestion:
Short term exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product is very corrosive to the gastrointestinal tract. Capable of causing severe burns with deep ulceration, and can penetrate to deeper layers of skin resulting in third degree burns. Corrosion will continue until product is removed or neutralized. Severity depends on concentration and duration of exposure.
Long Term exposure: No data for health effects associated with long term ingestion.

Numerical Measures of Toxicity:

Oral LD_{50}: Not available.
Dermal LD_{50}: Not available.
Inhalation LC_{50}: Not available.

Description of the symptoms: No data available.

Carcinogenicity (NTP, IARC, or OSHA): This product is not known or reported to be carcinogenic by any reference source including NTP, IARC, or OSHA.

Section 12: Ecological Information (non-mandatory)

Ecotoxicity: Not available.

Persistence and Degradability: Not available.

Bioaccumulative Potential: Insufficient data to be sure of status. This product is unlikely to accumulate in body tissues.

Mobility in Soil: Not available.

Other Adverse Effects: None known.

Section 13: Disposal Considerations (non-mandatory)

Appropriate Disposal Containers: Rinse original container with water before disposal.

Recommended Appropriate Disposal Methods: Can be disposed of with household waste.

Physical and Chemical Properties That May Affect Disposal Activities: None.

Special Precautions for Landfills or Incineration Activities: None.

Do not dispose of into sewer.

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

To minimize exposure, refer to Section 8: Exposure Controls/Personal Protection

Section 14: Transport Information (non-mandatory)

UN Number: 3265

UN Proper Shipping Name: 3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

Transport Hazard Class(es): Class 8: Corrosive Substances.

Packing Group Number, if Applicable: III

Environmental Hazards (e.g., Marine pollutant (Yes/No)): Unknown.

Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Unknown.

Special Precautions Which a User Needs to Be Aware of, or Needs to Comply With, in Connection With Transport or Conveyance Either Within or Outside Their Premises: Class 8 Corrosive Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidizing Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances where the Toxic Substances are cyanides and the Corrosives are acids), 7 (Radioactive Substances), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 Poisonous Gases), 3 (Flammable liquids), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 6 Toxic Substances except where the Toxic Substances are cyanides and the Corrosives are acids) and 9 (Miscellaneous Dangerous Goods).

Section 15: Regulatory Information (non-mandatory)

National and/or Regional Regulatory Information of the Chemical or Mixtures (Including Any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission Regulations):
TSCA: The ingredients in this product are listed on the TSCA.

CERCLA Reportable Quantity (RQ): Unknown.

OSHA: This product is regulated according to OSHA. This SDS contains all the information required by OSHA.

EPA: Unknown.

SARA Section 302: Unknown.

SARA Section 311/312: Unknown.

SARA Section 313: Unknown.

California Proposition 65: This product does not contain chemicals that are known to the State of California to cause cancer or other reproductive harm.

Section 16: Other Information

REVISION INFORMATION:
SDS sections(s) changed since last revision of document:
00 08/10/2015 Original SDS Document

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