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KR-CLDP32

MATERIAL SAFETY DATA SHEET

FOR EMERGENCY ASSISTANCE
CALL: 1-800-424-9300 CHEMTREC

FOR ADDITIONAL INFORMATION
CALL: 412-321-9800

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME: KR-CLDP32
CHEMICAL DESCRIPTION: Phosphonate solution
PRODUCT CLASS: Cleaners
VERSION: 3-31-2015

SECTION 2: INFORMATION ON INGREDIENTS

| Chemical Name | CAS # | Weight % | OSHA PEL | ACGIH TLV |
|--|-----------|----------|------------------|----------------------------|
| 1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP) | 2809-21-4 | 10-20 | None established | None established |
| Formic acid | 64-18-6 | 5-15 | TWA: 5 ppm | TWA: 5 ppm STEL: 10 ppm |
| Glycolic acid | 79-14-1 | 1-6 | None established | None established |

SECTION 3: HAZARDS IDENTIFICATION

*****EMERGENCY OVERVIEW*****

Clear, colorless to pale yellow liquid.
DANGER!
Corrosive to eyes.
Severe irritant to the skin.
Potential skin sensitizer.
Mists/aerosols cause irritation to the upper respiratory tract.
May be harmful if ingested.

PRIMARY ROUTES OF ENTRY: Eye contact, skin contact, ingestion, and inhalation of product mist

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin contact may aggravate existing skin disease.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: Corrosive to the eyes. Contact causes redness, burns, tissue destruction, and permanent damage to the cornea.

SKIN CONTACT: Severe irritant to the skin. Potential skin sensitizer.

INGESTION: May cause severe gastrointestinal irritation. Due to the low pH of this product, ingestion would be expected to cause irritation of the mucous membranes of the mouth, throat, esophagus, and stomach. Nausea and vomiting may occur.

INHALATION: This product is not expected to pose an inhalation hazard unless product mists are generated and inhaled. If so, respiratory tract irritation may occur.

SUBCHRONIC, CHRONIC: Prolonged or repeated exposures may cause skin sensitization and/or toxicity to the kidney and reproductive system.

Some blood effects have been produced by HEDP in chronic feeding studies with rats. A product containing 60% HEDP was administered to beagle dogs at dietary concentrations as high as 10,000 ppm for 90 days with no adverse hematological, biochemical, or histopathological effects.

Numerous publications in the scientific literature discuss the effects of HEDP related to bone resorption in tissue and cell culture, and in animals. The effects of HEDP related to bone mineralization, calcium absorption, and metabolism of calcium and phosphate have also been evaluated.

CARCINOGENICITY:

NTP: No ingredients listed in this section

IARC: No ingredients listed in this section

OSHA: No ingredients listed in this section

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally to ensure complete rinsing. Get medical attention immediately.

SKIN CONTACT: In a timely manner, remove contaminated clothing and wash the affected area thoroughly with plenty of soap and water. Get medical aid if irritation occurs. Wash clothing before reuse.

INGESTION: If swallowed, do NOT induce vomiting. If victim is conscious and alert rinse out mouth with water and give large quantities of water to drink. Get medical attention. Never give anything by mouth to an unconscious person.

INHALATION: If exposure by inhalation is suspected, remove victim to fresh air. If breathing stops, give artificial respiration. If breathing is difficult, have a trained medical person give oxygen. Get medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

FLASHPOINT: >200 °F (>93 °C) [TCC]

This product is not by definition a "flammable liquid" or a "combustible liquid".

LOWER FLAMMABLE LIMIT: Not applicable

UPPER FLAMMABLE LIMIT: Not applicable

AUTO-IGNITION TEMPERATURE: Not available

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, foam, or water

FIRE-FIGHTING INSTRUCTIONS: Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.

FIRE & EXPLOSION HAZARDS: Product emits toxic and irritating gases and fumes under fire conditions. Contact with metals may evolve flammable hydrogen gas.

DECOMPOSITION PRODUCTS: Thermal decomposition or combustion may produce oxides of carbon, oxides of phosphorus, acids of phosphorus, and phosphine.

NFPA RATINGS: Health = 3 Flammability = 0 Reactivity = 0 Special Hazard = None

Hazard rating scale: 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

SECTION 6: ACCIDENTAL RELEASE MEASURES

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility in accordance with any local agreement, a permitted waste treatment facility, or discharged under a permit. Dispose of recovered product, if unusable, and used absorbent according to federal, state, and local regulations.

SECTION 7: HANDLING AND STORAGE**HANDLING:**

Do not mix with alkaline material.
Avoid contact with eyes, skin, and clothing.
Avoid breathing mist.
Use with adequate ventilation.
Wash thoroughly after handling.
Do not take internally.
Ensure that containers are properly labeled.
Since empty containers retain product residues (vapors, liquid), observe all warnings and precautions listed for the product.
Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE:

Keep containers closed when not in use.
Store in a cool, dry, well-ventilated area away from incompatible materials.
Protect product containers from physical damage.
Protect from freezing.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE/FACE PROTECTION: Chemical splash goggles and face shield.

SKIN PROTECTION: Chemical resistant gloves and clean body covering clothing

RESPIRATORY PROTECTION: If airborne concentrations become irritating or if airborne exposure limits are exceeded, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

ENGINEERING CONTROLS: A system of local and/or general exhaust is recommended to keep employee exposures below irritating levels or airborne exposure limits, whichever is lower. Local exhaust ventilation is preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the latest edition of the ACGIH document *Industrial Ventilation, A Manual of Recommended Practices* for details.

WORK PRACTICES: Eye wash station should be accessible in the immediate area of use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

pH: 0.5-1.5

SPECIFIC GRAVITY: 1.117 g/mL (9.32 lb/gal)

SOLUBILITY IN WATER: Complete

BOILING POINT: Not available

FREEZING POINT: 14 °F (-10 °C)

VAPOR PRESSURE (mm Hg): ~18

VAPOR DENSITY (air=1): <1.00

EVAPORATION RATE (ether=1): <1.00

% V.O.C.: 0.0

VISCOSITY @ 70 °F (21 °C): 10 cps

APPEARANCE AND ODOR: Clear, colorless to pale yellow liquid with a strong odor

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Temperature at or greater than 392 °F (200 °C). At this temperature, the product can form flammable phosphine gas.

INCOMPATIBILITIES: May react with strong oxidizers and bases.

DECOMPOSITION PRODUCTS: Thermal decomposition or combustion may produce oxides of carbon, oxides of phosphorus, acids of phosphorus, and phosphine.

SECTION 11: TOXICOLOGICAL INFORMATION

ON INGREDIENTS:

| Test Material | Oral LD50 (rat) | Dermal LD50 (rabbit) | Inhalation LC50 (rat) |
|--|-------------------------------|--------------------------------|---------------------------|
| 1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP) | 2,400 mg/Kg (60% solution) | >7,940 mg/Kg (60% solution) | Not available |
| Formic acid | 1,100 mg/Kg | Not available | 15 g/m ³ -15 M |
| Glycolic acid | 1,950 mg/Kg | Not available | 3.6 mg/L-4 H |

SECTION 12: ECOLOGICAL INFORMATION

ON INGREDIENTS:

| Test Material | Aquatic Toxicity Data |
|---------------|---|
| Product | 48 hr LC50 (Daphnia magna): 323.22 mg/L 96 hr LC50 (Fathead minnow): 223.61 mg/L |

SECTION 13: DISPOSAL

RCRA STATUS: Discarded product, as sold, would be considered a RCRA Hazardous Waste based on the characteristic of corrosivity. The EPA Hazardous Waste Number is D002.

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

SECTION 14: TRANSPORTATION

DOT CLASSIFICATION:

UN Number: UN 3265

Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.

(contains 1-hydroxyethylidene-1,1-diphosphonic acid and formic acid)

Primary Hazard Class/Division: 8

Packing Group: III

Label: Corrosive

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication Status: Hazardous

TSCA: The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA: EPA Hazardous Substances (40 CFR 302):

| <u>Chemical Name</u> | <u>CERCLA Reportable Quantity (RQ)</u> |
|----------------------|--|
| Formic acid | 5,000 lb |
| Product | 50,000 lb |

SARA TITLE III (Sections 302, 311,312, and 313):

Section 302 Extremely Hazardous Substances (40 CFR 355):

| <u>Chemical Name</u> | <u>CAS#</u> | <u>RQ</u> | <u>TPQ</u> |
|----------------------|-------------|-----------|------------|
| None | | | |

Section 311 and 312 Health and Physical Hazards:

| <u>Immediate</u> | <u>Delayed</u> | <u>Fire</u> | <u>Pressure</u> | <u>Reactivity</u> |
|------------------|----------------|-------------|-----------------|-------------------|
| yes | yes | no | no | no |

Section 313 Toxic Chemicals (40 CFR 372):

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Percent by Weight</u> |
|----------------------|-------------------|--------------------------|
| Formic acid | 64-18-6 | 5.0-15.0 |

SECTION 16: OTHER INFORMATION

HMIS RATINGS: Health = 3 Flammability = 0 Reactivity = 0

Hazard Rating Scale: 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

The preceding information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change, and the conditions of handling and use or misuse are beyond our control, Kroff Chemical Company, Inc. makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein, and disclaims all liability for reliance thereon. User should satisfy himself that he has all current data relevant to his particular use.