Safety Data Sheet

Issue Date: 06-06-2014 **Revision Date:** NEW **Version** 2

1: IDENTIFICATION

Product Identifier:
Product Name: **Cal-Treat 233**

Other Means of Identification:
Part Number: 4149-05

Recommended Use of the Chemical and Restrictions on Use:
Aqueous cooling tower treatment

Details of the Author of the Safety Data Sheet:
Supplier Address: NU-CALGON WHOLESALER, INC.
2008 Altom Court
St. Louis, MO 63146-4151

Emergency Telephone Number:
Company Phone Number: (314) 469-7000
(800) 554-5499
Emergency Telephone:
Number (24hr): CHEMTREC 800-424-9300

2: HAZARDS IDENTIFICATION

Hazard Classification: Acute toxicity (oral) category 4
Skin corrosion, category 1B
Serious eye damage, category 1

Signal Word: Warning

Hazard Statements: H303: May be harmful if swallowed
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory tract irritation

Pictograms of Related Hazards:

Precautionary Statements:

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 - Immediately call a POISON CENTER or doctor/physician.
P303 +P361+ P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P310: Immediately call a POISON CENTER or doctor/physician
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P311 - Call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.

Description of Other Hazards: None

3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %
1-Hydroxyethylidene-1,1-diphosphonic acid, tetrapotassium salt	67953-76-8	1-10
Anionic copolymer, sodium potassium salt	Proprietary	1-10
Zinc nitrate	7779-88-6	1-10
Potassium hydroxide	1310-58-3	<1

4: FIRST-AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eye lids occasionally. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse.

Inhalation: Remove victim to fresh air. If the breathing stops, give artificial respiration. If breathing is difficult, have a trained medical person administer oxygen. Get medical attention.

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 immediately. Never give anything by mouth to an unconscious person.

5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing media that is appropriate for the surrounding fire. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

Unsuitable Extinguishing Media: Not available

Protective Equipment and Precautions for Firefighters: Firefighters should wear full protective clothing including a self-contained breathing apparatus.

Specific Hazards Arising from the Chemical: Toxic gases and vapors may be released in a fire. Contact with some metals can generate flammable hydrogen gas.

Hazardous Combustion Products: Thermal decomposition or combustion may produce oxides of carbon, oxides of potassium, oxides of sodium, oxides of phosphorus, oxides of nitrogen, and oxides of zinc, as well as acrid smoke and irritating fumes.

6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Ventilate the spill area. Keep unnecessary and unprotected people away from the spill site. Stop or reduce any leaks if is safe to do so. Notify appropriate government, occupational health and safety, and environmental authorities.

Methods for Clean-up:
Small spills: Soak up spill with an inert absorbent material (e.g. vermiculite, sand, or earth). Place residues in a suitable, covered, properly labeled container. Wash the affected area.
Large spills: Contain liquid using an inert absorbent material (e.g. vermiculite, sand, or earth), by digging trenches, or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material.

Disposal: Dispose of material in compliance with federal, state, and local regulations.

Environmental Precautions: Prevent entry into lakes, ponds, streams, waterways, or public water supplies.

7: HANDLING AND STORAGE

Advice on Safe Handling:
Avoid contact with skin, eyes, and clothing.
Avoid breathing vapors or mist.
Use with adequate ventilation.
Wash thoroughly after handling.
Do not take internally.
Keep containers closed when not in use.

Ensure that containers are properly labeled.
Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid).
Observe all warnings and precautions listed for this product.
Have emergency equipment (for fires, spills, leaks, etc.) readily available.

Storage Conditions:
Store in a cool, dry, well-ventilated area away from incompatible materials.
Protect against the physical damage of containers.

8: EXPOSURE CONTROL / PERSONAL PROTECTION

Chemical Name	NIOSH	OSHA PEL	ACGIH TLV
1-Hydroxyethylidene-1,1-diphosphonic acid, tetrapotassium salt	None established	None established	None established
Anionic copolymer, sodium potassium salt	None established	None established	None established
Zinc nitrate	None established	None established	None established
Potassium hydroxide	None established	Ceiling: 2mg/m^3	Ceiling: 2mg/m^3

Eye/Face Protection: Chemical splash goggles and face shield

Skin Protection: Chemical resistant gloves and impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory Protection: If airborne concentrations exceed published exposure limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

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General hygiene considerations: Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9: PHYSICAL AND CHEMICAL PROPERTIES

pH: 12.0-13.0

Specific Gravity: 1.070-1.150 g/mL

Flash Point: None

Solubility In Water: Not available

Boiling Point: Not available

Freezing Point: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Appearance and Odor: Clear, colorless liquid with no odor

10: STABILITY AND REACTIVITY

Chemical Stability: Stable

Reactivity: This product may react with oxidizing agents.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Incompatibles.

Incompatibilities: Acids. Oxidizers. Amphoteric metals such as aluminum.

Hazardous Combustion Products: Thermal decomposition or combustion may produce oxides of carbon, oxides of potassium, oxides of sodium, oxides of phosphorus, oxides of nitrogen, and oxides of zinc, as well as acrid smoke and irritating fumes.

11: TOXICOLOGICAL INFORMATION

Likely Routes Of Exposure: Eye contact, skin contact, ingestion, and inhalation of product vapors or mists

Acute Toxicity:

Test Material	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
1-Hydroxyethylidene-1,1-diphosphonic acid	2,400 mg/Kg (60% solution)	>7,940 mg/Kg (60% solution)	Not available
Anionic copolymer expressed as active acid	>1,400 mg/Kg	>560 mg/Kg	Not available
Zinc nitrate	1,190 mg/Kg	Not available	Not available
Potassium hydroxide	273 mg/Kg	1,260 mg/Kg	Not available

Acute Symptoms and Effects:

Eye: Contact causes irritation and possibly eye burns with tearing, redness, swelling, and/or tissue damage.

Skin: Contact causes irritation of the skin with redness, itching, and pain. If product is not removed promptly, burns may occur. There may be a delay between the time of exposure and when the sense of irritation begins.

Ingestion: Ingestion may cause irritation or burns of the mucous membranes of the mouth, throat, esophagus, and stomach. Nausea, vomiting, and diarrhea may occur.
Ingestion of the product component, zinc nitrate, can cause methemoglobinemia, a reduced capacity of the blood to carry oxygen characterized by cyanosis, headache, dizziness, fatigue, nausea, vomiting, drowsiness, stupor, coma and in rare, severe cases, death.

Inhalation: Inhalation of product mist causes respiratory tract irritation.

Chronic: No information is available for this product. Information on components follows.

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.

Prolonged or repeated skin contact with zinc nitrate can cause dermatitis (inflammation and redness of the skin). Repeated ingestion of small amounts of zinc nitrate may cause weakness, depression, headaches, neurological effects, and mental impairment.

Prolonged contact with dilute solutions or mists of potassium hydroxide has a destructive effect on tissues.

Skin Sensitization: Not available

Repeated Dose Toxicity: Not available

Genotoxicity: Not available

Genotoxicity: Not available

Developmental Toxicity: Not available

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

12: ECOLOGICAL INFORMATION

Chemical Fate and Pathway:
Data on this material and/or its components are summarized below.

Data for Anionic Copolymer, on an Active Acid Basis:

Toxicity:
Aquatic toxicity:
48 hr LC50 (Daphnia magna): 2,800 mg/L
96 hr LC50 (Bluegill sunfish): >10,000 mg/L
96 hr LC50 (Rainbow trout): 4,900 mg/L

Persistence and Degradability:
No data available

Bioaccumulative Potential:
The anionic copolymer is expected to be poorly biodegradable.

Mobility: The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provide by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment, this material is expected to distribute to the air, water, and soil/sediment in the approximate respective percentages:

Air	Water	Soil/Sediment
<5%	10-30%	70-90%

Other Adverse Effects:
No data available

Data for Zinc Nitrate:

Toxicity:
Aquatic toxicity:
96 hr LC50 (Fathead minnow): 0.1-7.2 mg/L
96 hr LC50 (Bluegill): 0.1-7.2 mg/L
96 hr LC50 (Rainbow trout, juvenile): 0.43 mg/L
96 hr LC50 (Rainbow trout, juvenile): 1.2-7.2 mg/L

Persistence and Degradability:
No data available

Bioaccumulative Potential:
No data available

Mobility in Soil:
No data available

Other Adverse Effects:
No data available

Data for Potassium Hydroxide:
Aquatic toxicity:
48 hr EC50 (Water flea): 60 mg/L
96 hr LC50 (Fathead minnow): 179 mg/L
24 hr LD50 (Bluegill sunfish): 56 mg/L
24 hr LD50 (Rainbow trout): 50 mg/L

Persistence and Degradability:
No data available

Bioaccumulative Potential:
No data available

Mobility in Soil:
No data available

Other Adverse Effects:
No data available

Data for 1-Hydroxyethylidene-1,1-diphosphonic Acid, Tetrapotassium Salt:

Toxicity:
Aquatic toxicity:
Data for 1-Hydroxyethylidene-1,1-diphosphonic acid, dipotassium salt, 40%:
48 hr EC50 (Daphnia magna): 527 mg/L
96 hr LC50 (Bluegill sunfish): 868 mg/L
96 hr LC50 (Rainbow trout): 368 mg/L

Persistence and Degradability:
Data is for 1-Hydroxyethylidene-1,1-diphosphonic acid, dipotassium salt, 40%:
302B Inherent Biodegradability, Zahn-Wellens/EMPA Test: 33%-28 d

Bioaccumulative Potential:
No data available

Mobility in Soil:
No data available

Other Adverse Effects:
No data available

13: DISPOSAL INFORMATION

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

14: TRANSPORT INFORMATION

Please see current shipping paper for most up-to-date shipping information, including exemptions and special circumstances.

US Department of Transportation (DOT):
UN Number: 1760
Proper shipping name: Corrosive liquid, n.o.s.
Technical name: Potassium hydroxide
Class: 8
Packaging group: III
Marine pollutant: No

International Maritime Dangerous Goods Code (IMDG):
UN Number: 1760
Proper shipping name: Corrosive liquid, n.o.s.
Technical name: Potassium hydroxide
Class: 8
Packaging group: III
Marine pollutant: No

15: REGULATORY INFORMATION

US Federal Regulations:
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):

Chemical Name	CERCLA Reportable Quantity (RQ)
Potassium hydroxide	1,000 lb
Zinc nitrate	1,000 lb
Product	51,282 lb
	(Notify the EPA of spills exceeding this amount.)

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

Section 302 Extremely Hazardous Substances (40 CFR 355):

Chemical Name	CAS#	RQ	TPQ
None			

Section 311 and 312 Health and Physical Hazards:

Immediate	Delayed	Fire	Pressure	Reactivity
yes	yes	no	no	no

Section 313 Toxic Chemicals (40 CFR 372):

Chemical Name	CAS Number	Percent by Weight
Zinc nitrate	7779-88-6	1-10

US State Regulations:
California Proposition 65: This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

International Inventories:
No data

16: OTHER INFORMATION

Other Classifications:

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

NFPA Ratings: Health = 3 Flammability = 0 Reactivity = 0

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

WHIMS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

While the information and recommendations set forth herein are believed to be accurate as of the date thereof, NU-CALGON WHOLESALER, INC MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.