

STERLING WATER TECHNOLOGIES LLC

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: DC-22

Recommended use of the chemical and restrictions on use: Use as water treatment chemical.

Manufacturer: Sterling Water Technologies LLC
902 S High St
Columbia, TN 38401

Telephone: (800) 426-2428

Emergency Phone: CHEMTREC: (800) 424-9300

SDS Date of Preparation: 7/15/14

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2. HAZARDS IDENTIFICATION

GHS Classification:

Physical	Health	Environment
Corrosive to Metals Category 1	Eye Damage Category 1 Skin Corrosion Category 1B Specific Target Organ Toxicity Single Exposure Category 3 (Irritation)	Not Hazardous

GHS Label Elements:

Danger!



Contains: Sodium metasilicate

Statements of Hazard

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary Statements

P234 Keep only in original container.
P260 Do not breathe dust.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, protective clothing, eye protection, and face protection.
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.
P303+P361+P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water

or shower.
P310 Immediately call a POISON CENTER or doctor.
P363 Wash contaminated clothing before reuse.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 Immediately call a POISON CENTER or doctor.
P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor.
P390 Absorb spillage to prevent material-damage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in a corrosive resistant container with a resistant inner liner.
P501 Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
Sodium metasilicate	6834-92-0	43 - 55%
Sodium tripolyphosphate	7758-29-4	<5 - 24%
Tetrasodium Pyrophosphate (TSPP)	7722-88-5	0.5 - 1.25%

The exact concentration is being withheld as a trade secret.

4. FIRST AID MEASURES

Eye: Immediately flush victim's eyes with large quantities of water for at least 20 minutes, while holding the eyelids apart. Get immediate medical attention.

Skin: Immediately remove contaminated clothing and wash skin thoroughly with soap and water for at least 30 minutes. Get immediate medical attention. Launder clothing before re-use. (Discard contaminated shoes).

Ingestion: Do NOT induce vomiting. If conscious, give large quantities of water. Never give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

Inhalation: Immediately remove victim to fresh air. If conscious give victim 8 fl oz. of water to drink. Do not give anything by mouth to an unconscious person. If breathing is difficult, oxygen should be administered by qualified personnel. If breathing has stopped, administer artificial respiration. Get immediate medical attention.

Most important Symptoms: Causes severe irritation and burns to eyes and skin. Inhalation of mists may cause mucous membrane and respiratory irritation. May be corrosive to mucous membranes if inhaled or swallowed.

Indication of immediate medical attention/special treatment: Immediate medical attention is required for all routes of exposure.

5. FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Use media appropriate for surrounding fire. Cool fire exposed containers and structures with water.

Specific hazards arising from the chemical: Non-combustible; substance itself does not burn but may decompose upon heating to produce hazardous combustion products including sodium oxides, phosphorous oxides, and silicon oxides.

Special Protective Equipment and Precautions for Fire-Fighting Instructions: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

Explosion Data (sensitivity to mechanical impact or static discharge): None known.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Evacuate spill area and keep unprotected personnel away. Wear appropriate protective clothing as described in Section 8.

Methods and Materials for Containment and Cleaning Up: Keep non-essential personnel away and isolate area. Carefully shovel or sweep up spilled material and place in appropriate container. Avoid generating dust. Use appropriate Personal Protective Equipment as described in section 8. Prevent spill from entering sewers and water courses. Report releases as required by local, state and federal authorities.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Prevent contact with the eyes, skin and clothing. Do not breathe dust. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use.

Do not reuse containers. Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, dry, well ventilated area away from incompatible materials. Protect from physical damage and keep container tightly closed. Store in original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Sodium metasilicate	None Established
Sodium tripolyphosphate	None Established
Tetrasodium pyrophosphate	5 mg/m ³ TWA NIOSH REL

Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Respiratory Protection: In operations where exposure levels are exceeded, a NIOSH approved respirator with dust/mist cartridges or supplied air respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin Protection: Wear impervious gloves such as nitrile to prevent skin contact.

Eye Protection: Safety goggles and face shield recommended.

Other: Long-sleeved clothing and long pants recommended to avoid prolonged skin contact. Suitable washing facilities should be available in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance And Odor: Granular powder with a slight odor.

Physical State: Powder	Odor Threshold: Not determined
Vapor Density: Same as water	Initial Boiling Point/Range: Not determined
Solubility In Water: Soluble	Vapor Pressure: Not applicable
Relative Density: Not determined	Evaporation Rate: Not applicable
Melting/Freezing Point: Not applicable	pH: ~14 (Sodium metasilicate)
VOC Content: Not determined	Octanol/Water Coefficient: Not determined
Solubility: Soluble	Decomposition Temperature: Not determined
Viscosity: Not determined	Flammability (solid, gas): Not applicable
Flashpoint: None	Autoignition Temperature: None
Flammable Limits: LEL: Not applicable	UEL: Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive.

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: Sodium metasilicate may react with metals to liberate flammable hydrogen gas. Contact with reducing agents may generate oxides of carbon. May react with ammonium salt to evolve ammonia gas.

Conditions to Avoid: Keep away from heat, flames and high temperatures.

Incompatible Materials: Acids, bases, oxidizing agents, reducing agents, and metals

Hazardous Decomposition Products: When heated to decomposition emits sodium oxides, phosphorous oxides, and silicon oxides.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

Ingestion: Ingestion may cause severe mucous membrane and gastrointestinal irritation with chemical burns. May cause nausea, vomiting, diarrhea, abdominal pain, chest pain, and death.

Inhalation: Inhalation of mists may cause irritation of the nose throat and upper respiratory tract. High concentrations may cause lung damage (pulmonary edema).

Eye: May cause severe irritation or burns with pain and tearing. Corneal damage with permanent blindness is possible.

Skin: May cause severe irritation or burns.

Sensitization: This material is not known to cause sensitization.

Chronic: Prolonged or overexposure may cause damage to eyes, skin and mucous membranes. Rats fed Sodium Tripolyphosphate Anhydrous in their diet for two years exhibited decreased growth, increased kidney/body weight ratios, and kidney changes.

Carcinogenicity: None of the components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

Germ Cell Mutagenicity: Sodium metasilicate: Not mutagenic to E. coli bacteria when tested in mutagenicity bioassay. Sodium Tripolyphosphate: Produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells. Genetic changes were reported in a standard test using yeast cells.

Reproductive Toxicity: None currently known.

Numerical Measures of Toxicity:

Sodium Metasilicate Anhydrous: Oral rat LD50: 1200-1700 mg/kg; Inhalation rat 4hr LD50: > 2.06 mg/L; Dermal rat LD50 >5000 mg/kg

Sodium Tripolyphosphate: Oral rat LD50: 5400 mg/kg, Dermal rabbit: >7940 mg/kg

Tetrasodium pyrophosphate: Oral Rat LD50:3770 mg/kg, Dermal rabbit: >7940 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Sodium Metasilicate: *Gambusia affinis* 96hr LC50: 2320 mg/L; *Daphnia magna* 48hr EC50: 1700 mg/L

Sodium Tripolyphosphate: Rainbow trout, Inland silversides and mysid shrimp 96 hr LC50: > 100 mg/L, *Daphnia magna* 48hr LC50: > 1000 mg/L

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects: None known

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state and federal environmental regulations.

14. TRANSPORT INFORMATION

DOT Hazardous Materials Description:

Proper Shipping Name: Disodium trioxosilicate mixture

UN Number: UN3253

Hazard Class/Packing Group: 8, III

Labels Required: Corrosive

Note: None

15. REGULATORY INFORMATION

CERCLA: Releases above the reportable quantity of 20,830 lbs (based on the RQ of 5,000 lbs for Sodium Phosphate Tribasic present at <5-24%) must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

This product has been classified under the CPR and this SDS discloses information elements required by the CPR.

Canadian CEPA: All the components of this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Class E (Corrosive material)

16. OTHER INFORMATION

NFPA Rating: Health = 3 Flammability = 0 Instability = 0
HMIS Rating: Health = 3 Flammability = 0 Physical Hazard = 0

SDS Revision History:

8/09/07: New SDS

5/1/13: Updated format. Complete review of SDS. Updated all sections.

7/15/14: Updated format to GHS.

NOTICE

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Sterling Water Technologies LLC shall not be held liable for any damage resulting from handling or from contact with the above product. This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.