

Safety Data Sheet (SDS)

Reviewed on 05/06/2015

Trade Name: MSI Metal & Scale Inhibitor

Section 1: Identification

Product/Chemical Name: MSI Metal & Scale Inhibitor

Chemical Formula: Proprietary

CAS Number: N/A.

Other Designations: None

General Use: Scale control and metals chelation in recreational water systems.

- Manufacturer:**

Next Generation Water Science
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 Fairview, TX 75069
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Section 2: Hazard(s) Identification

Hazardous Statement:

The precise composition of MSI Metal & Scale Inhibitor is proprietary information. A more complete disclosure will be made to an attending physician in the event of a medical emergency involving this product. When utilized in accordance with Next Generation Water Science, MSI is considered to be environmentally safe, nontoxic and nonhazardous.

Precautionary statements:

Wear protective gloves/protective clothing/eye protection/face protection.
 Wash thoroughly after handling.
 Specific treatment (see on this label).
 Take off contaminated clothing and wash before reuse.
 If skin irritation occurs: Get medical advice/attention.
 IF ON SKIN: Wash with plenty of water.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 1
 Fire = 0
 Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 1
 Fire = 0
 Reactivity = 0

Section 3: Composition/Information on Ingredients

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- CAS Number: N/A
- MSI Metal & Scale Inhibitor is an aqueous solution designed to control both metal and calcium. The exact formulation is proprietary and a trade secret.

Section 4: First-Aid Measures

- Description of First Aid Measures:

Inhalation: In the improbable event of product inhalation, remove the affected individual to fresh air and provide fresh air or artificial respiration as required. Obtain medical attention.

Eye Contact: Flush thoroughly with water for five minutes and obtain medical attention if irritation of eye membranes persists.

Skin Contact: Wash contacted areas with soap and water, apply emollient skin cream to minimize dryness and seek medical attention if irritation persists.

Ingestion: Drink several glasses of water. Obtain medical attention.

After first aid, get appropriate in-plant, paramedic, or community medical support if exposure symptoms persist.

Note to Physicians: Under normal use and human exposure conditions, the product is considered nontoxic and nonhazardous.

Special Precautions/Procedures: None.

Ingestion: With substantial and/or long term ingestion of the as-received product, possible delayed blood clotting, sensitivity to heat, skin itching, increased odor and taste awareness, and liver damage.

Carcinogenicity: IARC, NTP, and OSHA do not list MSI or its components as carcinogens.

Medical Conditions Aggravated by Long-Term Exposure: None known.

Chronic Effects: There are no known chronic effects except as indicated above under Acute Effects.

Section 5: Fire-Fighting Measures

Flash Point: (> 200°F).

Flash Point Method: N/A

Burning Rate: N/A

Autoignition Temperature: N/A

LEL: N/A

UEL: N/A

Flammability Classification: N/A.

Extinguishing Media: N/A

Unusual Fire or Explosion Hazards: None.

Hazardous Combustion Products: Thermal oxidative decomposition of the product may release toxic fumes of CO, CO₂ and NO_x.

Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.

- **Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

Section 6: Accidental Release Measures

Spill /Leak Procedures:

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Small Spills: Flush small spills of five gallons or less with water to a sanitary sewer.

Large Spills

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Use vacuum or absorbent methods to recover bulk of spilled material. Flush residual spilled product to a sanitary sewer.

- **Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7: Handling and Storage

Handling Precautions: Wear appropriate eye and glove protection to minimize exposure.

Storage Requirements: Do not store with oxidizing materials, or at temperatures below freezing or above 110°F.

Regulatory Requirements: None established.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Ventilation: In the event of product misting, provide general or local exhaust ventilation systems to minimize airborne concentrations.

Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: If product misting occurs, follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. . If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove material from your shoes and clean personal protective equipment after use.

- **Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. **KEEP AWAY FROM CHILDREN.**

Section 9: Physical and Chemical Properties

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Physical State: Liquid

Appearance and Odor: Blue/clear, no odor.

Odor Threshold: Not determined.

Vapor Pressure: Not determined.

Vapor Density (Air=1): Not determined.

Formula Weight: N/A Density: 11.8 lbs./gal..

Specific Gravity (H₂O=1, at 4 °C): 1.42, typical

pH: 10.3-11.4 Typical

Water Solubility: Completely soluble.

Other Solubilities: Insoluble in hydrocarbons.

Boiling Point: > 212°F.

Freezing Point: < 30°F.

Viscosity: Not determined.

Refractive Index: Not Determined.

Surface Tension: Not Determined.

% Volatile: Not Determined.

Evaporation Rate: Not Determined.

Section 10: Stability and Reactivity

Stability: MSI is stable at room temperature in closed containers under normal storage and handling conditions. **Polymerization:** Hazardous polymerization cannot occur.

Chemical Incompatibilities: Do not store with oxidizers or acidic agents.

Conditions to Avoid: N/A

Hazardous Decomposition Products: Thermal oxidative decomposition of MSI can produce fumes of hydrogen chloride, and oxides of carbon, and nitrogen

Section 11: Toxicological Information

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Toxicity Data:**Eye Effects:** As received, possible mild irritation of eye membranes.**Skin Effects:** Drying of exposed skin surfaces, reversible with soap and water washing.**Ingestion Effects:** Possible mild gastrointestinal irritation.**Acute Inhalation Effects:** Human, inhalation, T_{CLo}: Not established.**Acute Oral Toxicity:** Rat, oral, LD₅₀: > 2,000 mg/kg.**Acute Dermal Toxicity:** Rat, dermal, LD₅₀: >2,000 mg/kg**Eye Irritation:** Rabbit, None.**Carcinogenicity:** None known.**Section 12: Ecological Information (non-mandatory)****Acute/Prolonged Toxicity: Fish:** LC₀: > 82.6 mg/l (Zebra fish (Brachydanio rerio), 96 hrs.)**Aquatic Invertebrates:** EC₀: >84 mg/l (Water flea (Daphnia magna), 48 hrs.)**Microorganisms:** EC₅₀: > 10,000 mg/l (Activated sludge microorganisms)**Environmental Fate Biodegradation:** Zahn-Wellens Test, 89-99%; Anaerobic, 39%, Exposure time: 56 days.**Biological Oxygen Demand (BOD₇):** 278 mg/g.**Chemical Oxygen Demand (COD):** 510 mg/g.**Section 13: Disposal Considerations (non-mandatory)****Disposal:** Contact Next Generation Water Science, your local supplier or a licensed contractor for detailed recommendations. Recovered spilled product may be disposed of by either or incineration. Follow applicable Federal, state, and local regulations.**Disposal Regulatory Requirements:** None.**Container Cleaning and Disposal:** Thoroughly clean empty containers with water and recycle or dispose of. Do not use empty containers for food storage.**Section 14: Transport Information (non-mandatory)**

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DOT Transportation Data (49 CFR 172.101):

Shipping Name: Chemicals, NOS (Non-regulated).
Shipping Symbols: None.
Hazard Class: Nonhazardous.
ID No.: None.
Packing Group: N/A
Label: None.
Special Provisions (172.102): None.

Packaging Authorizations
a) **Exceptions:** N/A
b) **Non-bulk Packaging:** N/A
c) **Bulk Packaging:** N/A

Quantity Limitations
a) **Passenger, Aircraft, or Railcar:** None.
b) **Cargo Aircraft Only:** None.

Vessel Stowage Requirements
a) **Vessel Stowage:** None.
b) **Other:** N/A

Section 15: Regulatory Information (non-mandatory)

EPA Regulations: RCRA Hazardous Waste Number: Not listed (40 CFR 261.33) RCRA Hazardous Waste Classification (40 CFR 261): Not classified CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112 CERCLA Reportable Quantity (RQ): None. SARA 311/312 Codes: None. SARA Toxic Chemical (40 CFR 372.65): Not listed SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations: Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed OSHA Specifically Regulated Substance (29CFR 1910): Not listed.

State Regulations: None.

Section 16: Other Information

Prepared by: Jarred Morgan
Preparation date: 05/06/2015

Additional Hazard Rating Systems:None.

Disclaimer: The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.