TECHNICAL DATA SHEET

HydroSafe

Oxidizing Biocide (Sodium Hypochlorite Solution) for Industrial Water Systems

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1. PRODUCT DESCRIPTION

HydroSafe is a high-strength sodium hypochlorite solution designed as a fast-acting oxidizing biocide for effective control of bacteria, algae, fungi, and biofilm in industrial water systems.

The product provides rapid disinfection through free chlorine release and is highly effective in controlling microbial growth in open recirculating cooling systems.

Designed for use in:

- Cooling towers
- Evaporative condensers
- Closed cooling loops
- Industrial process water
- Wastewater treatment systems

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2. MECHANISM OF ACTION

HydroSafe acts as a strong oxidizing agent:

Biocidal Activity:
Releases free available chlorine ($HOCl$ / OCl^-) which oxidizes cellular components, leading to rapid microbial cell destruction.

Biofilm Control:
Breaks down organic matter and biofilm layers, improving system cleanliness.

Oxidation:
Oxidizes iron, manganese, and sulfides present in water systems.

3. APPLICATION & DOSAGE

Method of Application

Continuous dosing or intermittent shock dosing using dosing pumps.

Typical Dosage Range

- Shock Dose: **5 – 20 ppm (as free chlorine)**
- Maintenance Dose: **0.5 – 2 ppm (residual chlorine)**

Dosage depends on:

- System load
- Organic contamination
- Temperature
- pH

Monitoring

- Free chlorine residual test (DPD method)
- ORP monitoring
- Microbial count

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4. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

- Appearance: Greenish-yellow liquid
- Odor: Chlorine-like
- pH (as supplied): **11 – 13**
- Specific Gravity @ 25°C: **1.15 – 1.25**
- Active Chlorine: **10 – 15%**
- Solubility: Completely soluble in water
- Flammability: Non-flammable

5. COMPATIBILITY

Material Compatibility

- PVC
- HDPE
- FRP
- Rubber-lined steel

Chemical Compatibility

- Compatible with most water treatment chemicals under controlled dosing

Avoid:

- Acids (releases chlorine gas)
- Ammonia
- Reducing agents

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6. PACKAGING

Available in:

- 25 kg HDPE drums
- 200 kg drums
- Bulk tanks

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7. STORAGE & SHELF LIFE

- Store in cool, ventilated area
- Protect from sunlight
- Storage temperature: **< 30°C**

Product decomposes over time (loss of chlorine strength)

Shelf Life: **3 – 6 months (depending on storage conditions)**