TECHNICAL DATA SHEET

H 555 CT

Molybdate -Based Corrosion Inhibitor for Open Recirculating Cooling Water Systems

1. PRODUCT DESCRIPTION

H 555 CT is a liquid corrosion-inhibitor product based on sodium molybdate combined with a proprietary organic inhibitor blend.

The product is intended to support corrosion control for suitable ferrous metals when used at a verified residual concentration and as part of a monitored water-treatment program.

Proposed application for evaluation:

- Open recirculating cooling-water systems.
- Industrial cooling-tower circuits.
- Open cooling-water systems subject to evaporation, water losses, and atmospheric oxygen exposure.

Suitability must be confirmed for the actual system metallurgy, make-up water quality, cycles of concentration, operating temperature, and complete chemical-treatment program.

H 555 CT is intended for corrosion inhibition. It does not, by itself, replace the other control functions required in an open cooling-water treatment program.

2. MECHANISM OF ACTION

Molybdate based inhibitors are used to support passivation of suitable ferrous metal surfaces.

Molybdate ions may contribute to the formation and maintenance of a protective surface film under suitable operating conditions.

Actual corrosion-control performance depends on:

- Inhibitor residual concentration.

- Water chemistry and operating pH.
- System metallurgy.
- Operating temperature and flow conditions.
- Oxygen exposure.
- Compatibility with other treatment chemicals.
- Proper monitoring and dosing control.

Performance in an oxygen-exposed open cooling-water circuit must be demonstrated under representative operating conditions.

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3. APPLICATION & DOSAGE

Initial Dosing:
1.0 – 3.0 kg per m^3 of total system volume

The initial dosage must be established using:

- Total system water volume.
- Target molybdate residual.
- Make-up water and blowdown rates.
- Operating water chemistry.
- System metallurgy.
- Results of a controlled field trial.

Target Residual:
200 – 500 ppm Molybdate (as MoO_4^{2-})

Recommended Operating pH:
8.0 – 10.5

Monitoring:
Molybdate concentration should be tested regularly using a standard molybdate test kit.

Maintain minimum residual level of 250 ppm for optimal protection.

The product may be fed:

- Continuously based on make-up water
- Intermittently based on system volume

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4. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Appearance: Clear to light yellow liquid
Odor: Mild
pH (as supplied): 8.5 – 10.0
Specific Gravity @ 25°C: 1.30 – 1.40
Solubility: Completely soluble in water
Flammability: Non-flammable
Volatility: Non-volatile

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5. COMPATIBILITY

Compatible with:

- Mild Steel
- Carbon Steel
- Cast Iron
- Copper and copper alloys
- Glycol / antifreeze systems

Do not mix H 555 directly with concentrated treatment chemicals. Confirm compatibility, dilution requirements, and feed-point separation with the H2A Technical Department.

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6. PACKAGING

Available in:

25 kg HDPE drums

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7. STORAGE & SHELF LIFE

Store in tightly closed containers in a cool, dry, and well-ventilated area.

Protect from freezing. If frozen, follow the supplier's approved recovery instructions before use.

Shelf Life: 24 months under recommended storage conditions.

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8. ADVANTAGES

Potential benefits, subject to validation for the intended open-system application:

- Molybdate-based corrosion-inhibition technology.
- Potential support for corrosion control of suitable ferrous metals.
- Water-soluble liquid formulation, as stated in the original TDS.
- Residual monitoring using a suitable molybdate analytical method.
- Potential integration into a compatible multi-component cooling-water treatment program.