



Headwaters® 10F Corrosion Inhibitor

DESCRIPTION

Headwaters® 10F inhibitor reduces corrosion by more than 70% when applied to salt brine, calcium chloride and brine/calcium blends. It is a concentrated product that is free-flowing and stable in cold temperatures, making it easy to handle. The Pacific Northwest Snowfighters (PNS) has placed *Headwaters* 10F inhibitor on its Qualified Products List (QPL), Category A1.

The product is biobased, biodegradable and clean, resulting in a low toxicity profile. It complies with PNS requirements and meets the metal and contaminant limits set by states and municipalities with the most stringent water quality specs in the country.

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US Patent No. 9,096,787

HANDLING: Inhibitor remains a free-flowing liquid down to a product temperature of 4°F. Once added to brine, inhibited salt brine will maintain its -6°F freezepoint.

SHELF LIFE: Product remains stable when stored alone in cold temperatures. Solid formation may occur when inhibitor is stored alone in warm temperatures. The product mixes completely and remains stable once blended into brine and stored at any temperature.

PROPERTIES

Appearance:	Light yellow liquid
Density:	1.26 at 68°F; 10.5 lbs/gal; 191 gals/ton
pH:	6.0 – 9.0
Freeze Point:	4°F
Corrosion Rate (NACE PNS):	26.7% in salt brine

USE AND STORAGE

ADDITION RATE: *Headwaters* 10F is added to liquid deicers as follows:

- 4.5% (v/v) into salt brine (23.3% NaCl) for 70% corrosion reduction
- 6% into 32% calcium chloride for 60% corrosion reduction
- 8% into 90/10 brine/calcium blends for 70% corrosion reduction

For example, 45 gallons of *Headwaters* 10F Inhibitor added to 955 gallons of salt brine will produce 1,000 gallons of inhibited brine.

END OF SEASON MAINTENANCE: Completely empty inhibitor from tank, mixing remaining inhibitor into brine for summer storage. Fill empty inhibitor tank ¼ full with water, circulate to rinse and remove. Repeat rinse. Rinse water can be recycled for brine making or sent to wastewater treatment facility.

PNS REQUIRED ANALYSIS

ANALYSIS	RESULT
Ammonia (as N)	Not Detected
Arsenic	Not Detected
Barium	Not Detected
Cadmium	Not Detected
Chromium	Not Detected
Copper	Not Detected
Cyanide	Not Detected
Lead	Not Detected
Magnesium	Not Detected
Mercury	Not Detected
Molybdenum	Not Detected
Total Kjeldahl Nitrogen	Not Detected
Nitrate (as N)	Not Detected
Nitrite (as N)	Not Detected
Phosphorus	Not Detected
Selenium	0.06 mg/L
Sulfate ion as (SO ₄)	Not Detected
Zinc	Not Detected
Biochemical Oxygen Demand	9,000 mg/L
Chemical Oxygen Demand	20,200 mg/L
Frictional Analysis	1.1 Avg over 345 min