www.heatlinkgroup.com

Molybdate Based Corrosion Inhibitor
Submittal - Page 1 of 2

Job or Customer :	
Location :	
Engineer :	
❑ Complies with Spec ❑ Alternate	Notes :
Contractor :	
HeatLink Rep :	
Submitted By :	Date :
Approved By :	Date :
P.O. Number :	Date :

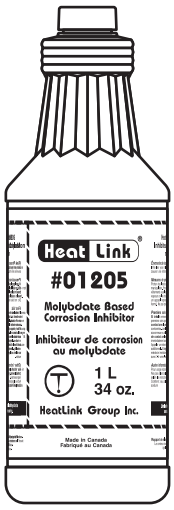
Description

The Molybdate Based Corrosion Inhibitor creates a protective monomolecular film over all internal surfaces of the heating system as the water circulates. The film is an anodic coating which immediately stops corrosive attack of the metallic parts. Molybdate will not harm PEX pipe or the manifolds and it is glycol compatible. Molybdate concentration between 100-150 ppm is recommended; higher concentrations are not harmful.

The Molybdate will act as a preoperational cleaner if a sidestream filter is installed and double the amount of Molybdate required is added. The molybdate concentration should be checked after this procedure.

Technical Data

Physical state: ..... Liquid
Odor and appearance:..... bland, clear liquid
Odor threshold (ppm): ..... N/D
Specific gravity: 1.1
Vapor density (air=1): ..... N/D
Evaporation rate (butyl acetate = 1): ..... <1
Boiling point (°C):..... >100
Freezing point (°C): ..... N/D
pH:.....11.5
Coef. Of water/oil distribution: ..... N/D



Ingredients

Chemical Name:	*Cas#*	*%Range*
Sodium Molybdate	7631-95-0	3 – 15
Sodium Tolytriazole	64665-57-2	1 – 5
Sodium Hydroxide	1310-73-2	0.5 – 1.5

Qty	Stk. #	Chemical Volume	Shipping Weight
	01205	0.26 USG (1 L)	1.5 lbs 0.7 kg

Product Identification

Product Identification
HeatLink® #01205 (Enercon EC-471)
Material use: Boiler Water Treatment

Enercon Water Treatment Ltd.
3606 - 6 Avenue North; Lethbridge, AB; T1H 5C4
Emergency Telephone. Canutec: 613-996-6666

WHMIS CLASSIFICATION: (D2b, D1b, D2a, E)

Head Office: 4603E - 13th Street NE, Calgary, AB, T2E 6M3
Mississauga Office: 1555 Bonhill Road, Unit #7, Mississauga, ON, L5T 1Y5
Grand Rapids Office: 1000 - 100th Street SW, Suite B, Byron Center, MI, 49315
Toll Free: 1-800-661-5332 • Canada Fax: 1-866-450-1155 • USA Fax: 1-800-869-6098

Application:
The Molybdate Based Corrosion Inhibitor creates a protective monomolecular film over all internal surfaces of the heating system as the water circulates. The film is an anodic coating which immediately stops corrosive attack of the metalic parts. Molybdate will not harm PEX pipe or the manifolds and it is glycol compatable. The Molybdate will act as a preoperational cleaner if a sidestream filter is installed and double the amount of Molybdate required is added. The molybdate concentration should be checked after this procedure.

Advantages:
- •Excellent corrosion protection
- •Non-staining
- •Low toxicity
- •Easy to apply and control
- •Non-pollutant
- •Compatible with most corrosion inhibitors
- •Highly buffered

Dosage:
The contents of this 1 L (0.26 US gal) container will treat 182 L (58 US gal) of water. Subsequent additions of the inhibitor are determined by the molybdenum content of the treated water. Molybdate concentration between 100-150 ppm is recommended; higher concentrations are not harmful.

Feeding:
HeatLink® #01205 Corrosion Inhibitor may be added full strength directly to the closed system by means of a by-pass feeder or chemical pump of standard construction. Inject the chemical to suction side of recirculating pump or at any convenient location where good mixing is assured.

Limitations and Handling:
Harmful if swallowed. Not for use in potable water. Avoid contact with eyes, skin or clothing. In case of contact, wash skin with water. If eyes are affected, flush with water for at least 15 minutes and get medical attention. Refer to Material Safety Data Sheet (L2803) for additional information.

Corrosion Inhibition
Corrosion in systems can come in many forms. The most common form known to most people is corrosion that is caused by oxygen in the water. This corrosion is called oxidative corrosion. Other types of corrosion include galvanic corrosion, caustic corrosion and acidic corrosion. To combat corrosion, many different methods are used such as control of pH (see pH section), use of chemical corrosion inhibitors and effective monitoring and control.

There are many chemical corrosion inhibitors available on the market today. However, for closed loop hydronic heating systems, only two types are recommended. Molybdate and nitrite corrosion inhibitors are film forming inhibitors and protect against all forms of corrosion. Molybdate is recommended over nitrite because it is required at a lower concentration, it is less toxic and does not promote the growth of bacteria. The nitrite works by reacting with ferrous hydroxide and forming a passive layer of magnetite. The molybdate works in a similar manner by converting “red rust” into the same passive layer of magnetite.

The concentration of molybdate inhibitor should be between 100-150ppm (parts per million) and between 800-1200ppm for the nitrite inhibitor. Concentrations above 150ppm Molybdate are not a concern and can be used as an effective pre-operational cleaner if a side stream filter is in use. Concentrations above 1200ppm of Nitrite will cause an increase in conductivity above the upper limit and should be avoided.

As mentioned above, doubling the molybdate corrosion inhibitor concentration to approximately 300ppm, in conjunction with a side stream filter, is an effective pre- and post-operational cleaner. The molybdate will remove oils and minor debris from the system and it will collect in the filter. Without the filter, the cleaning properties of this method will not be effective.

Note regarding aluminum boiler/components:
The propylene glycol with molybdate inhibitor is buffered to a pH of approximately 9.5, which will cause an increase in aluminum corrosion. Systems with an aluminum boiler or components will require a non-inhibited glycol and molybdate blend optimized for aluminum treatment. HeatLink does not currently offer a glycol or corrosion inhibitor compatible with aluminum components.
For more information see Technical Bulletin #5 (TB-005).

Read the material safety data sheet before using.

Related Documents
- INFO 29 - Water Quality in Hydronic Systems (L2329)
- HeatLink Installation Guide (L3390)
- Material Safety Data Sheet - #01205 Molybdate Based Closed System Inhibitor (L2803)

Head Office: 4603E - 13th Street NE, Calgary, AB, T2E 6M3
Mississauga Office: 1555 Bonhill Road, Unit #7, Mississauga, ON, L5T 1Y5
Grand Rapids Office: 1000 - 100th Street SW, Suite B, Byron Center, MI, 49315
Toll Free: 1-800-661-5332 • Canada Fax: 1-866-450-1155 • USA Fax: 1-800-869-6098