



## VpCI™ ADDITIVES FOR COATINGS, FLUIDS, ADHESIVES AND PLASTICS

# M-235

### PRODUCT DESCRIPTION

M-235 is a proven corrosion inhibitor for copper, copper-based alloys and other yellow metals. M-235 functions by reacting with surface copper oxides to form a strong, insoluble polymeric complex. This complex creates a thin layer or film on metal surfaces that provides both a mechanical and electrochemical barrier against corrosive attack. This protective layer has a high degree of thermal and oxidative stability and cannot be easily removed. M-235 complexes yellow metal ions in solution, thereby preventing galvanic corrosion of other metals in contact with copper. M-235 has solubility in some water and organic systems.

### SUGGESTED USES

M-235 can be used in many applications for protection of yellow metals.

- Direct treatment on rolled copper or brass sheets and coils
- Circulating cooling systems such as cooling towers and air conditioning systems
- Functional fluids such as hydraulic fluids, specialty lubricants, automotive coolants and metalworking fluids
- Wrapping paper and box board for wrapping, interleaving, shipping and storing copper and brass items
- Corrosion protective coatings such as lacquers and waxes
- Cleaners such as soaps, detergents and strong alkali or acid cleaners
- Fabricated products made from copper and brass
- Artifacts, sculptures and decoration items

### DOSAGE

M-235 has an almost neutral pH when incorporated into liquids at a concentration between 0.1 and 2.0%. Liquids may be either aqueous or non-aqueous. It may also be used as a solid or vapor. For a specific recommendation please contact a Cortec representative.

### TYPICAL PROPERTIES

Appearance	White to off-white powder
Assay	98-100%
Melting Point	94°-99°C (201°-210°F)
<i>Solubility, wt. %, 25°C:</i>	
Water	1.98
60°C	7.4
Methanol	71.6
Methoxy-2-Propanol	55.0
Isopropanol	53.9
Heptanol	34.6
Ethylene Glycol	150.7
Polyethylene Glycol	47.7
Methyl Ethyl Ketone	46.1
Benzene	1.3
Tetrachloroethylene	0.06
White Mineral Oil*	0.1
Turbine Oil*	0.01

\*Petroleum oil formulations containing polar additives, such as tricresyl phosphate and alkylbenzenesulfonic acid derivatives, will increase the apparent solubility.

### PACKAGING

M-235 is available in 5 pound (2.3 kg), 50 pound (23 kg), 100 pound (45 kg) fiber drums and bulk.

**FOR INDUSTRIAL USE ONLY**  
**KEEP OUT OF REACH OF CHILDREN**  
**KEEP CONTAINER TIGHTLY CLOSED**  
**NOT FOR INTERNAL CONSUMPTION**  
**CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION**

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