



VpCI®-649 / VpCI®-649 MF / VpCI®-649 Winterized



PRODUCT DESCRIPTION

VpCI®-649 is a unique concentrated liquid formulation that protects ferrous and non-ferrous metals from corrosive solutions. In addition, this product is designed to provide long-term protection in fresh water and glycol closed loop systems.

VpCI®-649 combines contact and volatile corrosion inhibitors along with anti-scalants in a formulation that does not contain nitrites, phosphates or chromates. This product helps solve the problem of disposal, particularly for large quantities of water.

VpCI®-649 contains a molybdate tracer. VpCI®-649 MF is molybdate free, and contains a PTSA tracer for easy detection.

VpCI®-649 is also available in a cold weather version, VpCI®-649 Winterized for the convenience of storage in cold temperatures. VpCI®-649 Winterized provides freezing protection during product storage, it does not provide freezing protection to the diluted VpCI®-649 Winterized water solutions.

TYPICAL APPLICATIONS

- Closed loop cooling systems
- Fire extinguishing system dry layup
- Hydrostatic testing of pipelines, casings, tanks, and valves
- Packer fluid additive
- Cooling tower layup

FEATURES

- Effective for a broad range of applications to stop aggressive corrosion in systems containing fresh water, glycol coolants, etc.
- Vapor phase action provides protection to areas that contact inhibitors cannot reach
- Contains an acrylic polymer to prevent scale formation
- Readily water-soluble liquid for easy application
- Protects copper, steel, galvanized steel, and aluminum
- Effective in low dosages
- Does not contain free amines

VpCI®-649 GENERAL DOSAGING GUIDELINES

Protection Length	Volume VpCI®-649 per 100 gal	Volume VpCI®-649 per 100 L	Dosage (%)	ppm
During Testing & Operational Protection	0.3 gallons (38 ounces)	300 mL	0.3	3000
Up to 6 months	0.5 gallons (64 ounces)	500 mL	0.5	5000
6-12 months	1 gallon	1 L	1	10,000
12-24 months	1.5 gallons	1.5 L	1.5	15,000

*These are general dosing guidelines and may not be suitable for every application. Please contact Cortec® Technical Service for specific dosage information.

Detection: Concentration of VpCI®-649 can be monitored via molybdate tracer, pH, or refractometer. Concentration of VpCI®-649 MF can be monitored via pH, refractometry, or PTSA. Contact Cortec® Technical Service for more information on monitoring product concentration.



TYPICAL PROPERTIES

VpCI®-649 & VpCI®-649 MF

Appearance	Amber Liquid
Density	9.5-9.7 lb/gal (1.14-1.16 kg/L)
Type	Water-based
pH	9.1-9.6 (Neat)
Freeze Point	7 to 10°F (-14 to -12°C)

VpCI®-649 Winterized

Carrier	Water + Propylene glycol
Density	9.3-9.7 lb/gal (1.11-1.16 kg/L)
pH	9.1-9.6 (neat)
Freeze Point	-36.4 °F (-38 °C)

Acute Toxicity Testing Results for VpCI®-649 Winterized		
Species	Test Time (hours)	LC ₅₀ (ppm)
Salt Water		
M. beryllina (inland silverside)	48	1460
M. bahia (mysid shrimp)	48	1240
Fresh Water		
D. pule (water flea)	48	2240
P. promelas (flathead minnow)	48	2400

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

CONSIDERATIONS

The PTSA tracer used in VpCI®-649 MF degrades with exposure to light. Solutions of VpCI®-649 MF must be sheltered from light to retain PTSA tracer. If PTSA degrades, the concentration can still be monitored via a titration. Contact Cortec® Technical Service for more information.

STORAGE AND PACKAGING

VpCI®-649 is available in 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.

To ensure best product performance, store in original packaging, indoors, and out of direct sunlight at 40-100 °F (4-38 °C).

Shelf life: 2 years

LIMITED WARRANTY

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