



VpCI® METALWORKING PRODUCTS

VpCI®-347

PRODUCT DESCRIPTION

VpCI®-347 is a multifunctional corrosion inhibitor/heavy-duty lubricant concentrate for metalworking operations. VpCI®-347 is superior to heavy-duty petroleum-based rust preventives. High performance characteristics make VpCI®-347 ideally suited for heavy-duty cutting, milling, turning, drilling, boring, broaching, gear cutting and other machining operations. VpCI®-347 contains lubricating and corrosion inhibiting compounds, and is extremely resistant to rancid attack by bacteria. When used as directed, VpCI®-347 prevents corrosion during in-plant processing, storage and export shipment for up to 24 months.

FEATURES

- Low to no smoke or burning vapors
- Low foaming
- Prevents corrosive attack caused by chlorides, aggressive industrial gases and acidic atmospheres
- Extremely effective in high humidity (laboratory tests of standard cold-rolled steel panels showed no signs of corrosion at 100% relative humidity after 2,000 hr., per ASTM D-1748)
- Provides excellent drawability, lubricity and wetting under pressure
- Displaces water and oil from metal surfaces, leaving a thin, transparent film
- Economical (can be diluted up to 1 part VpCI®-347 to 40 parts water)
- Protects ferrous and non-ferrous metals
- Easy to remove from metal surfaces
- Contains no chlorinated compounds, chromates, nitrites or other environmentally unsafe compounds
- Eliminates cleaning and housekeeping problems associated with rust inhibiting oils
- No need for slushing oils
- Weldable
- Resistant to rancid attack by bacteria
- Forms a transparent film

- NATO #6850-66-132-6101
#6850-66-132-6102
- NSN 6850-01-470-2740
- Conforms to MIL PRF-16173E (Grade 1&2)

TYPICAL APPLICATIONS

- Lubricant for heavy-duty rolling, drawing, extruding, stamping and cutting
- In-plant machining
- Protection of hot-rolled, cold-rolled, galvanized and aluminized steel
- Hydrostatic testing
- Corrosion protection for bearings, piping and tubular parts, housings, stampings, bar and roll stock and structural steel during in-plant storage or domestic and export shipments
- Coolant for machining of castings, highly polished pieces and other parts, providing superior protection between machining operations and further processing or assembly

METAL PROTECTED

- Carbon steel
- Cast iron
- Aluminum
- Stainless steel
- Copper

TYPICAL PROPERTIES

Appearance	Brown to tan viscous liquid
Corrosion Resistance	Up to 24 months
Film Type	Non-drying
pH	10-11 (1% water)
Pour Point	21°F (-6°C)
Removal Methods	Alkaline cleaners (VpCI®-t410 series)
Viscosity	7,000-13,000 cps
Density	8.2-8.7 lb/gal (0.98-1.04 kg/l)
Non-volatile Content	93-95%



CORTEC
CORPORATION

Environmentally Safe VpCI®/MCI® Technologies

APPLICATION

Product Preparation:

Add VpCl®-347 to water using a high dispersion mixing blade. Mix for at least 5-10 minutes. VpCl®-347 can be mixed in this manner at higher concentrations (20-50%) and then added into larger volumes of water.

Methods for monitoring solution:

Refractometer, pH

Recommended applicators and dilutions:

Grinding disks	1:40
Draw bench	1:30
Straight and cut	1:40
CNCs	1:30 to 1:40

Product cleanup:

Use soap and water to clean equipment.

Add VpCl®-347 to water as follows for:

Short-term protection (1-6 months):

1 part concentrate to 20-40 parts water

Medium-term protection (6-12 months):

1 part concentrate to 15-20 parts water

Protection up to 2 years and/or lubricity:

1 part concentrate to 10-15 parts water

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

Shell 4-Ball E.P. Test (ASTM D-2783)

Cortec VpCl®-347 in Tap Water

	2.5%		5%		10%	
	lb	kg	lb	kg	lb	kg
Seizure	139	63	220	110	278	126
Weld	278	126	353	160	353	160
Load Wear Index	65	29	97	44	88	40

Shell 4-Ball Wear Test (ASTM D-2266)

Cortec VpCl®-347 in Tap Water

	2.5%	5%	10%
Average Coefficient of Friction	0.88	0.108	0.101
Average Scar Diameter (mm)	0.90	0.69	0.81

Tapping Torque Test

Cortec VpCl®-347 in Tap Water

	2.5%	5%	10%	Reference
Torque	77.87	10.35	10.20	12.53
Torque (lb/kg)	42.73-19.4	10.35-4.7	36.83-16.7	42.11-20.5
% Efficient	106	121	122	100

PACKAGING AND STORAGE

VpCl®-347 is available in 5 gallon (19 liter) pails, 5 gallon (208 liter) drums, liquid totes and bulk. The product should be sealed and stored in a heated warehouse to avoid freezing. VpCl®-347 has a shelf life of 24 months.

Minimum storage temperature: 32°F (0°C)

Maximum storage temperature: 120°F (49°C)

LIMITED WARRANTY

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4119 White Bear Parkway, St. Paul, MN 55110 USA
Phone (651) 429-1100, Fax (651) 429-1122
Toll Free (800) 4-CORTEC, E-mail info@cortecvci.com
Internet <http://www.cortecvci.com>

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Distributed by:



OTiK Sp. z o.o.

ul. Hutnicza 4

81-061 Gdynia

tel.: 58 6230498

fax: 58 6230496

otik@use.pl

www.inhibitory.use.pl



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