



# VpCI®-637 TOL



## PRODUCT DESCRIPTION

VpCI-637 TOL provides corrosion control in natural gas and crude oil gathering and transmission lines, including the difficult Top-of-Line (TOL) corrosion problems.

VpCI-637 TOL is a combination of vapor phase and film-forming corrosion inhibitors. It is particularly useful in combating the corrosion caused by condensation of acidic vapor in areas inaccessible by direct contact. It also provides excellent protection to Bottom-of-the-Line (BOL) corrosion caused by corrosive fluids. VpCI-637 TOL is able to partition through hydrocarbon to reach aqueous phase, and to function in a variety of flow reigns.

The unique chemistries of VpCI-637 TOL enable the product to protect internal pipelines in "sweet/sour" saturated carbon dioxide/hydrogen sulfide environment.

## FEATURES

- Effective for a wide range of systems and corrosive conditions
- Provide maximum control over long distances for highly corrosive systems with a high water-to-hydrocarbons ratio, including TOL and low areas in systems where water collects and extreme corrosive attack occurs
- Particularly effective in mitigating the corrosion caused by condensation of acidic vapor in areas inaccessible by direct contact
- Forms an adsorbed, protective layer that protects ferrous and non-ferrous metals
- Effective against water, corrosive gases, and halogens
- Vapor phase action provides protection from atmospheric conditions and moisture condensation to areas not accessible by filming inhibitors
- Does not contain heavy metals, chlorinated hydrocarbons, or volatile amines
- Does not negatively affect water/fuel separation property in the processed fuel products

## TYPICAL APPLICATIONS

VpCI-637 TOL is designed for use in natural gas pipelines and petroleum recovery processes, most effective in situations prone to TOL corrosion attacks.

## METHOD OF APPLICATION

VpCI-637 TOL is best applied by continuous injection or atomization into the transmission line. Atomization of the product into the gas stream enhances the dispersion and length of travel. Generally, dose rate of 10-30 fl oz (300-900ml) of the product per million cubic feet of gas is sufficient for the majority of applications.

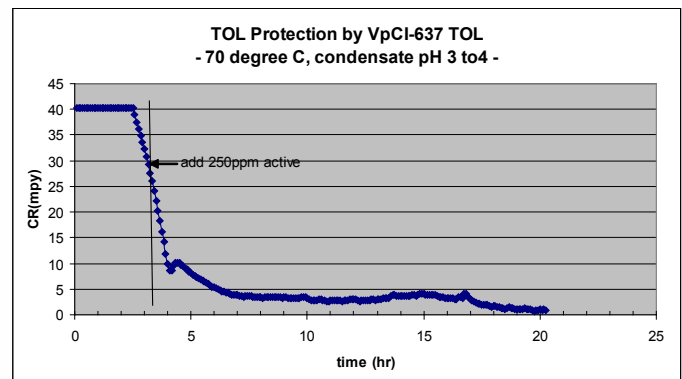
## PERFORMANCE

### • Protection by VpCI-637 TOL in Acidic Vapor with Condensation

-- Small Scale Corrosion Test --  
(condensate pH 3 to 4, temperature 70°C)

Inhibitor Tested	CR (mpy)*	% Protection
250 ppm TOL	1.1	96
125 ppm TOL	5	77
1000 ppm conventional	11	56

\*CR=25mpy when no inhibitor was used (control)



• **Protection by VpCl-637 TOL in Acidic Brine/Hydrocarbon**

Test	CR (mpy) -Control-	CR(mpy) -50ppm active VpCl-637 TOL-	% Protec-tion
Bubble Test**	130	4.4	97
Rotating Cylinder Electrode Test** (ASTM G 170)	130	14	89

\*\* Test Conditions

Parameters	Value
Working electrode	G10180 (SAE1018)
Test electrolyte	3.58% Synthetic Sea Salt in DI + 5% commercial diesel (wt)
Purging gas	CO2 @5x10-6 (m3/s)
pH of brine	4.5-5
Temperature	58°C
RPM of Cylinder Electrode (for RCE)	1000
Est. Liquid Reynolds number (for RCE)	>10,000
Inhibitor, concentration	VpCl-637TOL 50ppm active
Corr. rate measurement	LPR, w/o inhibitor, and 20 h after inhibitor addition

**TYPICAL PROPERTIES**

Appearance	Amber liquid
Non-Volatile Content	47-50%
pH	8.3-8.8 (neat)
Density	8.4-8.7 lb/gal (1.01-1.04 kg/l)
Pour Point	-35°F (-37°C)
Water/Fuel Separation MSEP	59 (ASTM D3948)

**STORAGE/PACKAGING**

VpCl-637 TOL is available in 5 gallon (19 liter) containers, 55 gallon (208 liter) metal drums, liquid totes, and bulk. Products should be stored in tightly closed containers.

**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**

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