



**VpCI® FORMULATED PRODUCTS FOR PROCESS INDUSTRIES**

# VpCI®-637/637 GL



## PRODUCT DESCRIPTION

VpCI-637/637 GL provide effective internal corrosion control in gas flow and gas transmission lines. VpCI-637/637 GL are a combination of vapor phase, neutralizing and film-forming corrosion inhibitors to combat the broadest range of corrosive attack from moisture and condensation, oxygen, carbon dioxide, hydrogen sulfide and other corrosive contaminants in natural gas. These non-emulsifying formulations offer the benefits of filming inhibitors that form a tenacious protective film on metal surfaces, neutralizing inhibitors that combat corrosive fluid formation and vapor phase inhibitors that reach areas inaccessible by direct contact to protect areas subject to varying flow ratios.

The unique chemistries of VpCI-637/637 GL allow these products to provide excellent protection in "sweet/sour" saturated carbon dioxide/hydrogen sulfide environments.

According to results obtained from the Wheel Test (NACE test method publication ID182), VpCI-637/637 GL provide excellent protection in both continuous and intermittent treatments, due to exceptional film persistency.

## FEATURES

- Effective for a wide range of systems and corrosive conditions
- Provide maximum control over long distances for highly corrosive systems having a high ratio of water-to-hydrocarbons, including low areas in systems where water collects and extreme corrosive attack occurs

- Form 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
- Recommended concentrations do not cause foaming or upsets in gas sweetening or glycol dehydration processes
- Do not contain heavy metals, chlorinated hydrocarbons or volatile amines
- Provide cost effective solution
- VpCI-637 GL does not affect foaming properties in the natural gas processing

## TYPICAL APPLICATIONS

VpCI-637/637GL are designed for use in gas transmission and gathering lines.

VpCI-637 GL is recommended for the systems where defoaming properties of additive are required.

VpCI-637 is very effective in gathering systems containing significant amount of water or as a corrosion inhibitor for secondary oil-recovery operations, where the water is a carrier.

## PERFORMANCE

Corrosion Wheel test\* in 90% NaCl recommended electrolyte\*\* + 10% Depolarized Kerosen containing 500ppm H<sub>2</sub>S saturated with CO<sub>2</sub> at 150°F (65°C).

Inhibitor	Z, Protection,*** %
VpCI-637 GL 15-25 ppm continuously	90 +
VpCI-637 15-25 ppm continuously	90 +
Film persistency 2500 ppm	90 +

\* Test performed by Dixie Testing and Products, Inc.

\*\* -NaCl - 73,300 ppm, CaCl<sub>2</sub> - 7,534 ppm, MgCl<sub>2</sub> - 1,000 ppm

\*\*\* Z = 100% (CR<sub>c</sub>-CR<sub>i</sub>)/CR<sub>c</sub>, where CR<sub>c</sub> - corrosion rate in electrolyte without inhibitor, CR<sub>i</sub> - corrosion rate in electrolyte with inhibitor



## Methyldiethanolamine Foaming Test\*

Chemical Added	Chemical Concentration (ppm)	Foam height (ml)
None	0	80
VpCI-637 GL	250	80
VpCI-637 GL	500	40

\* Test performed by Dixie Testing and Products, Inc.

### METHOD OF APPLICATION

VpCI-637GL is best applied by continuous injection or atomization into the transmission line at a rate of 10-30 fl. oz. (300-900 ml) of product per million cubic feet of gas. Atomization of the product neat into the gas stream enhances dispersion and length of travel. The effective distance expected through atomization varies with gas volumes and degree of dryness (quantity of water condensed inside pipeline), however the distance will usually range between 20 and 40 miles (32 to 64 kilometers).

VpCI-637 can be applied at the same concentration ranges in gathering systems, or added to a carrier.

## Application Examples

Type of System to be Protected	Product to Use	Technology of Application
Natural Gas Wells and Gas Transmissions pipelines	VpCI-637GL	Continuous injection 15-45ppm or 300-900 ml per million cubic feet of gas
Gathering Systems containing CO <sub>2</sub> , H <sub>2</sub> S and highly electrolyte encroached	VpCI-637	Periodic injection of 700-2500ppm every 1-1.5 month
Water/Brines for secondary recovery	VpCI-637	Continuous injection 15-25 ppm

### TYPICAL PROPERTIES

#### VpCI-637/637 GL

Appearance	Clear dark green/brown liquid
Non-volatile Content	27-32%
pH	9.5-10.5 (Neat)
Density	7.8-7.9 lb/gal (0.93-0.94 kg/l)

### STORAGE/PACKAGING

VpCI-637/637GL are 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 in heated warehouse to avoid freezing.

## 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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