



VpCI™ FORMULATED PRODUCTS FOR PROCESS INDUSTRIES

VpCI®-629/629 SC/629 D

PRODUCT DESCRIPTION

VpCI-629 series products form a persistent barrier for continuous protection against severe corrosive attacks encountered in refinery and petrochemical operations.

Effective for a wide range of refined hydrocarbons, crudes, and oil/water ratios, VpCI-629 products are highly soluble in crude oil and dispersible in fresh water and brine solutions. As a fast-acting, long-term inhibitor, VpCI-629 products form an effective corrosion inhibiting barrier for both ferrous and non-ferrous metals in the presence of water, halogens and corrosive gases such as dissolved oxygen, sulfur dioxide, carbon dioxide and hydrogen sulfide.

Continuing protection between treatments is assured due to solubility, dispersibility in crude water mixtures, and long-term water displacing film formation provided by VpCI-629 products. In addition, the product provides vapor phase inhibition to protect areas inaccessible through direct solution contact. This unique characteristic protects internal parts during low fluid levels and combats atmospheric corrosion in production and storage tanks. Crude oil processing equipment, pipes and pipelines, refinery equipment and systems can be effectively protected against pitting, corrosive gases and water intrusions. Field test applications performed by independent laboratories verify that VpCI-629 is highly effective at a concentration level as low as 5-15 ppm.

FEATURES

- Effective for a wide range of refined hydrocarbons, crude and oil/water mixtures
- Forms a corrosion inhibiting barrier with high film persistency to give continuous, long-term protection
- Vapor phase action provides protection against corrosion from atmospheric conditions for overhead units, production and storage tanks
- Available in diluted form for easy direct application without premixing
- Post-action inhibition effect
- Prevents stress corrosion cracking (SCC) and hydrogen embrittlement
- Available in super concentrate form to reduce shipment cost of the product (VpCI-629 SC) and in ready-to-use form (VpCI-629 D) to reduce the cost of the labor on the field

TYPICAL APPLICATIONS

VpCI-629 products are designed for use in crude oil processing equipment, pipes and pipelines, refinery equipment and systems as well as petrochemical plant equipment and systems. VpCI-629 Super concentrate should be in most cases, diluted 1:1 with mineral spirits or other available hydro carbon based solvents to provide a more flowable product for injection into the systems.

TYPICAL PROPERTIES

VpCI-629

Appearance	Clear yellow to amber liquid
Non-volatile Content	30-35%
pH	10-11 (1% aqueous)
Post-action Effect	Up to 60 days
Pour Point	15°F (-17°C)
Protection Coefficient	93-99% (NACE TM-01-77)
Solubility	
<i>Crude oil</i>	Dispersible to soluble
<i>Fresh water</i>	Dispersible
<i>Brine</i>	Dispersible
Density	6.9-7.3 lb/gal (0.83-0.87 kg/l)

VpCI-629 SC

Appearance	Hazy amber viscous liquid
Non-volatile Content	73-80%
Density	7.8-7.9 lb/gal (0.93-0.94 kg/l)

VpCI-629 D

Appearance	Yellow to amber liquid
Non-volatile Content	9-12%
pH	8.5-9.0 (1% aqueous)
Pour Point	15°F (-17°C)
Density	6.8-7.0 (0.82-0.84kg/l)



PERFORMANCE DATA FOR VpCI-629

¹ Corrosion Test – Wheel Oven Test @ 160°F (71°C) for 2 days

Concentration, ppm	Effectiveness, %
5	92.3
25	95.5
100	98.7

² Emulsion Tendency, Condition of the test:

Concentration of VpCI-629 – 100 ppm

Water: Crude Oil = 80:20

Temperature = 180°F (82°C)

Product	% of Emulsion		
	5 min	15 min	30 min
VpCI-629	8	8	8
Contron IRN 181 (Champion)	18	18	18
Blank	6	6	6

^{1,2} Tests performed by PT Caltex Pacific, Indonesia

Prevention of the Stress Corrosion Cracking –

NACE TM-01-77 Procedure

Condition of the test:

Concentration of VpCI-629 – 200 ppm

Steel – ANSI 1045-1018 annealed

Load – 12000 psi (843 kg/cm²)

Product	Time to Failure, days
VpCI-629	>30
Blank	8

HANDLING

VpCI-629, VpCI-629 SC, and VpCI-629 Dare oil soluble and water/brine dispersable products, they need to be agitated before using.

Type of System to be Protected	Type of Corrosive Medium	Technology of Application	
Pipelines and collection systems for water-encroached crude oil.	Separate crude oil/water mixtures with a level of encroachment up to 98%. CO ₂ – varying concentration. H ₂ S – up to 6,000 ppm.	Method of Application	Frequency of Application and Dosage
		Continuous injection of 5-15 ppm	Intermittent treatment: 1,700-3,500 ppm during a 48 hr. period 4 times/year.
Oil wells and equipment	Crude with a high level of water encroachment and high concentrations of CO ₂ and H ₂ S.	Injection of the inhibitor into the clearance hole (5-15 ppm).	Periodic injection of 400-1,500 ppm every 2-2½ months.

PACKAGING AND STORAGE

VpCI-629 products are packaged in 5 gallon (19 liter) plastic containers, 55 gallon (208 liter) metal drums, liquid totes and bulk. Store product in tightly closed containers. Shelf life is 36 months.

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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