

1.



# **Oil & Gas Production Chemicals**

# **Primary Chemicals**



**Oil Well Treating & Drilling**



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PCCI 10 Corrosion Inhibitor Intermediate

**DESCRIPTION:** An oil soluble amine/phosphate ester salt concentrate.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.94  
Density (lbs/gal).....7.83 scale  
pH.....6.5 to 7.5  
Pour Point.....20° F  
Flash Point.....+100° F  
Activity.....45%

### CUSTOMER BENEFITS

>Inhibits against corrosion and  
>Creates film which inhibits against  
CO<sub>2</sub> and H<sub>2</sub>S or any corrosion  
>Helps prevent pump sticking and  
prolongs pump life  
>Excellent product for power oil  
systems

Handling Precautions: Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### SUGGESTED BLEND:

Heavy Aromatic Naphtha 67% by volume  
PCCI 10 33% by volume

### FINISHED PRODUCT APPLICATIONS:

Batch or truck treating at 40 to 60 ppm depending upon the severity of the scale and or corrosion problem. Recommend 25 to 30 ppm when used continuously.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120 **PCCI 33**

## Corrosion Inhibitor Concentrate

**DESCRIPTION:** An organic acid/amine salt. Friction reducer.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.93  
Density (lbs/gal).....7.75  
Activity.....79%  
pH.....6.0 - 7.0  
Flash point.....60°F  
Pour point.....0°F  
Solubility in:  
Water.....Dispersible  
Xylene.....Soluble  
Isopropanol.....Soluble  
Kerosene.....Soluble

### CUSTOMER BENEFITS

>Concentrate to blend corrosion inhibitors for use in drilling and production  
>Being a concentrate, saves on freight and warehousing space  
>May be diluted in hydrocarbon solvents or water and isopropanol for dual applications  
>May be used to form water soluble salts for use as corrosion inhibitors, emulsifiers, wetting agents for scale inhibitors  
>May be used as a combination scale and corrosion inhibitor in oil systems, water flooding or water disposal systems

**Handling Precautions:** Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### FINISHED PRODUCT APPLICATIONS:

Typical blend: H.A.N. or Diesel 75% by volume  
PCCI 33 25% by volume

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 40 Corrosion Inhibitor Concentrate

**DESCRIPTION:** PCCI 40 is a complex oil soluble acid / polyamine salt concentrate especially adaptable to sour and CO<sub>2</sub> systems. PCCI 40 is a very tenacious filmer.

TYPICAL PHYSICAL PROPERTIES	CUSTOMER BENEFITS
Specific Gravity.....0.92 to 0.93	>Effective in H <sub>2</sub> S and extreme
Density (lbs/gal).....7.72	CO <sub>2</sub> environments
Activity.....75%	
Flash Point.....115° F	>High heat stability
pH.....7.0-8.0	
Solubility in:	>Dispersant additives may be added
Water.....Insoluble	for water dispersability
Xylene.....Soluble	
Kerosene.....Soluble	>Field strength 20 to 25% has
	been very successful for batch
	type treating programs

Handling Precautions: Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

### FINISHED PRODUCT APPLICATIONS:

A typical blend would be 20 to 25% PCCI 40, 1 to 2% dispersing agent with diesel and/or HAN as the diluent. Higher percentages are considered a concentrate.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## **PCCI 56**

### **CORROSION INHIBITOR CONCENTRATE**

**GENERAL DESCRIPTION:** PCCI 56 is an organic acid-amine salt concentrate, formulated to provide protection where corrosion and scale are occurring in oil systems, water floods, water disposal systems, gas pipeline pigging and hydraulic lift systems.

#### **PHYSICAL PROPERTIES:**

Specific Gravity	0.94 to 0.95
Pounds per Gallon	7.875
Flash Point	Above 100 F
Solubility	Dispersible in water
Appearance	Dark Black Liquid
pH	6.5 to 7.5

**RECOMMENDED USAGE:** PCCI 56 is a concentrate, 33% by volume with 67% by volume of Diesel makes field strength product. For best results: Field strength product should be injected on a continuous basis usually at 24 ppm. It has been found to be a most effective carbonate scale inhibitor and remover. Additionally, its surfactants greatly minimize pressure build-ups in injection and hydraulic lift systems.

**HANDLING PRECAUTIONS:** Reasonable precautions should be taken to avoid physical contact, as prolonged exposure will cause skin irritation. Rinse affected areas with fresh water. Then wash with soap and water.



Fax 281-550-6120

14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 240

**DESCRIPTION:** PCCI 240 is an alkyl dimethyl benzyl quaternary multi-purpose corrosion inhibitor and surfactant.

=====	
TYPICAL PHYSICAL PROPERTIES	CUSTOMER BENEFITS
Specific Gravity.....0.924	>Can be blended with water soluble and oil soluble products
Density (lbs/gal).....7.70	
pH.....6.0 to 7.5	>Excellent for preparation of water soluble corrosion inhibitors
Pour Point.....26° F	
Flash Point.....126° F	>Very effective in the removal of deposits of iron sulfides, sand and other solids from formation
Activity.....80%	
Solubility:	>Outstanding for disposal and injection systems
Isopropanol.....Soluble	
Water.....Soluble	>Acts as a biostat that does not support the growth of bacteria
Aromatic solvent.....Soluble	
Alkylchain Group	>Can be diluted to fit the blenders needs as well as cross blending with other products
water	
C-12.....40%	
C-14.....50%	
C-16.....10%	

**Handling Precautions:** Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

**FINISHED PRODUCT APPLICATIONS:**

Due to the dual solubility of PCCI 240 enables the formulator to use PCCI 240 in many blends such as corrosion inhibitors, demulsifiers and both water and oil soluble surfactants.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**  
**Fax 281-550-6120**  
**PCCI 240M**

**DESCRIPTION:** PCCI 240M is an alkyl dimethyl benzyl quaternary multi-purpose corrosion inhibitor and surfactant.

=====

**TYPICAL PHYSICAL PROPERTIES**

Specific Gravity.....0.924  
Density (lbs/gal).....7.70  
pH.....6.0 to 7.5  
Pour Point.....26° F  
Flash Point.....126° F  
Activity.....80%  
Solubility:  
Isopropanol.....Soluble  
Water.....Soluble  
Aromatic solvent.....Soluble  
Alkylchain Group  
water  
C-12.....40%  
C-14.....50%  
C-16.....10%

**CUSTOMER BENEFITS**

>Can be blended with water soluble and oil soluble products  
>Excellent for preparation of water soluble corrosion inhibitors  
>Very effective in the removal of deposits of iron sulfides, sand and other solids from formation  
>Outstanding for disposal and injection systems  
>Acts as a biostat that does not support the growth of bacteria  
>Can be diluted to fit the blenders needs as well as cross blending with other products

**Handling Precautions:** Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

**FINISHED PRODUCT APPLICATIONS:**

Due to the dual solubility of PCCI 240M enables the formulator to use PCCI 240M in many blends such as corrosion inhibitors, demulsifiers and both water and oil soluble surfactants.



Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 610

**DESCRIPTION:** PCCI 610 is a quaternized alkyl pyridine.  
Withstands high heat.

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.034  
Density (lbs/gal).....8.62  
Activity, .....75%  
pH.....4.0 to 5.0  
Flash Point, TCC.....>100° F  
Pour Point.....-20° F  
Solubility, 10% in:  
Water.....Dispersible  
Isopropanol.....Soluble  
Xylene.....Insoluble  
Kerosene.....Insoluble

### CUSTOMER BENEFITS

>Exhibits film persistency and  
is effective generally at 3 to  
10 ppm  
  
>Inhibits in both oil and water  
systems against H<sub>2</sub>S, CO<sub>2</sub>, organic  
acids, inorganic salts and trace  
quantities of oxygen  
  
>Can be used in blends for acidiz-  
ing corrosion preventatives and  
oil well drilling completion,  
producing and waterflooding  
systems  
  
>With the addition of surfactants  
and alcohols can be blended to  
water soluble type corrosion  
inhibitor

**Handling Precautions:** PCCI 610 is a mild acid and is corrosive to steel, aluminum, or admiralty metals. It should be handled with stainless type equipment or coatings suitable for service alkyl pyridines. Avoid contact with skin, eyes and clothing. Flush affected areas with water. Do not take internally.

=====

### APPLICATION:

PCCI 610 finished blends are injected continuously or by batch treating methods.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 1100 Corrosion Inhibitor

**DESCRIPTION:** A complex water soluble packer fluid corrosion inhibitor.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.021  
Density.....8.505  
pH.....8.5 - 9.5  
Pour Point.....<-5° F  
Solubility:  
Hydrocarbons.....Insoluble  
Fresh water.....Soluble  
Brine water.....Soluble

### CUSTOMER BENEFITS

>Excellent packer fluid inhibitor  
>Can be mixed with brine or fresh water packer fluid  
>Corrosion protection against inorganic salts, CO<sub>2</sub>, and H<sub>2</sub>S  
>Quaternized to inhibit the growth of bacteria

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### APPLICATION:

Suggested dosage is 1% by volume. Be sure mixing tanks, (frac) are clean prior to use.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 1234T Corrosion Inhibitor

**DESCRIPTION:** PCCI 1234T is a concentrated blend of quaternary and acyclic amines with dispersants.

---

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.04  
Density (lbs/gal).....8.67  
Activity.....75%  
pH.....6.5 - 7.5  
Flash point.....100°F  
Pour point.....(-)20°F  
Solubility in:  
Water.....Dispersible  
Xylene.....Insoluble  
Isopropanol.....Soluble  
Kerosene.....Insoluble

### CUSTOMER BENEFITS

>A highly cationic amine compound to formulate corrosion inhibitors for oil and gas wells and waterflooding  
>Due to the unique blend, it is excellent for high heat gas wells and refineries  
>Makes an excellent concentrated truck treating corrosion inhibitor where amounts to be carried becomes critical

**Handling Precautions:** Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

---

### FINISHED PRODUCT APPLICATIONS:

The quantity of PCCI 1234T required is directly affected by the formulator's blend, application, method and system characteristics.

Fax 281-550-6



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 1438 Acid Inhibitor

**DESCRIPTION:** PCCI 1438 is a specially designed corrosion inhibitor effective in inhibiting acid solutions of HCl. PCCI 1438 inhibits up to temperatures of 270 F.

TYPICAL PHYSICAL PROPERTIES		CUSTOMER	
BENEFITS			
Specific Gravity.....	0.876	>Provides	outstanding corrosion
Density.....	7.30 lbs/gal	protection	
Pour Point.....	-40 F		
Flash Point.....	80 F	>Maintains protection beyond	
24 pH.....	4.0 -	5.0	
household solubility in:			
Water.....	Dispersible	>Extends in-service time of	
acid 15% HCl.....	Dispersible	trucks, tanks, pumps and equipment	
Hydrocarbons.....	Dispersible		
Ionic charge.....	Cationic	>Out performs	NACE
specifications		>Compatible with other acid	
additives			
and		>Protects customer tubulars	
		down	hole

### **HANDLING**

#### **PRECAUTIONS:**

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

---

---

#### **APPLICATION:**

PCCI 1438 should be added during water and acid loading operations to assure good mix:

Down hole temperatures: 15% HCl 31% HCl

up to 140 F    2 qpd            4 quarts per drum  
140 to 270 F    3 qpd            6 qpd

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCHSS 300 Hydrogen Sulfide Scavenger

PRODUCT DESCRIPTION: PCHSS 300 is a complex proprietary water soluble highly surface active liquid hydrogen sulfide scavenger.

=====

### TYPICAL PHYSICAL PROPERTIES

Appearance.....Colorless to light yellow  
Specific Gravity.....1.12  
Density (lbs/gal).....9.33  
pH.....10.5 to 11.5  
Pour Point.....-10° F  
Activity.....89%

### CUSTOMER BENEFITS

>Economical removal of H<sub>2</sub>S in the presence of CO<sub>2</sub>  
>May be injected directly into the flowline  
>Reaction products are non-hazardous  
>Can be diluted by formulator to a desired activity to meet the needs of their customers

Handling Precautions: Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### FINISHED PRODUCT APPLICATIONS:

The quantity of PCHSS 300 required to react with hydrogen sulfide is directly affected by the formulator's blend and would depend on system characteristics.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## **PCHSS 412** **Hydrogen Sulfide Scavenger**

### **General Description:**

**PCHSS 412** is a concentrated hydrogen sulfide scavenger that has been successfully used in the removal of hydrogen sulfide from both aqueous and hydrocarbon systems. The performance of **PCHSS 412** is not adversely effected by the presence of CO<sub>2</sub> and it produces an easy to dispose non-hazardous, water soluble reaction product.

### **Typical Physical Properties:**

Appearance.....Clear, colorless to light yellow liquid

Specific Gravity @ 77° F.....1.07

Density @ 77° F ( lbs / gal ).....8.9

pH ( neat ).....10.5 to 12.5

Activity, %.....59

Solubility, 20% in:

Water.....Soluble

Isopropanol.....Soluble

Xylene.....Insoluble

Aliphatic.....Insoluble

### **Suggested Formulation:**

**PCHSS 412** can be blended in water and/or methanol. Methanol not only provides winterization but greatly enhances dispersability in hydrocarbon phases. Reaction ratios have been field proven under optimal application conditions to be as low as 1:1 wt./wt.

**PCHSS 412** can be field strength blended at a ratio range of between 1:1 to 5:1 ( solvent : base ), depending on H<sub>2</sub>S concentration and application methods.

### **Shipping and Handling:**

**PCHSS 412** is available in 55 gallon drums and in bulk. Before using this product refer to the Material Safety Data Sheet for all safety and handling information.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891 Fax 281-550-6120

## PCCI 1203 HYDROGEN SULFIDE SCAVENGER

**DESCRIPTION:** PCCI 1203 is a complex proprietary amine formulated in a water solvent system. It is highly efficient in the removal of hydrogen sulfide from the systems treated.

---

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.99  
Weight (lbs/gal).....8.25  
pH.....10.50  
Flash Point.....>200° F  
Solubility:  
Hydrocarbon.....Insoluble  
Water.....Soluble

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

### CUSTOMER BENEFITS

>Reacts rapidly with H<sub>2</sub>S products that do not precipitate in the system  
>Very effective when used in downhole treatment programs to remove H<sub>2</sub>S  
>PCCI 1203 does effectively control sulfate reducing and aerobic bacteria  
>An excellent additive for well clean-out programs  
>Very effective H<sub>2</sub>S scavenger For drilling operations

---

### APPLICATION:

PCCI 1203 performs in many avenues of the oil field industry, downhole, pipeline, drilling, gathering systems and scrubber towers resulting in many variables to be encountered.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

**Fax 281-550-6120 PCHSS1460**

## **Mud H<sub>2</sub>S Scavenger**

**DESCRIPTION:** PCHSS 1460 is a liquid water soluble zinc chelate designed to scavenge H<sub>2</sub>S in most brine and fresh water drilling fluids systems.

---

### **TYPICAL PHYSICAL PROPERTIES**

Specific Gravity.....1.11 to 1.12  
Weight (lbs/gal).....9.16 - 9.33  
Appearance.....Dark Amber  
pH.....4.0 - 5.5  
Flash Point.....>200° F  
Solubility:  
    Water.....Soluble  
    Brine.....Soluble  
    Hydrocarbons.....Insoluble

### **HANDLING PRECAUTIONS:**

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

### **CUSTOMER BENEFITS**

>Provides some degree of protection against corrosion  
>Being a liquid can be injected into mud pump  
>Avoids costly messy mixing of powders  
>1460 will not precipitate in high pH systems

---

### **APPLICATION:**

Drilling fluids should be pretreated with PCHSS 1460 prior to drilling a formation suspected of containing hydrogen sulfide. One 55 gallon drum per 1000 bbls of drilling fluid is recommended to scavenge up to 100 ppm soluble sulfide. Moderate H<sub>2</sub>S intrusion can be controlled by continuous daily injection of 7-12 gallons per day.





14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PC 20

**DESCRIPTION:** A water soluble complex amine sulfonated boron compound.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.164  
Weight (lbs/gal).....9.70  
pH.....9.0 - 10.0  
Flash Point.....> 200° F  
Pour Point.....75° F  
Activity.....70%  
Solubility:  
Water.....Soluble  
Xylene.....Insoluble  
Isopropanol.....Dispersible  
Kerosene.....Insoluble

### CUSTOMER BENEFITS

>To prepare corrosion inhibitors for oxygen, carbon dioxide, and hydrogen sulfide  
>Can be diluted with water, water and alcohol, or water glycol systems  
>For application in oil and gas wells and gas transmission lines  
>Can be used in water systems, cooling towers and cooling jackets

**Handling Precautions:** PC 20 is classified as a non-hazardous chemical. Avoid contact with eyes, skin or clothing. If contacted, flush eyes or skin with water for at least 15 minutes. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. FOR INDUSTRIAL USE ONLY.

=====

### FINISHED PRODUCT APPLICATION:

A typical blend would be 40% to 50% PC 20 with water- alcohol or water-alcohol diluent.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCPF 48 Packer Fluid Concentrate

**DESCRIPTION:** PCPF 48 is a water soluble packer fluid inhibitor concentrate.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.128  
Density (lbs/gal).....9.404  
Activity, by volume.....65%  
Flash Point.....>200° F  
pH.....9.0-10.0  
Solubility in:  
Water.....Soluble  
Xylene.....Insoluble  
Isopropanol.....Soluble

### CUSTOMER BENEFITS

>Highly cationic amine for use  
in oil well drilling completion,  
producing and waterflood systems  
>Contains oxygen scavenger  
>Corrosion inhibitor  
>May be blended with scale  
preventatives for combination  
product

**Handling Precautions:** Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### FINISHED PRODUCT APPLICATIONS:

A typical packerfluid blend would be approximately 25% by volume with water and methanol.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCPE 95 Scale Inhibitor Intermediate

**DESCRIPTION:** PCPE 95 is a phosphate ester intermediate in the free acid form for a broad spectrum application.

---

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.425-1.435  
Density (lbs/gal).....11.91  
pH.....<2  
Pour Point.....5° F  
Flash Point.....None  
Activity.....70%  
Total Phosphate.....50%  
Solubility in:  
Water.....Soluble  
Xylene.....Insoluble  
Isopropanol.....Insoluble

### CUSTOMER BENEFITS

>Can be diluted and neutralized by formulator to make low cost effective scale inhibitor  
>Effective against calcium carbonate, calcium sulfate, barium sulfate and iron scales in water  
>Is soluble in high calcium and high TDS brines  
>Finished blends perform well at low concentrations down to 5 ppm

>Used at temps below 200 degrees

**Handling Precautions:** Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

---

### FINISHED PRODUCT APPLICATIONS:

A typical blend would be approximately 33% by weight with water and antifreeze agents.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCPE 95-N Partially Neutralized Phosphate Ester

**DESCRIPTION:** PCPE 95-N is a sodium salt of an amine phosphate ester.

---

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.435-1.445  
Density (lbs/gal).....12.0  
pH.....4.0 to 5.0  
Pour Point.....5° F  
Flash Point.....None  
Activity.....70%  
Solubility in:  
Water.....Soluble  
Xylene.....Insoluble  
Isopropanol.....Insoluble

### CUSTOMER BENEFITS

>Pre-neutralized for convenience of formulator  
>Can be diluted with water and or antifreeze for field grade scale inhibitor  
>Effective against calcium carbonate  
>Soluble in high calcium and high TDS brines

Handling Precautions: Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

---

### FINISHED PRODUCT APPLICATIONS:

A typical blend would be approximately 33% by weight with water and antifreeze agents.

Fax 281-550-6



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## **PCCSAR-630** Clay Stabilizer

### **General Description:**

Primary Chemicals **PCCSAR-630** is a specialized water soluble liquid concentrate designed to prevent the hydration of formation clays during drilling operations. **PCCSAR-630** can be used as a KCl substitute. **PCCSAR-630** is compatible with KCl solutions and can be used in conjunction as an additive to enhance performance.

### **Typical Physical Properties:**

Appearance.....Clear, colorless to very light yellow liquid  
Specific Gravity @ 77° F.....0.995  
Density @ 77° F ( lbs / gal ).....8.29  
pH ( 5% in distilled water ).....6.5 to 8.0  
Activity, %.....approx. 28  
Solubility, 20% in:  
  
Water.....Soluble  
Isopropanol.....Soluble  
Xylene.....Insoluble  
Aliphatic.....Insoluble

### **Suggested Formulation:**

**PCCSAR-630** can be used as is or diluted in half with water. The diluted version can be used 5 gallons per 100 bbls. fluid makes a 2% KCl solution.

### **Shipping and Handling:**

**PCCSAR-630** is available in 55 gallon drums and in bulk. Before using this product refer to the Material Safety Data Sheet for all safety and handling information.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891 Fax 281-550-6120

## PC 1000

**DESCRIPTION:** PC 1000 is a non-ionic surface active agent made with acrylic polymer. It is formulated for use in all oilfield brines and fresh water.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.911  
Form.....Light colored liquid  
Density.....7.957 lbs/gal  
Pour Point.....-10° F  
Solubility:  
Hydrocarbons.....Insoluble  
Fresh water.....Soluble  
Brine water.....Soluble

### CUSTOMER BENEFITS

>Surface active agent for well stimulation work  
>De-oils solids and scale deposits for use prior to acidizing  
>Increases water injectivity  
>Compatible with most brines and

it is non-ionic

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### APPLICATION:

Due to the many variables encountered in the many uses of PC 1000.

PC



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891 Fax 281-550-6120

## PC 1054

### Paraffin Compound

**DESCRIPTION:** A complex blend of paraffin dispersants and solvents designed for the control and prevention of paraffin deposits in producing oil wells and pipelines.

=====

#### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.77  
Density.....6.415  
Flash Point.....100 - 130° F  
Solubility:  
Hydrocarbons.....Soluble  
Fresh water.....Dispersible  
Salt water.....Dispersible

#### CUSTOMER BENEFITS

>Can be pre-mixed with other  
paraffin cutting solvents as  
an inhibitor  
  
>To enhance hot oil treatments  
  
>Continuous injection to prevent  
plugging of flowlines  
  
>Treating of paraffin pads in  
water knock-outs and heater

treaters

>For low gravity crudes

#### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

#### APPLICATION

The quantity of PC 1054 required is directly affected by user application, method and system characteristics.

## Drilling Grade Xanthan Gum

(High Viscosity)

Items					
Appearance					
Particle Size (mesh)					
Loss On Drying (%)					
Ashes (%)					
Viscosity (1% KCL, cps)					
PH					
Shearing Ratio					
YP					
Rate	600rpm	300rpm	200rpm	100rpm	6rpm
Standard	≥ 100	≥ 75	≥ 60	≥ 45	≥ 20
Items					
Appearance					
Particle Size (mesh)					
Loss On Drying (%)					

Rheological Measurement:

Items	
Appearance	Cr
Particle Size (mesh)	
Loss On Drying (%)	



Oil Drilling Grade Xanthan Gum-2

Items					
Appearance					
Particle Size (mesh)					
Loss On Drying (%)					
Ashes (%)					
Viscosity (1% KCL, cps)					
PH					
Shearing Ratio					
YP					
Rate	600rpm	300rpm	200rpm	100rpm	6rpm
Standard	≥ 100	≥ 75	≥ 60	≥ 45	≥ 20
Items					
Appearance					
Particle Size (mesh)					
Loss On Drying (%)					

Rheologic Measurement:

Items	
Appearance	Cr
Particle Size (mesh)	
Loss On Drying (%)	

# **Primary Chemicals**



**Gas Pipeline & Production**



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891 Fax 281-550-6120

**DESCRIPTION:** Is a concentrated water soluble amine salt of an extremely versatile imidazoline and a quaternary amine.

=====

**TYPICAL PHYSICAL PROPERTIES**

Specific Gravity.....0.96-0.97  
Density (lbs/gal).....8.022  
Activity, by weight.....70%  
pH.....6.8 - 7.5  
Flash point.....200°F  
Pour point.....0°F  
Solubility in:  
Hydrocarbon.....Dispersible  
Water, fresh and brine.....Soluble

**CUSTOMER BENEFITS**

>Excellent water wetting additive  
>Very good pipeline and gas transmission corrosion inhibitor concentrate  
>May be reduced by formulator as much as 5 to 1  
>Finished blend acts as an extender enabling product to migrate with water in water wet gas  
>Residuals can be monitored

**Handling Precautions:** Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

Typical blend of PC 12 is by volume:

Water - 50%  
Methanol - 30%  
Tetra 12 - 20%

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 40 Corrosion Inhibitor Concentrate

**DESCRIPTION:** PCCI 40 is a complex oil soluble acid / polyamine salt concentrate especially adaptable to sour and CO<sub>2</sub> systems. PCCI 40 is a very tenacious filmer.

TYPICAL PHYSICAL PROPERTIES	CUSTOMER BENEFITS
Specific Gravity.....0.92 to 0.93	>Effective in H <sub>2</sub> S and extreme CO <sub>2</sub> environments
Density (lbs/gal).....7.72	
Activity.....75%	
Flash Point.....115° F	>High heat stability
pH.....7.0-8.0	
Solubility in:	>Dispersant additives may be added for water dispersability
Water.....Insoluble	
Xylene.....Soluble	
Kerosene.....Soluble	>Field strength 20 to 25% has been very successful for batch type treating programs

Handling Precautions: Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

### FINISHED PRODUCT APPLICATIONS:

A typical blend would be 20 to 25% PCCI 40, 1 to 2% dispersing agent with diesel and/or HAN as the diluent. Higher percentages are considered a concentrate.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCHSS 300 Hydrogen Sulfide Scavenger

PRODUCT DESCRIPTION: PCHSS 300 is a complex proprietary water soluble highly surface active liquid hydrogen sulfide scavenger.

=====

### TYPICAL PHYSICAL PROPERTIES

Appearance.....Colorless to light yellow  
Specific Gravity.....1.12  
Density (lbs/gal).....9.33  
pH.....10.5 to 11.5  
Pour Point.....-10° F  
Activity.....89%

### CUSTOMER BENEFITS

>Economical removal of H<sub>2</sub>S in the presence of CO<sub>2</sub>  
>May be injected directly into the flowline  
>Reaction products are non-hazardous  
>Can be diluted by formulator to a desired activity to meet the needs of their customers

Handling Precautions: Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### FINISHED PRODUCT APPLICATIONS:

The quantity of PCHSS 300 required to react with hydrogen sulfide is directly affected by the formulator's blend and would depend on system characteristics.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## **PCHSS 412** **Hydrogen Sulfide Scavenger**

### **General Description:**

**PCHSS 412** is a concentrated hydrogen sulfide scavenger that has been successfully used in the removal of hydrogen sulfide from both aqueous and hydrocarbon systems. The performance of **PCHSS 412** is not adversely effected by the presence of CO<sub>2</sub> and it produces an easy to dispose non-hazardous, water soluble reaction product.

### **Typical Physical Properties:**

Appearance.....Clear, colorless to light yellow liquid

Specific Gravity @ 77° F.....1.07

Density @ 77° F ( lbs / gal ).....8.9

pH ( neat ).....10.5 to 12.5

Activity, %.....59

Solubility, 20% in:

Water.....Soluble

Isopropanol.....Soluble

Xylene.....Insoluble

Aliphatic.....Insoluble

### **Suggested Formulation:**

**PCHSS 412** can be blended in water and/or methanol. Methanol not only provides winterization but greatly enhances dispersability in hydrocarbon phases. Reaction ratios have been field proven under optimal application conditions to be as low as 1:1 wt./wt.

**PCHSS 412** can be field strength blended at a ratio range of between 1:1 to 5:1 ( solvent : base ), depending on H<sub>2</sub>S concentration and application methods.

### **Shipping and Handling:**

**PCHSS 412** is available in 55 gallon drums and in bulk. Before using this product refer to the Material Safety Data Sheet for all safety and handling information.

Fax 281-550



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

## PCCI 610

**DESCRIPTION:** PCCI 610 is a quaternized alkyl pyridine.  
Withstands high heat.

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.034  
Density (lbs/gal).....8.62  
Activity, .....75%  
pH.....4.0 to 5.0  
Flash Point, TCC.....>100° F  
Pour Point.....-20° F  
Solubility, 10% in:  
Water.....Dispersible  
Isopropanol.....Soluble  
Xylene.....Insoluble  
Kerosene.....Insoluble

### CUSTOMER BENEFITS

>Exhibits film persistency and  
is effective generally at 3 to  
10 ppm  
  
>Inhibits in both oil and water  
systems against H<sub>2</sub>S, CO<sub>2</sub>, organic  
acids, inorganic salts and trace  
quantities of oxygen  
  
>Can be used in blends for acidiz-  
ing corrosion preventatives and  
oil well drilling completion,  
producing and waterflooding  
systems  
  
>With the addition of surfactants  
and alcohols can be blended to  
water soluble type corrosion  
inhibitor

**Handling Precautions:** PCCI 610 is a mild acid and is corrosive to steel, aluminum, or admiralty metals. It should be handled with stainless type equipment or coatings suitable for service alkyl pyridines. Avoid contact with skin, eyes and clothing. Flush affected areas with water. Do not take internally.

=====

### APPLICATION:

PCCI 610 finished blends are injected continuously or by batch treating methods.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891 Fax 281-550-6120

## PCCI 1203 HYDROGEN SULFIDE SCAVENGER

**DESCRIPTION:** PCCI 1203 is a complex proprietary amine formulated in a water solvent system. It is highly efficient in the removal of hydrogen sulfide from the systems treated.

---

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.99  
Weight (lbs/gal).....8.25  
pH.....10.50  
Flash Point.....>200° F  
Solubility:  
Hydrocarbon.....Insoluble  
Water.....Soluble

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

### CUSTOMER BENEFITS

>Reacts rapidly with H<sub>2</sub>S products that do not precipitate in the system  
>Very effective when used in downhole treatment programs to remove H<sub>2</sub>S  
>PCCI 1203 does effectively control sulfate reducing and aerobic bacteria  
>An excellent additive for well clean-out programs  
>Very effective H<sub>2</sub>S scavenger For drilling operations

---

### APPLICATION:

PCCI 1203 performs in many avenues of the oil field industry, downhole, pipeline, drilling, gathering systems and scrubber towers resulting in many variables to be encountered.





Fax 281-550-6120

14906 FM 529, Suite 202

Houston Texas 77095

Office 832-683-4891

## PC 1419

### Defoamer

DESCRIPTION: PC 1419 is an oil soluble water dispersible alcohol based defoamer.

---

TYPICAL PHYSICAL PROPERTIES		CUSTOMER BENEFITS	
Specific Gravity.....	0.812	>Capability	to kill existing
Weight (lbs/gal).....	6.77	foam	
Flash Point.....	175 F		
Pour Point.....	30 F	>Weakens bubble film	
Solubility:			
Water.....	Dispersible	>Prevents foam from reforming	
Hydrocarbon.....	Soluble		

#### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

---

#### APPLICATION

Foaming and defoaming are complex reactions, therefore, pre-testing should be conducted to determine the treating rate. The amounts and frequency of treatment is directly affected by the severity of the foaming.

1.



**Thank you for your  
business!**



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PC 1001 Anionic Friction Reducer

**DESCRIPTION:** PC 1001 is an anionic surface active agent made with acrylic polymer. It is formulated for use in all oilfield brines and fresh water.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.975  
Form.....Light colored liquid  
Density.....8.125 lbs/gal  
Pour Point.....-10° F  
Solubility:  
Hydrocarbons.....Insoluble  
Fresh water.....Soluble  
Brine water.....Soluble

### CUSTOMER BENEFITS

>Surface active agent for well stimulation work  
  
>De-oils solids and scale deposits for use prior to acidizing  
  
>Increases water injectivity  
  
>Compatible with most brines and

it is anionic

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### APPLICATION:

The quantity of PC 1001 required is directly affected by users application, method and system characteristics. 1-5 gallons of PC 1001 per 1000 gallons of fracturing fluid is recommended.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891 Fax 281-550-6120

## PC 1309 Surfactant

**DESCRIPTION:** PC 1309 is a specially designed water soluble surfactant containing anionic surfactants proven to be successful in the removal of iron sulfide from produced oil. PC 1309 works in difficult situations where other surfactants have failed.

### PHYSICAL PROPERTIES:

Form	Clear Liquid
Specific Gravity	1.032
Weight (lbs/gal.)	8.6
Flash Point	Above 200 Degr. F
Solubility	
Water and Brine	Soluble
Oil	Insoluble
Pour Point	Below 5 Degr. F

### RECOMMENDED USAGE:

1. PC 1309 may be injected continuously for removal of iron sulfide from produced oil.
2. Tank bottoms containing iron sulfide can be cleaned by introducing PC 1309 into the tank and rolling with gas in the presence of water that has been pumped into the bottom of the tank.





14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PC 1140WT CORROSION INHIBITOR

**DESCRIPTION:** PC 1140WT is a polyamidoamine dimer-trimer acid salt combined with a proprietary dispersing surfactant. PC 1140W is especially adaptable to sour and CO<sub>2</sub> systems, inhibiting through both oil and water phases.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.86  
Weight (lbs/gal).....7.17  
Flash Point.....below 100° F  
Pour Point.....20° F  
Solubility:  
Hydrocarbon.....Soluble  
Fresh Water..Slightly dispersible  
Brine.....Dispersible

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

### CUSTOMER BENEFITS

>Effective in H<sub>2</sub>S and extreme CO<sub>2</sub> environments  
>High heat stability  
>Inhibits through oil and water phases  
>Effective squeeze inhibitor, exhibiting good adsorption and de-adsorption qualities  
>Proven (field usage) batch-type inhibitor having tenacious  
>Excellent gas transmission line pigging inhibitor

=====

### APPLICATION:

PC 1140WT has proven effective in batch, squeeze and continuous feed application, performing over a wide range of formations and geographical locations.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PC 1428 Drilling Fluids Corrosion Inhibitor

**DESCRIPTION:** PC 1428 is a complex amine and inorganic compound designed specifically for use in the control of oxygen corrosion on drill pipe and other exposed steel equipment in contact with the drilling mud or other aqueous and polymer systems.

---

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.105  
Density.....9.20 lbs/gal  
Flash Point, TCC.....80° F  
Freeze Point.....0° F  
Solubility:  
Water.....Soluble  
Brine.....Soluble  
Hydrocarbons.....Insoluble

### CUSTOMER BENEFITS

>Environmentally friendly  
>A functional equivalent to zinc chromate  
>Corrosion and scale inhibitor for carbon dioxide and hydrogen sulfide

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

---

### APPLICATION:

Use 10 gallons of PC 1428 for initial treatment. 3 gallons per tower for maintenance program.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

**Fax 281-550-6120 PC 1441N**

## **Scale Inhibitor**

**DESCRIPTION:** PC 1441N is a complex phosphonate and polyacrylate that inhibits scaling due to calcium carbonate, calcium sulfate and barium sulfate. PC 1441N has tolerance to high calcium and high TDS brines. Excellent in high temperature environments.

---

### **PHYSICAL PROPERTIES:**

Specific Gravity	1.11 to 1.12
Weight (lbs/gal.)	9.29
Flash Point	Above 200 Degr. F
Freeze Point	Less than (-) 10 F
pH	4.0 to 5.0

---

**RECOMMENDED USAGE:** For all downhole scaling conditions, continuous injection into flowlines, treating vessels, and water injection systems.





14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PC 1444

### Scale Inhibitor

**DESCRIPTION:** PC 1444 is a complex phosphonate that inhibits scaling due to calcium carbonate, calcium sulfate and barium sulfate. PC 1444 has tolerance to high calcium and high TDS brines. Excellent in high temperature environments.

---

#### PHYSICAL PROPERTIES:

Specific Gravity	1.074
Weight (lbs/gal.)	8.95
Flash Point	Above 200 Degr. F
Freeze Point	Less than (-) 10 F
pH	1.5 to 3.0

---

**RECOMMENDED USAGE:** For all downhole scaling conditions, continuous injection into flowlines, treating vessels, and water injection systems.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

Fax 281-550-6120 **PC 1500**

## Scale Inhibitor

**DESCRIPTION:** PC 1500 is a proprietary blend of unneutralized phosphonate and an amine phosphate ester. The surfactant package aides in the synergistic effects of the two molecules. PC 1500 is a unique because of its method of neutralization. Although the product is an excellent squeeze type scale inhibitor, it was primarily designed for a frac operation and well completion scale protection product.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....1.11  
Density.....9.29 lbs/gal  
pH.....< 2  
Odor.....Mild  
Solubility:  
Hydrocarbons.....Insoluble  
Water.....Complete

### CUSTOMER BENEFITS

>Compatible with low or high pH environments  
>Prevents scale crystal growth  
>Can be added to gel frac solutions without breaking gel  
>Effective against barium sulfate calcium sulfate, and carbonate type scales  
>Effective at low concentrations

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### APPLICATION:

The quantity of PC 1500 required is directly affected by user application, method and system characteristics.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

**Fax 281-550-6120 PC 1601N**

## **Scale Inhibitor**

**DESCRIPTION:** PC 1601N is an amine phosphate ester, designed to prevent calcium carbonate, calcium sulfate and barium sulfate at low concentrations.

=====

### **TYPICAL PHYSICAL PROPERTIES**

Specific Gravity.....1.065 to 1.07  
Weight (lbs/gal).....8.9  
Color.....Straw  
Flash Point.....200° F  
pH.....4.0 to 5.0  
Solubility:

Water (fresh and brine)...Soluble

### **CUSTOMER BENEFITS**

>Prevents all types of scale  
>Versatile  
>Excellent solubility  
>Temperature stable to 200° F  
>Effective at low dosages

>Good for Truck Treating, with a pH of 4 to 5 it will not damage chemical tanks or pumps.

### **HANDLING PRECAUTIONS:**

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### **APPLICATION:**

PC 1601N has been used successfully in preventing scale in producing wells, water injection systems, and salt water disposal systems; fed continuously, batch and squeeze treatments.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120 **PC 1616**

## SCALE INHIBITOR

**DESCRIPTION:** PC 1616 is an organic amine phosphate ester. It is designed as a squeeze type scale inhibitor that can be continuously injected. It has been laboratory tested to 300° F temperature without reversion. Still, it is recommended that temperatures not exceed 200° F.

=====

### TYPICAL PHYSICAL PROPERTIES

Odor.....Mild  
Color.....Light Yellow to Clear  
Flash Point.....300° F  
Specific Gravity.....1.11  
Density.....9.25 lbs/gal  
pH.....1.5 to 3.0  
Solubility  
Oil.....Insoluble  
Water (fresh).....Soluble  
Water (brine).....Soluble

### CUSTOMER BENEFITS

>Exhibits good adsorption and desorption properties  
>Easily monitored residuals  
>Temperatures stable  
>Prevents all types of scales  
>Long life squeezes  
>Good brine solubility  
>Due to surfactant additive it can be continuously injected without damage to injection pump

### HANDLING PRECAUTIONS:

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

### APPLICATION:

PC 1616 is designed to prevent calcium carbonate, calcium sulfate and barium sulfate scales at low dosages in producing wells, water injection systems as well as salt water disposal systems. Continuous injection or squeeze applications are best due to constant concentration.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891  
-550-6120

## PC 1645N Scale Inhibitor

**DESCRIPTION:** PC 1645N is a blend using a polyacrylate that functions as a dispersant and inhibits scaling due to calcium carbonate, calcium sulfate, magnesium, barium sulfate and other scale forming minerals. PC 1645N has tolerance to high calcium and high TDS brines. It also is stable to 500 degrees F. PC 1645N is a field strength product.

---

### PHYSICAL PROPERTIES:

Specific Gravity	1.07
Flash Point	Above 200 Degr. F
Pounds per Gallon	8.917
Freeze Point	Less than 15 Degr. F
pH	7.0

---

**RECOMMENDED USAGE:** For all downhole scaling conditions, continuous injection into flowlines, treating vessels, and water injection systems at an average of 6 to 40 ppm.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PC 1686 Surfactant

**DESCRIPTION:** PC 1686 is a synergized blend of ammonium and coco amido benzyl chloride. It is a strong surface active antifoulant designed for water clarification. Although not classed as a biocide or biostat, PC 1686 does not support the growth of bacteria.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.976  
Weight (lbs/gal).....8.13  
Pour Point.....34° F  
Flash Point..... 200° F  
Solubility:  
Hydrocarbon.....Insoluble  
Fresh Water.....Soluble  
Brine.....Dispersible

### CUSTOMER BENEFITS

>Effectively used to improve water injectivity in water-floods and SWD wells.  
>Can be used to control fouling due to microbial action.  
>Compatible with most corrosion inhibitors.

### HANDLING PRECAUTIONS:

If in eyes, immediately flush with water for 15 minutes. See a physician.  
If on skin, immediately flush exposed area. Remove and wash contaminated clothing. Discard shoes. If swallowed, do not induce vomiting. Drink a large amount of water and call physician.

=====

### APPLICATION:

1. As an anti-foulant in water injection systems based upon a 15-25 ppm continuous treatment ratio.
2. As an anti-foulant for batch treatment of water tanks and reservoirs at a 250 ppm treatment is recommended.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

**Fax 281-550-6120 PC 1688**

**DESCRIPTION:** PC 1688 is an alkyl dimethyl benzyl quaternary. It is a strong surface active antifoulant designed for water clarification. Although not classed as a biocide or biostat, PC 1688 does not support the growth of bacteria.

=====

**TYPICAL PHYSICAL PROPERTIES**

Weight (lbs/gal).....8.23  
Pour Point.....34° F  
Flash Point..... 200° F  
Solubility:  
Hydrocarbon.....Insoluble  
Fresh Water.....Soluble  
Brine.....Dispersible

**CUSTOMER BENEFITS**

>Effectively used to improve  
water injectivity in water-  
floods and SWD wells  
  
>Can be used to control fouling  
due to microbial action  
  
>Compatible with most corrosion  
inhibitors

**HANDLING PRECAUTIONS:**

If in eyes, immediately flush with water for 15 minutes. See a physician.  
If on skin, immediately flush exposed area. Remove and wash contaminated clothing. Discard shoes. If swallowed, do not induce vomiting. Drink a large amount of water and call physician.

=====

**APPLICATION:**

1. As an antifoulant in water injection systems based upon a 15-25 ppm continuous treatment ratio.
2. As an antifoulant for batch treatment of water tanks and reservoirs at a 250 ppm treatment supported by bacterial analysis.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120 **PC 1181**

## Oxygen Scavenger

### General Description:

**PC 1181** is a liquid bisulfite-based oxygen scavenger, containing a nickel catalyst. This product will remove dissolved oxygen from both fresh water and brines which contain less than approximately 3500 ppm of calcium.

### Typical Physical Properties:

Appearance.....Clear, Green to Blue Liquid

Specific Gravity @ 77° F.....1.25 to 1.40

Density @ 77° F ( lbs / gal ).....10.41 to 11.66

pH ( neat ).....4.0 to 5.5

Solubility, in:

Water.....	Soluble
Isopropanol.....	Insoluble
Xylene.....	Insoluble
Aliphatic.....	Insoluble
Brine.....	Soluble

### Suggested Formulation:

**PC 1181** should be applied to the water at a rate of 8 to 10 ppm of scavenger for each ppm of dissolved oxygen. Due to the corrosive nature of **PC 1181**, storage tanks, lines and injection pumps need to be equipped to handle fluids with such a low pH.

### Shipping and Handling:

**PC 1181** is available in 55 gallon drums and in bulk. Before using this product refer to the Material Safety Data Sheet for all safety and handling information.





**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

**Fax 281-550-6120**

## **PC 1200**

### **Corrosion Inhibitor**

**DESCRIPTION:** PC 1200 is a water soluble amine salt of an extremely versatile imidazoline and a quaternary amine designed to treat wet gas pipelines and water injection systems.

=====

#### **TYPICAL PHYSICAL PROPERTIES**

Specific Gravity.....0.948  
Weight (lbs/gal).....7.903  
Flash Point.....200° F  
Pour Point.....0° F  
Solubility:  
Hydrocarbon.....Insoluble  
Fresh Water.....Soluble

#### **CUSTOMER BENEFITS**

>Excellent water wetting additive  
>Acts as an extender to enable product to migrate through water  
>Very effective in low areas where corrosive water collects  
>Residuals can be monitored  
>Does not support the growth of bacteria

#### **HANDLING PRECAUTIONS:**

Observe all normal safety precautions for handling industrial chemicals. Keep off skin and out of eyes. If eyes are contacted flush with water and seek medical attention. Consult the Material Safety Data Sheet for specific health and handling information.

=====

#### **APPLICATION:**

This product is best applied by continuous injection or atomization into the lines. The optimum treating rates can be determined by monitoring corrosion rates and iron counts.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

**Fax 281-550-6120 PC 1441N**

## **Scale Inhibitor**

**DESCRIPTION:** PC 1441N is a complex phosphonate and polyacrylate that inhibits scaling due to calcium carbonate, calcium sulfate and barium sulfate. PC 1441N has tolerance to high calcium and high TDS brines. Excellent in high temperature environments.

---

### **PHYSICAL PROPERTIES:**

Specific Gravity	1.11 to 1.12
Weight (lbs/gal.)	9.29
Flash Point	Above 200 Degr. F
Freeze Point	Less than (-) 10 F
pH	4.0 to 5.0

---

**RECOMMENDED USAGE:** For all downhole scaling conditions, continuous injection into flowlines, treating vessels, and water injection systems.



14906 FM 529, Suite 202  
Houston Texas 77095  
Office 832-683-4891

Fax 281-550-6120

## PC 1686 Surfactant

**DESCRIPTION:** PC 1686 is a synergized blend of ammonium and coco amido benzyl chloride. It is a strong surface active antifoulant designed for water clarification. Although not classed as a biocide or biostat, PC 1686 does not support the growth of bacteria.

=====

### TYPICAL PHYSICAL PROPERTIES

Specific Gravity.....0.976  
Weight (lbs/gal).....8.13  
Pour Point.....34° F  
Flash Point.....200° F  
Solubility:  
Hydrocarbon.....Insoluble  
Fresh Water.....Soluble  
Brine.....Dispersible

### CUSTOMER BENEFITS

>Effectively used to improve water injectivity in water-floods and SWD wells.  
>Can be used to control fouling due to microbial action.  
>Compatible with most corrosion inhibitors.

### HANDLING PRECAUTIONS:

If in eyes, immediately flush with water for 15 minutes. See a physician.  
If on skin, immediately flush exposed area. Remove and wash contaminated clothing. Discard shoes. If swallowed, do not induce vomiting. Drink a large amount of water and call physician.

=====

### APPLICATION:

1. As an anti-foulant in water injection systems based upon a 15-25 ppm continuous treatment ratio.
2. As an anti-foulant for batch treatment of water tanks and reservoirs at a 250 ppm treatment is recommended.



**14906 FM 529, Suite 202**  
**Houston Texas 77095**  
**Office 832-683-4891**

**Fax 281-550-6120 PC 1688**

**DESCRIPTION:** PC 1688 is an alkyl dimethyl benzyl quaternary. It is a strong surface active antifoulant designed for water clarification. Although not classed as a biocide or biostat, PC 1688 does not support the growth of bacteria.

=====

**TYPICAL PHYSICAL PROPERTIES**

Weight (lbs/gal).....8.23  
Pour Point.....34° F  
Flash Point..... 200° F  
Solubility:  
Hydrocarbon.....Insoluble  
Fresh Water.....Soluble  
Brine.....Dispersible

**CUSTOMER BENEFITS**

>Effectively used to improve  
water injectivity in water-  
floods and SWD wells  
  
>Can be used to control fouling  
due to microbial action  
  
>Compatible with most corrosion  
inhibitors

**HANDLING PRECAUTIONS:**

If in eyes, immediately flush with water for 15 minutes. See a physician.  
If on skin, immediately flush exposed area. Remove and wash contaminated clothing. Discard shoes. If swallowed, do not induce vomiting. Drink a large amount of water and call physician.

=====

**APPLICATION:**

1. As an antifoulant in water injection systems based upon a 15-25 ppm continuous treatment ratio.
2. As an antifoulant for batch treatment of water tanks and reservoirs at a 250 ppm treatment supported by bacterial analysis.