Conlen Surfactant Technology

Specialty Chemical Manufacturing, Marketing, & Distribution

PPD, Paraffin, Asphaltene Series

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CST-5015	Pour Point Depressant	Olefin maleic anhydride copolymer ester
CST-5017	Paraffin Dispersant Concentrate	Mixed structure, petroleum derived paraffin dispersant
CST-5035	Pour Point Depressant	Olefin maleic anhydride copolymer ester
CST-5050	Paraffin Solvent	Oil soluble paraffin solvent, carbon disulfide
CST-5121	Defoamer Oil Concentrate	Silicone fluid / Solvent
CST-5153	Amine Sulfonate for Wax Emulsions	Isopropylamine DDBSA salt
CST-5231	Pour Point Depressant / Dispersant	Olefin maleic anhydride copolymer imide
CST-5232	Pour Point Depressant / Dispersant	Olefin maleic anhydride copolymer imide
CST-5233	Pour Point Depressant / Dispersant	Olefin maleic anhydride copolymer ester imide
CST-5234	Pour Point Depressant / Dispersant	Olefin maleic anhydride copolymer ester imide
CST-5266	Asphaltene Dispersant Concentrate	Amine neutralized sulfonic acid derivative, oil soluble asphalt dispersant
CST-5301	Pour Point Depressant / Dispersant	Olefin maleic anhydride copolymer ester
CST-5331	Amine Sulfonate for Wax Emulsions	MEA DDBSA salt in isoalcohols
CST-5340	Paraffin Dispersant Concentrate	Mixed structure, organic paraffin inhibitor
CST-5361	Paraffin Dispersant Concentrate	Mixed structure, oil soluble paraffin dispersant concentrate
CST-5401	Pour Point Depressant	Ethylene vinyl acetate phenolic acid
CST-5421	Pour Point Depressant	Ethylene vinyl acetate phenolic acid
CST-5481	Paraffin Dispersant Concentrate	Mixed structure, oil soluble paraffin dispersant concentrate
CST-5530	Pour Point Depressant	Ethylene vinyl acetate in xylene
CST-5540	Pour Point Depressant	Phenolic compound in xylene
CST-5580	Wax Pour Point Depressant	Olefin maleic anhydride copolymer ester

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CST-5015
Pour Point Depressant

Generic Description

CST-5015 is an olefin maleic anhydride copolymer ester

General Information

CST-5015 pour point depressant is a product to reduce pour point and improve pumpability of a wide range of waxy crude oils, in distillates and residual fuel oils. This product has shown an excellent performance in crystal modification type paraffin inhibition. Crystal modifiers interfere with the normal crystal growth patter and prevent the growth of paraffin insoluble deposits.

Application Information

CST-5015 pour point depressant can be formulated into finished blends using heavy aromatic solvents. If winterization is required, toluene or xylene should be used. **CST-5015** can also be combined with paraffin solvents or paraffin dispersants to enhance the performance of the finished compounds. When formulations made from this product are used to inhibit paraffin crystallization or for pour point depression, continuous injection is recommended. The severity of the problem will dictate the dosage, but a typical rate would be 1 gallon of a typical dilution of this product to 500 barrels of produced oil. An initial slug of 5 to 10 gallons should be made prior to continuous injection. Where continuous injection is not possible, **CST-5015** pour point depressant blends are effective when applied by batch treatment or as a squeeze treatment.

Dilutions of **CST-5015** can also be effective in treating tank bottoms where paraffin has separated out of stored crude oil. The bottoms should be circulated through a heater-treater or a hot-oil truck to re-dissolve the paraffin in the oil, while adding a dilution of this product at a rate of 2 gallons to 500 barrels of oil.

Typical Physical Properties

Form, @ 70°F	Solid
Density, (lbs/Gal)	7.65 – 7.75
Flash Point, °F (TCC)	146
Melt Point, °F	>90
pH, (10% Solution**)**	4.0 - 6.0
Solubility,	
Isopropanol,	Soluble
Water,	Insoluble
Heavy Aromatic Solvent	Soluble

Application Information (continued)

Winterization properties of this product will depend on the solvents used for dilution. The pour point of finished blends can be adversely affected by heating/cooling cycles. If the sample is cooled from 60˚F to lower temperatures, it will be fluid at the published pour point. If the temperature is cycled or the product is exposed to cold temperatures for extended periods of time, gelling may occur at significantly higher temperatures. This gel can easily be broken by agitation or heating with no detrimental effect to the product or its performance. Heated storage to a minimum of 60˚F is recommended until the product is moved to the field for immediate use.

Shipping and Handling

CST-5015 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5015**.

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CST-5017
Paraffin Dispersant Concentrate

Generic Description

CST-5017 is a mixed structure, petroleum derived paraffin dispersant.

General Information

CST-5017 is an oil soluble paraffin dispersant / surfactant concentrate designed for use in oil field applications. Products formulated with **CST-5017** have proven successful in dispersing paraffin in a wide range of crude oils. By dispersing existing deposits into the oil phase, surface contact by paraffin crystalline structures are reduced, thereby minimizing further build up.

CST-5017 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. The product may be used to disperse paraffinic tank bottoms.

The performance of emulsion breaker formulations may be enhanced by the addition of **CST-5017**. In this application, the product prevents paraffin and other oil wets solids from accumulating at the interface in treating vessels. This often results in more effective emulsion treatment with fewer system upsets.

Suggested Formulation

CST-5017 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 4 dilution of **CST-5017** in solvent is suggested as a starting formulation.

Use concentrations of **CST-5017** vary when added to emulsion breakers formulations. However, typical usage ranges from 5 to 15 percent by volume depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	8.1
Flash Point, °F (TCC)	165
Pour Point, °F	20
pH, (10% Solution**)**	8.5-9.5
Ionic Charge	Mixed
Solubility	
Fresh Water	Dispersible
High TDS Brine	Dispersible
Isopropanol	Soluble
Xylene	Soluble

Application Information

This suggested formulation of **CST-5017** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the downhole paraffin problem.

Paraffinic tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5017** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild paraffin depositions, the formulated **CST-5017** may be continuously injected at a rate of 1 to 5 gallons per 100 barrels of oil. Treatment concentrations will vary according to the severity of the paraffin deposition problem being encountered.

Shipping and Handling

CST-5017 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5017**.

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CST-5035
Pour Point Depressant

Generic Description

CST-5035 is an olefin maleic anhydride copolymer ester

General Information

CST-5035 pour point depressant is a product to reduce pour point and improve pumpability of a wide range of waxy crude oils, in distillates and residual fuel oils. Unlike most pour point depressants, **CST-5035** is supplied as a liquid at temperatures above 55˚F. At this temperature, most concentrated pour point depressants are solid. This product has shown an excellent performance in crystal modification type paraffin inhibition. Crystal modifiers interfere with the normal crystal growth patter and prevent the growth of paraffin insoluble deposits.

Application Information

CST-5035 pour point depressant can be formulated into finished blends using heavy aromatic solvents. If winterization is required, toluene or xylene should be used. **CST-5035** can also be combined with paraffin solvents or paraffin dispersants to enhance the performance of the finished compounds. When formulations made from this product are used to inhibit paraffin crystallization or for pour point depression, continuous injection is recommended. The severity of the problem will dictate the dosage, but a typical rate would be 1 gallon of a typical dilution of this product to 500 barrels of produced oil. An initial slug of 5 to 10 gallons should be made prior to continuous injection. Where continuous injection is not possible, **CST-5035** pour point depressant blends are effective when applied by batch treatment or as a squeeze treatment.

Dilutions of **CST-5035** can also be effective in treating tank bottoms where paraffin has separated out of stored crude oil. The bottoms should be circulated through a heater-treater or a hot-oil truck to re-dissolve the paraffin in the oil, while adding a dilution of this product at a rate of 2 gallons to 500 barrels of oil.

Typical Physical Properties

Form, @ 70°F	Solid
Density, (lbs/Gal)	7.23 – 7.43
Flash Point, °F (TCC)	>144
Melt Point, °F	>90
pH, (10% Solution**)**	4.0 - 6.0
Solubility	
Isopropanol	Soluble
Water	Insoluble
Heavy Aromatic Solvent	Soluble

Application Information (continued)

Winterization properties of this product will depend on the solvents used for dilution. The pour point of finished blends can be adversely affected by heating/cooling cycles. If the sample is cooled from 60˚F to lower temperatures, it will be fluid at the published pour point. If the temperature is cycled or the product is exposed to cold temperatures for extended periods of time, gelling may occur at significantly higher temperatures. This gel can easily be broken by agitation or heating with no detrimental effect to the product or its performance. Heated storage to a minimum of 60˚F is recommended until the product is moved to the field for immediate use.

Shipping and Handling

CST-5035 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5035**.

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CST-5050
Paraffin Solvent

Generic Description

CST-5050 is a mixed structure, oil soluble paraffin solvent containing carbon disulfide.

General Information

CST-5050 is an oil soluble paraffin solvent concentrate designed for use in oil field applications. The product effectively dissolves paraffin and oil wets solids into the oil phase to prevent accumulation in tubular goods and oil treating and storage vessels. The oil soluble solvents in **CST-5050** have proven effective in removing hydrocarbon based solids into a wide range of crude oils.

CST-5050 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. This product may also be used to eliminate paraffinic tank bottoms.

The performance of emulsion breaker formulations may also be enhanced by the addition of **CST-5050.** In this application, the product prevents paraffin and other oil wet solids from accumulating at the interface in treating vessels. This often results in effective emulsion treatment.

Suggested Formulation

CST-5050 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 1 dilution of **CST-5050** in solvent is suggested as a starting formulation

Use concentrations of **CST-5050** vary when added to emulsion breaker formulations. However, typical usage ranges from 3 to 10 percent depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	8.1
Flash Point, °F (TCC)	-40
Pour Point, °F	-60
pH, (10% Solution**)**	8.5-9.5
Ionic Charge	Mixed
Solubility	
Fresh Water	Insoluble
High TDS Brine	Dispersible
Isopropanol	Soluble
Xylene	Soluble

Application Information

This suggested formulation of **CST-5050** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the down hole paraffin problem.

Paraffin tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5050** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild paraffin depositions, the formulated **CST-5050** may be continuously injected at a rate of 1 to 5 gallons per 100 barrels of oil. Treatment concentrations will vary according to the severity of the paraffin deposition problem being encountered.

Shipping and Handling

CST-5050 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5050**.

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CST-5121
Defoamer Oil Concentrate

Generic Description

CST-5121 defoamer oil concentrate is a silicone fluid and solvent.

General Information

CST-5121 is a defoamer oil concentrate designed for use as a viscous oil mobility agent control a wide variety of flow problems encountered in the drilling, production and stimulation of oil and gas The oil soluble dispersants and solvents in **CST-5121** have proven effective in dispersing hydrocarbon based solids into a wide range of crude oils. **CST-5121** will improve and enhance flow in paraffinic or asphaltic crude oils.

CST-5121 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. This product may also be used to disperse paraffinic tank bottoms. **CST-5121** will improve flow of crude oil in pipelines acting as a flow enhancer and not a drag reducer.

The performance of emulsion breaker formulations may also be enhanced by the addition of **CST-5121.** In this application, the product prevents paraffin and other oil wet solids from accumulating at the interface in treating vessels. This often results in effective emulsion treatment.
CST-5121 with vegetable esters, keeps paraffin from reattaching to metal surfaces, even though still being formed.

Suggested Formulation

CST-5121 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 3 dilution of **CST-5121** in solvent is suggested as a starting formulation use concentrations of **CST-5121** vary when added to emulsion breaker formulations. However, typical usage ranges from 3 to 10 percent depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Opaque Liquid
Density, (lbs/Gal)	7.4
Flash Point, °F (TCC)	61
Pour Point, °F	-5
Ionic Charge	Mixed
Solubility	
Fresh Water	Dispersible
High TDS Brine	Dispersible
Isopropanol	Dispersible
Xylene	Soluble

Application Information

This suggested formulation of **CST-5121** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the down hole paraffin problem.

Paraffin tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5121** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild paraffin depositions, the formulated **CST-5121** may be continuously injected
For flow enhancement, treatments of 500 to 10,000 ppm are required.

Shipping and Handling

CST-5121 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5121**

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CST-5125
Paraffin Inhibitor Concentrate

Generic Description

CST-5125 is a mixed structure, organic paraffin inhibitor.

General Information

CST-5125 is an oil soluble concentrate designed for use in the prevention of paraffinic depositions in oil field applications. The product contains a blend of organic inhibitors and highly effective paraffin solvents. This composition allows products formulated with **CST-5125** to not only soften and remove deposition from produced oils. The highly effective organic inhibitors in **CST-5125** function by crystal distortion to prevent the growth of paraffin crystals into heavy insoluble deposits. This allows the paraffin to remain in the oil and suppresses accumulation in surface and subsurface equipment.

CST-5125 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. The product may be used to disperse paraffinic tank bottoms.

Suggested Formulation

CST-5125 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 4 dilution of **CST-5125** in solvent is suggested as a starting formulation. This suggested formulation of **CST-5125** is used as a paraffin inhibitor to prevent the growth of paraffin crystals, continuous injection is recommended. The formulated product should be continuously injected into the crude oil up stream of where the paraffin deposition is occurring. This often requires injection down the annulas of producing wells. Typical use ranges from 3 to 6 quarts per 500 barrels of produced oil, depending on the severity of the individual application. An initial slug treatment of 5 to 10 gallons is recommended to initiate the treatment.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	7.1
Flash Point, °F (TCC)	60
Pour Point, °F	40
pH, (10% Solution**)**	6.5-8.5
Ionic Charge	Mixed
Solubility	
Fresh Water	Insoluble
High TDS Brine	Insoluble
Isopropanol	Soluble
Xylene	Soluble

Application Information

In applications, where continuous injection is not feasible, formulations with **CST-5125** have proven effective for batch use as a paraffin solvent to control paraffin deposition.

These treatments typically consist of pre-wetting the annulus with 0.5 to 1.0 barrels of produced fluid, followed with 5 to 10 gallons of the formulated product. This treatment should then be flushed with 1 to 2 barrels of produced fluid. The severity of the paraffin problem will dictate treatment frequency, but often is required once to twice per week.

Formulated **CST-5125** may also be used to treat paraffinic tank bottoms. In this application the product is added to oil at a rate of 2 gallons per 500 barrels. The oil should be heated to dissolve the paraffin. **CST-5125** will prevent the redeposition of paraffinic bottoms as the oil cools.

Shipping and Handling

CST-5125 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5125.**

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CST-5153
Amine Sulfonate for Wax Emulsions

Generic Description

CST-5153 is an isopropylamine DDBSA salt

General Information

CST-5153 is an amine sulfonate for wax emulsions designed for use in oil field applications. The product effectively disperses paraffin and oil wets solids into the oil phase to prevent accumulation in tubular goods and oil treating and storage vessels. The oil soluble dispersants and solvents in **CST-5153** have proven effective in dispersing hydrocarbon based solids into a wide range of crude oils. **CST-5153** is also an excellent emulsifier and cleaner.

CST-5153 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. This product may also be used to disperse paraffinic tank bottoms.

The performance of emulsion breaker formulations may also be enhanced by the addition of **CST-5153.** In this application, the product prevents paraffin and other oil wet solids from accumulating at the interface in treating vessels. This often results in effective emulsion treatment.

Suggested Formulation

CST-5153 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 3 dilution of **CST-5153** in solvent is suggested as a starting formulation.

Use concentrations of **CST-5153** vary when added to emulsion breaker formulations. However, typical usage ranges from 3 to 10 percent depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	8.16 – 8.50
Pour Point, °F	0 - 10
Flash, °F	110-130
pH, 3:1 IPA/Water	7.0 – 8.0
Solubility	
Cold Water	Soluble
IPA	Soluble
Xylene	Soluble
Kerosene	Soluble
HAN	Soluble

Application Information

This suggested formulation of **CST-5153** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the downhole paraffin problem.

Paraffin tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5153** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild paraffin depositions, the formulated **CST-5153** may be continuously injected at a rate of 1 to 5 gallons per 100 barrels of oil. Treatment concentrations will vary according to the severity of the paraffin deposition problem being encountered.

Shipping and Handling

CST-5153 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5153**.

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CST-5231
Paraffin Inhibitor, Dispersant, and Pour Point Depressant

Generic Description

CST-5231 is a olefin maleic anhydride ester and imide in ethylenic solvents. .

General Information

CST-5231 is an oil soluble concentrate designed for use in the prevention of paraffinic depositions in oil field applications. The product contains a blend of organic inhibitors and highly effective paraffin solvents. This composition allows products formulated with **CST-5231** to not only soften and remove deposition from produced oils. The highly effective organic inhibitors in **CST-5231** function by crystal distortion to prevent the growth of paraffin crystals into heavy insoluble deposits. This allows the paraffin to remain in the oil and suppresses accumulation in surface and subsurface equipment.

CST-5231 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. The product may be used to disperse paraffinic tank bottoms.

Suggested Formulation

CST-5231 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 4 dilution of **CST-5231** in solvent is suggested as a starting formulation. This suggested formulation of **CST-5231** is used as a paraffin inhibitor to prevent the growth of paraffin crystals, continuous injection is recommended. The formulated product should be continuously injected into the crude oil up stream of where the paraffin deposition is occurring. This often requires injection down the annulas of producing wells. Typical use ranges from 1 to 5 gallons per 100 bbls (240 to 1200 ppm) of produced oil, depending on the severity of the individual application. An initial slug treatment of 5 to 10 gallons is recommended to initiate the treatment.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	7.4
Flash Point, °F (TCC)	100 - 135
Pour Point, °F	30 - 40
pH, (10% Solution**)**	6.5-8.5
Active, %	32
Solubility	
Fresh Water	Insoluble
High TDS Brine	Insoluble
Isopropanol	Soluble
Xylene	Soluble

Application Information

In applications, where continuous injection is not feasible, formulations with **CST-5231** have proven effective for batch use as a paraffin solvent to control paraffin deposition.

These treatments typically consist of pre-wetting the annulus with 0.5 to 1.0 barrels of produced fluid, followed with 5 to 10 gallons of the formulated product. This treatment should then be flushed with 1 to 2 barrels of produced fluid. The severity of the paraffin problem will dictate treatment frequency, but often is required once to twice per week.

Formulated **CST-5231** may also be used to treat paraffinic tank bottoms. In this application the product is added to oil at a rate of 2 gallons per 500 barrels. The oil should be heated to dissolve the paraffin. **CST-5231** will prevent the redeposition of paraffinic bottoms as the oil cools.

Shipping and Handling

CST-5231 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5231.**

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CST-5232
Paraffin Inhibitor, Dispersant, and Pour Point Depressant

Generic Description

CST-5232 is a olefin maleic anhydride ester and imide in ethylenic solvents. .

General Information

CST-5232 is an oil soluble concentrate designed for use in the prevention of paraffinic depositions in oil field applications. The product contains a blend of organic inhibitors and highly effective paraffin solvents. This composition allows products formulated with **CST-5232** to not only soften and remove deposition from produced oils. The highly effective organic inhibitors in **CST-5232** function by crystal distortion to prevent the growth of paraffin crystals into heavy insoluble deposits. This allows the paraffin to remain in the oil and suppresses accumulation in surface and subsurface equipment.

CST-5232 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. The product may be used to disperse paraffinic tank bottoms.

Suggested Formulation

CST-5232 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 4 dilution of **CST-5232** in solvent is suggested as a starting formulation. This suggested formulation of **CST-5232** is used as a paraffin inhibitor to prevent the growth of paraffin crystals, continuous injection is recommended. The formulated product should be continuously injected into the crude oil up stream of where the paraffin deposition is occurring. This often requires injection down the annulas of producing wells. Typical use ranges from 1 to 5 gallons per 100 bbls (240 to 1200 ppm) of produced oil, depending on the severity of the individual application. An initial slug treatment of 5 to 10 gallons is recommended to initiate the treatment.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	7.4
Flash Point, °F (TCC)	100 - 135
Pour Point, °F	30 - 40
pH, (10% Solution**)**	6.5-8.5
Active, %	32
Solubility	
Fresh Water	Insoluble
High TDS Brine	Insoluble
Isopropanol	Soluble
Xylene	Soluble

Application Information

In applications, where continuous injection is not feasible, formulations with **CST-5232** have proven effective for batch use as a paraffin solvent to control paraffin deposition.

These treatments typically consist of pre-wetting the annulus with 0.5 to 1.0 barrels of produced fluid, followed with 5 to 10 gallons of the formulated product. This treatment should then be flushed with 1 to 2 barrels of produced fluid. The severity of the paraffin problem will dictate treatment frequency, but often is required once to twice per week.

Formulated **CST-5232** may also be used to treat paraffinic tank bottoms. In this application the product is added to oil at a rate of 2 gallons per 500 barrels. The oil should be heated to dissolve the paraffin. **CST-5232** will prevent the redeposition of paraffinic bottoms as the oil cools.

Shipping and Handling

CST-5232 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5232.**

UN1993, Flammable Liquid, N.O.S.

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CST-5233
Pour Point Depressant, Dispersant

Generic Description

CST-5233 is a olefin maleic anhydride ester copolymer imide.

General Information

CST-5233 a 40% active olefin maleic anhydride copolymer ester imide that functions as a wax crystal modifier for crude oils or heavy fuel oils. **CST-5233** also helps to disperse the paraffin deposits into the produced oil.

Application Information

Paraffin molecules are straight carbon-chain saturated hydrocarbons. Saturated means no double or triple bonds exist between the carbon atoms. Paraffin deposits in a two-step process. The molecules crystallize and then clump together. The crystallization temperature is called the cloud point. In light crude oils the cloud point can be visually seen as the temperature is decreased. As the crude continues to be cooled, the crystals grow together forming a network with enough resistance to flow that the crude becomes solid. That point is measure as the pour point of crude.

Asphalenes complicate the pour point and cloud point considerably. As temperature decreases asphaltenes act as paraffin crystal growth sites, raising the pour point of the crude.

CST-5233 distorts the paraffin crystals, preventing agglomeration. It then disperses the paraffin into the oil and enables it to be pumped out of the well without forming paraffin deposits. **CST-5233** can also be used in producing wells, oil handling and storage equipment, and in refineries for residual fuel oil, cat cracker feeds, reduced crudes, and other heavy feedstocks.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	7.5 – 7.9
Flash Point, °F (TCC)	110 – 140
Pour Point, °F	< 0
pH, (10% Solution**)**	6.5-8.5
Active, %	32
Solubility	
Fresh Water	Insoluble
Kerosene	Dispersible
Isopropanol	Dispersible
Xylene	Soluble

Application Information

CST-5233 can be used neat or diluted with heavy aromatic naphtha, toluene, or xylene for continuous or batch injection. **CST-5233** is typically applied at concentrations of 100 to 2000 ppm to crude above its crystallization point or heated and mixed.

Shipping and Handling

CST-5233 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5233.**

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CST-5234
Paraffin Inhibitor, Dispersant, and Pour Point Depressant

Generic Description

CST-5234 is a olefin maleic anhydride ester and imide in ethylenic solvents. .

General Information

CST-5234 is an oil soluble concentrate designed for use in the prevention of paraffinic depositions in oil field applications. The product contains a blend of organic inhibitors and highly effective paraffin solvents. This composition allows products formulated with **CST-5234** to not only soften and remove deposition from produced oils. The highly effective organic inhibitors in **CST-5234** function by crystal distortion to prevent the growth of paraffin crystals into heavy insoluble deposits. This allows the paraffin to remain in the oil and suppresses accumulation in surface and subsurface equipment.

CST-5234 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. The product may be used to disperse paraffinic tank bottoms.

Suggested Formulation

CST-5234 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 4 dilution of **CST-5234** in solvent is suggested as a starting formulation. This suggested formulation of **CST-5234** is used as a paraffin inhibitor to prevent the growth of paraffin crystals, continuous injection is recommended. The formulated product should be continuously injected into the crude oil up stream of where the paraffin deposition is occurring. This often requires injection down the annulas of producing wells. Typical use ranges from 1 to 5 gallons per 100 bbls (240 to 1200 ppm) of produced oil, depending on the severity of the individual application. An initial slug treatment of 5 to 10 gallons is recommended to initiate the treatment.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	7.2 – 7.6
Flash Point, °F (TCC)	100 - 135
Pour Point, °F	30 - 40
pH, (10% Solution**)**	6.5-8.5
Active, %	36
Solubility	
Fresh Water	Insoluble
High TDS Brine	Insoluble
Isopropanol	Soluble
Xylene	Soluble

Application Information

In applications, where continuous injection is not feasible, formulations with **CST-5234** have proven effective for batch use as a paraffin solvent to control paraffin deposition.

These treatments typically consist of pre-wetting the annulus with 0.5 to 1.0 barrels of produced fluid, followed with 5 to 10 gallons of the formulated product. This treatment should then be flushed with 1 to 2 barrels of produced fluid. The severity of the paraffin problem will dictate treatment frequency, but often is required once to twice per week.

Formulated **CST-5234** may also be used to treat paraffinic tank bottoms. In this application the product is added to oil at a rate of 2 gallons per 500 barrels. The oil should be heated to dissolve the paraffin. **CST-5234** will prevent the redeposition of paraffinic bottoms as the oil cools.

Shipping and Handling

CST-5234 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5234.**

UN1993, Flammable Liquid, N.O.S.

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CST-5266
Asphaltene Dispersant Concentrate

Generic Description

CST-5266 is an amine neutralized sulfonic acid derivative, oil soluble asphaltene dispersant.

General Information

CST-5266 is an oil soluble asphaltene reducer and dispersant concentrate designed for use in oil field applications. The product effectively disperses paraffin and oil wets solids into the oil phase to prevent accumulation in tubular goods and oil treating and storage vessels. The oil soluble dispersants and solvents in **CST-5266** have proven effective in dispersing hydrocarbon based solids into a wide range of crude oils.

CST-5266 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. This product may also be used to disperse paraffinic tank bottoms.

The performance of emulsion breaker formulations may also be enhanced by the addition of **CST-5266.** In this application, the product prevents paraffin and other oil wet solids from accumulating at the interface in treating vessels. This often results in effective emulsion treatment.

Suggested Formulation

CST-5266 is typically blended with xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 3 dilution of **CST-5266** in solvent is suggested as a starting formulation.

Use concentrations of **CST-5266** vary when added to emulsion breaker formulations. However, typical usage ranges from 3 to 10 percent depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	7.8
Flash Point, °F (TCC)	150
Pour Point, °F	30
pH, (10% Solution**)**	6.5-7.5
Ionic Charge	Slightly Cationic
Solubility	
Fresh Water	Dispersible
High TDS Brine	Dispersible
Isopropanol	Soluble
Xylene	Soluble

Application Information

This suggested formulation of **CST-5266** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the down hole paraffin problem.

Paraffin tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5266** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild paraffin depositions, the formulated **CST-5266** may be continuously injected at a rate of 1 to 5 gallons per 100 barrels of oil. Treatment concentrations will vary according to the severity of the paraffin deposition problem being encountered.

Shipping and Handling

CST-5266 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5266**.

NA1993, Combustible Liquid, N.O.S.

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CST-5301
Pour Point Depressant, Dispersant

Generic Description

CST-5301 is a 40% active, olefin maleic anhydride copolymer ester.

General Information

CST-5301 pour point depressant and paraffin dispersant is a product to reduce pour point and improve pumpability of a wide range of waxy crude oils, in distillates and residual fuel oils. At this temperature, most concentrated pour point depressants are solid. This product has shown an excellent performance in crystal modification type paraffin inhibition. Crystal modifiers interfere with the normal crystal growth patter and prevent the growth of paraffin insoluble deposits.

Application Information

CST-5301 pour point depressant can be formulated into finished blends using heavy aromatic solvents. If winterization is required, toluene or xylene should be used. **CST-5301** can also be combined with paraffin solvents or paraffin dispersants to enhance the performance of the finished compounds. When formulations made from this product are used to inhibit paraffin crystallization or for pour point depression, continuous injection is recommended. The severity of the problem will dictate the dosage, but a typical rate would be 1 gallon of a typical dilution of this product to 500 barrels of produced oil. An initial slug of 5 to 10 gallons should be made prior to continuous injection. Where continuous injection is not possible, **CST-5301** pour point depressant blends are effective when applied by batch treatment or as a squeeze treatment.

Dilutions of **CST-5301** can also be effective in treating tank bottoms where paraffin has separated out of stored crude oil. The bottoms should be circulated through a heater-treater or a hot-oil truck to re-dissolve the paraffin in the oil, while adding a dilution of this product at a rate of 2 gallons to 500 barrels of oil.

Typical Physical Properties

Form, @ 70°F	Solid
Density, (lbs/Gal)	7.50 – 7.91
Flash Point, °F (TCC)	110 -140
pH, (10% Solution**)**	4.0 - 6.0
Solubility	
Kerosene	Dispersible
Isopropanol	Dispersible
Fresh Water	Insoluble
Xylene	Soluble

Application Information (continued)

Winterization properties of this product will depend on the solvents used for dilution. The pour point of finished blends can be adversely affected by heating/cooling cycles. If the sample is cooled from 60˚F to lower temperatures, it will be fluid at the published pour point. If the temperature is cycled or the product is exposed to cold temperatures for extended periods of time, gelling may occur at significantly higher temperatures. This gel can easily be broken by agitation or heating with no detrimental effect to the product or its performance. Heated storage to a minimum of 60˚F is recommended until the product is moved to the field for immediate use.

Shipping and Handling

CST-5301 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5301**.

NA1993, Combustible Liquid, N.O.S.

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CST-5331
Asphaltene Dispersant Concentrate

Generic Description

CST-5331 is an amine neutralized sulfonic acid derivative, oil soluble ashpaltene dispersant.

General Information

CST-5331 is an oil soluble asphaltene dispersant concentrate designed for use in oil field applications. The product effectively disperses asphaltene and oil wets solids into the oil phase to prevent accumulation in tubular goods and oil treating and storage vessels. The oil soluble dispersants and solvents in **CST-5331** have proven effective in dispersing hydrocarbon based solids into a wide range of crude oils.

CST-5331 is recommended for use in formulating products for asphaltene control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where asphaltene and sludge deposits occur. This product may also be used to disperse paraffinic tank bottoms.

The performance of emulsion breaker formulations may also be enhanced by the addition of **CST-5331.** In this application, the product prevents asphaltene and other oil wet solids from accumulating at the interface in treating vessels. This often results in effective emulsion treatment. **CST-5331** provides an excellent cleaner and emulsifier in water

Suggested Formulation

CST-5331 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 3 dilution of **CST-5331** in solvent is suggested as a starting formulation.

Use concentrations of **CST-5331** vary when added to emulsion breaker formulations. However, typical usage ranges from 3 to 10 percent depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	9.6
Flash Point, °F (TCC)	90
Pour Point, °F	30
pH, (10% Solution**)**	8.5-9.5
Ionic Charge	Slightly Cationic
Solubility	
Fresh Water	Dispersible
High TDS Brine	Dispersible
Isopropanol	Soluble
Xylene	Soluble

Application Information

This suggested formulation of **CST-5331** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the downhole asphaltene problem.

Asphaltene tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5331** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild asphaltene depositions, the formulated **CST-5331** may be continuously injected at a rate of 1 to 5 gallons per 100 barrels of oil. Treatment concentrations will vary according to the severity of the asphaltene deposition problem being encountered.

Shipping and Handling

CST-5331 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5331**.

UN1993, Flammable Liquid, N.O.S.

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CST-5361
Paraffin Dispersant Concentrate

Generic Description

CST-5361 is a mixed structure, oil soluble paraffin dispersant.

General Information

CST-5361 is an oil soluble paraffin dispersant concentrate designed for use in oil field applications. The product effectively disperses paraffin and oil wets solids into the oil phase to prevent accumulation in tubular goods and oil treating and storage vessels and pipelines. The oil soluble dispersants and solvents in **CST-5361** have proven effective in dispersing hydrocarbon based solids into a wide range of crude oils. **CST-5361** will improve and enhance flow in paraffinic or asphaltic crude oils.

CST-5361 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. This product may also be used to disperse paraffinic tank bottoms. **CST-5361** will improve flow of crude oil in pipelines acting as a flow enhancer and not a drag reducer.

The performance of emulsion breaker formulations may also be enhanced by the addition of **CST-5361.** In this application, the product prevents paraffin and other oil wet solids from accumulating at the interface in treating vessels. This often results in effective emulsion treatment.
CST-5361 with vegetable esters, keeps paraffin from reattaching to metal surfaces, even though still being formed.

Suggested Formulation

CST-5361 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 3 dilution of **CST-5361** in solvent is suggested as a starting formulation use concentrations of **CST-5361** vary when added to emulsion breaker formulations. However, typical usage ranges from 3 to 10 percent depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Opaque Liquid
Density, (lbs/Gal)	7.4 - 7.8
Flash Point, °F (TCC)	45
Pour Point, °F	-5
Ionic Charge	Mixed
Solubility	
Fresh Water	Dispersible
High TDS Brine	Dispersible
Isopropanol	Dispersible
Xylene	Soluble

Application Information

This suggested formulation of **CST-5361** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the down hole paraffin problem.

Paraffin tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5361** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild paraffin depositions, the formulated **CST-5361** may be continuously injected
For flow enhancement, treatments of 500 to 10,000 ppm are required.

Shipping and Handling

CST-5361 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5361**.

UN1993, Flammable Liquid, N.O.S.

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CST-5421
Pour Point Depressant

Generic Description

CST-5421 is an ethylene vinyl acetate phenolic acid that is 40% active in xylene. It is an excellent wax crystal modifier for crude oils and heavy fuel oils for high melt hard wax and asphaltenes.

General Information

CST-5421 is an oil soluble asphaltene chemical or hard wax that is used in a wide variety of industrial applications. The product is utilized in finding application to disperse asphaltene in producing wells, oil handling and storage equipment. It is used in refineries for residual fuel oil, cat cracker feeds, reduced crudes and other heavy feedstocks.

CST-5421 is a well suited asphaltene chemical or wax crystal modifier for squeeze treatment, batch or continuous injection. It is a crystal distorter which must be present in fluids before asphaltene deposition occurs. This is also a great additive for emulsion breakers to control tank bottoms.

CST-5421 may be utilized alone, or formulated with other specialty chemicals to meet a wide variety of application needs.

Suggested Formulation

CST-5421 may be formulated alone or diluted with heavy aromatic naptha, toluene or xylene for continuous or batch injection. It is normally applied at concentrations of 100 to 2000 ppm with oil being above its crystallization point or heated and mixed. A typical blend in a 55 gallon drum is 44 gallons of Xylene, Kerosene, Diesel or other asphaltene solvent blends with 11 gallons of **CST-5421.**

Typical Physical Properties

Form, @ 77°F	Viscous Liquid
Density@110°F (lbs/Gal)	7.3 to 7.6
Flash Point, °F (TCC)	90
Pour Point, °F	0
Solubility	
Fresh Water	Insoluble
Kerosene	Soluble
Isopropanol	Dispersible
Xylene	Soluble

Application Information

This suggested formulation may be applied to disperse asphaltene in producing wells, oil handling and storage equipment. When diluted with heavy aromatic naptha, toluene or xylene it is used for continuous or batch injection. It is most sufficient when applied in concentrations of 100 to 2000 ppm with oil being above its crystallization point or heated and mixed.

Shipping and Handling

CST-5421 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. Do not inhale vapor, mists or fumes. In case of skin contact, flush exposed area with copious amounts of water. If contacted in eyes, flush immediately with water and get prompt medical attention. This is a flammable liquid, containing xylene. Keep away fom heat, sparks, or open flames. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5421.**

UN1992, Flammable Liquid, Toxic, N.O.S.

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CST-5481
Paraffin Dispersant Concentrate

Generic Description

CST-5481 is a mixed structure, oil soluble paraffin dispersant.

General Information

CST-5481 is an oil soluble paraffin dispersant concentrate designed for use in oil field applications. The product effectively disperses paraffin and oil wets solids into the oil phase to prevent accumulation in tubular goods and oil treating and storage vessels and pipelines. The oil soluble dispersants and solvents in **CST-5481** have proven effective in dispersing hydrocarbon based solids into a wide range of crude oils. **CST-5481** will improve and enhance flow in paraffinic or asphaltic crude oils.

CST-5481 is recommended for use in formulating products for paraffin control in pumps, tubing, flow lines, oil treating vessels, storage facilities, and other surface equipment where paraffin and sludge deposits occur. This product may also be used to disperse paraffinic tank bottoms. **CST-5481** will improve flow of crude oil in pipelines acting as a flow enhancer and not a drag reducer.

The performance of emulsion breaker formulations may also be enhanced by the addition of **CST-5481.** In this application, the product prevents paraffin and other oil wet solids from accumulating at the interface in treating vessels. This often results in effective emulsion treatment.
CST-5481 with vegetable esters, keeps paraffin from reattaching to metal surfaces, even though still being formed.

Suggested Formulation

CST-5481 is typically blended xylene, toluene, or aromatic solvent to provide a field strength product. A 1 to 3 dilution of **CST-5481** in solvent is suggested as a starting formulation use concentrations of **CST-5481** vary when added to emulsion breaker formulations. However, typical usage ranges from 3 to 10 percent depending on the individual treating requirements.

Typical Physical Properties

Form, @ 70°F	Opaque Liquid
Density, (lbs/Gal)	7.0 - 8.0
Flash Point, °F (TCC)	81
pH, neat	5.0 – 9.0
Ionic Charge	Mixed
Solubility	
Fresh Water	Dispersible
High TDS Brine	Dispersible
Isopropanol	Dispersible
Xylene	Soluble

Application Information

This suggested formulation of **CST-5481** may be applied by either batch or continuous methods to meet individual system needs. In batch treating of producing wells, 3 to 10 gallons of this formulated product is treated down the annulus, followed by a flush of 1 to 2 barrels, or placing the well on circulation. Treating frequency will be determined by the severity of the down hole paraffin problem.

Paraffin tank bottoms in crude oil storage tanks may be successfully treated by adding 3 to 5 gallons of the formulated **CST-5481** per 500 barrels of oil to the stock tank. The tank should then be rolled with an external pump or gas line. The addition of heat will greatly increase the effectiveness of this type treatment.

For the control of mild paraffin depositions, the formulated **CST-5481** may be continuously injected
For flow enhancement, treatments of 500 to 10,000 ppm are required.

Shipping and Handling

CST-5481 is a Flammable Liquid containing toluene, ketones, alcohol, and xylenes and is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. In case of skin or eye contact, flush exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5481**.

UN1993, Flammable Liquid, N.O.S.

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CST-5530
Pour Point Depressant

Generic Description

CST-5530 is an ethylene vinyl acetate in xylene

General Information

CST-5530 is an oil soluble asphaltene chemical that is used in a wide variety of industrial applications. The product is utilized in finding application to disperse asphaltene in producing wells, oil handling and storage equipment. It is used in refineries for residual fuel oil, cat cracker feeds, reduced crudes and other heavy feedstocks.

CST-5530 is a well suited asphaltene chemical for squeeze treatment, batch or continuous injection. It is a crystal distorter which must be present in fluids before asphaltene deposition occurs. This is also a great additive for emulsion breakers to control tank bottoms.

CST-5530may be utilized alone, or formulated with other specialty chemicals to meet a wide variety of application needs.

Suggested Formulation

CST-5530 may be formulated alone or diluted with heavy aromatic naptha, toluene or xylene for continuous or batch injection. It is normally applied at concentrations of 100 to 2000 ppm with oil being above its crystallization point or heated and mixed. A typical blend in a 55 gallon drum is 44 gallons of Xylene, Kerosene, Diesel or other asphaltene solvent blends with 11 gallons of **CST-5530.**

Typical Physical Properties

Form, @ 77°F	Viscous Liquid
Density@110°F (lbs/Gal)	7.3 to 7.6
Flash Point, °F (TCC)	90
Pour Point, °F	< 0
Solubility	
Fresh Water	Insoluble
Kerosene	Soluble
Isopropanol	Dispersible
Xylene	Soluble

Application Information

This suggested formulation may be applied to disperse asphaltene in producing wells, oil handling and storage equipment. When diluted with heavy aromatic naptha, toluene or xylene it is used for continuous or batch injection. It is most sufficient when applied in concentrations of 100 to 2000 ppm with oil being above its crystallization point or heated and mixed.

Shipping and Handling

CST-5530 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. Do not inhale vapor, mists or fumes. In case of skin contact, flush exposed area with copious amounts of water. If contacted in eyes, flush immediately with water and get prompt medical attention. This is a flammable liquid, containing xylene. Keep away from heat, sparks, or open flames. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5530.**

UN1307, Xylenes, Flammable Liquid

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CST-5580
Wax Pour Point Depressant

Generic Description

CST-5580 is an olefin maleic anhydride copolymer ester

General Information

CST-5580 is an extremely high performance paraffin control chemical. **CST-5580** is a thick liquid high molecular weight copolymer designed to function as a paraffin crystal modifier. **CST-5580** is specially designed to combine with the paraffin seed crystals as they first begin to form and precipitate out of the crude oil mixture. Once the inhibitor is bonded with the minute seed crystal, the shape is distorted, making it unrecognizable to other seed crystals. The seed crystals, unable to combine are maintained in solution. The result is a clean and efficiently operating system, free from the troublesome, production restricting effects of paraffin depositions.

Application Information

CST-5580 was developed for application in the production and transportation of waxy crude oils. In the production process, **CST-5580** may be applied downhole, where it will inhibit paraffin precipitation, reducing or elimination paraffin deposits. As a result, fewer decreases in production will occur and resistance to flow will drop. The pour point of low gravity or high paraffin content viscous crudes may be reduced by application of the **CST-5580**. When applied at the wellhead, **CST-5580** will inhibit flowline deposition with corresponding decreases in line and pump pressures. **CST-5580** may be applied at other points in the surface handling system to prevent paraffin accumulations and reduce upset. In crude oil transportation, **CST-5580** will lower the pour point and inhibit paraffin deposition. Lower line pressures will result, pumping becomes more energy efficient and line pigging requirements are reduced.

Typical Physical Properties

Form, @ 77°F	Solid
Density@110°F (lbs/Gal)	7.3 to 7.6
Flash Point, °F (TCC)	>150
Pour Point, °F	100
Solubility in 10%,	
Water	Insoluble
Kerosene	Soluble
Isopropanol	Insoluble
Xylene	Soluble
Solubility in 50%,	
Heavy Aromatic Naphtha	Soluble
Isopropanol	Insoluble
Kerosene	Soluble
Water	Insoluble
Xylene	Soluble

Application Information (cont.)

CST-5580 may be utilized in hot oil applications to prevent paraffin redeposition. **CST-5580** is suitable for use in slop oil and tank bottom treatments. Since **CST-5580** is an inhibitor, application should be upstream of the point at which the paraffin first starts to precipitate. **CST-5580** may also be added to paraffinic crudes and tank bottom deposits to inhibit precipitation once they have been heated. Typical dose of **CST-5580** is 50 to 5000 ppm based on free crude oil or refinery fractions. Dilute **CST-5580** in toluene or xylene for application. Can apply hot, neat.

Shipping and Handling

CST-5580 is available in 55 gallon drums and bulk tank wagons. As with any individual chemical, avoid prolonged contact with skin. Do not inhale vapor, mists or fumes. In case of skin contact, flush exposed area with copious amounts of water. If contacted in eyes, flush immediately with water and get prompt medical attention A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-5580.**

CST-5580 is stored in heated tank.

NA1993, Combustible Solid