Conlen Surfactant Technology

Specialty Chemical Manufacturing, Marketing, & Distribution

Emulsifier Series

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Conlen Surfactant Technology

Specialty Chemical Manufacturing, Marketing, & Distribution

CST-7151 K	Secondary Emulsifier	Sterically hindered amide / ester
CST-7241	Primary Emulsifier	Oxidized modified vegetable oils
CST-7251	Primary Emulsifier	Oxidized modified vegetable oils
CST-7261	Primary Emulsifier	Oxidized modified vegetable oils , amides , esters
CST-7584	Secondary Emulsifier	Amide modified carboxylate
CST-7681	Primary Emulsifier	Modified fatty acids
CST-7691	Primary Emulsifier	Oxidized fatty acids
CST-7801	Primary Emulsifier	Complex alkanolamide
CST-78244	Primary or Secondary Emulsifier and Lubricant	Sulfurized tall oil, resins, and fatty esters
CST-7851	Secondary Emulsifier	Amide modified maleate
CST-7901	Secondary Emulsifier	Amide modified fumarate
CST-7921	Secondary Emulsifier	Amide modified fumarate
CST-7951	Secondary Emulsifier	Amide modified maleate
CST-7971	Secondary Emulsifier	Amide modified maleate

Emulsifier Series

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CST–7241
Primary Emulsifier

General Description

CST–7241 primary emulsifier is a modified and oxidized crude tall oil.

General Information

CST–7241 primary emulsifier is an organic free acid and ester. The free fatty acid radical forms a soap when combined with calcium hydroxide (lime), calcium oxide (hot lime), or calcium carbonate. Calcium chloride is dissolved in the water phase in order to achieve osmotic force to dehydrate water wet formations and increase the mud weight density; this calcium over-saturates the soap fluid system.

These acids-calcium soaps will hold the saturated calcium brines in an oil phase such as crude oil, diesel, or synthetic oil; this fatty acid-calcium emulsion is loosely bound.

Suggested Formulation

CST–7241 can be mixed with a secondary emulsifier from the modified polyamide type, alkanolamides, wetting agent, or lubricant. **CST–7241** can also be used alone. The other additives such as the organophilic clay for viscosity is a primary assistant

These primary emulsifiers may be supplied in 100% concentrated form. For ease of handling, dilute approximately 50% with diesel, kerosene, or other oils. Further dilutions of one part concentrate to two parts diesel may be used as well.

Typical Physical Properties

Density, (#/gal)	7.8 – 8.0
Flash, F	>300
Acid Number,	198
Solvent , Diesel	20-25%
Activity of Primary %	70-80

Application Information

In the oil phase, fatty alkanolamides/fatty acid mixtures are strong emulsifiers for heavy brines. The soaps are formed between the lime phase with the free fatty acid and a calcium chelate with the hydroxyl ions. Emulsifiers are natural tree products as tall oil fatty acid, rosin fatty acid, and cleaved esters.

Shipping and Handling

CST–7241 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–7241.**

Non-Regulated / Non-Hazardous

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CST–7251
Primary Emulsifier

General Description

CST–7251 primary emulsifier is a modified and oxidized crude tall oil.

General Information

CST–7251 primary emulsifier is an organic free acid and ester. The free fatty acid radical forms a soap when combined with calcium hydroxide (lime), calcium oxide (hot lime), or calcium carbonate. Calcium chloride is dissolved in the water phase in order to achieve osmotic force to dehydrate water wet formations and increase the mud weight density; this calcium over-saturates the soap fluid system.

These acids-calcium soaps will hold the saturated calcium brines in an oil phase such as crude oil, diesel, or synthetic oil; this fatty acid-calcium emulsion is loosely bound.

Suggested Formulation

CST–7251 can be mixed with a secondary emulsifier from the modified polyamide type, alkanolamides, wetting agent, or lubricant. **CST–7251** can also be used alone. The other additives such as the organophilic clay for viscosity is a primary assistant

These primary emulsifiers may be supplied in 100% concentrated form. For ease of handling, dilute approximately 50% with diesel, kerosene, or other oils. Further dilutions of one part concentrate to two parts diesel may be used as well.

Typical Physical Properties

Density, (#/gal)	7.8 – 8.0
Flash, F	>300
Acid Number,	198
Solvent , Diesel	20-25%
Activity of Primary %	70-80

Application Information

In the oil phase, fatty alkanolamides/fatty acid mixtures are strong emulsifiers for heavy brines. The soaps are formed between the lime phase with the free fatty acid and a calcium chelate with the hydroxyl ions. Emulsifiers are natural tree products as tall oil fatty acid, rosin fatty acid, and cleaved esters.

Shipping and Handling

CST–7251 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–7251.**

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CST–7261
Primary Emulsifier

General Description

CST–7261 primary emulsifier is a modified and oxidized crude tall oil.

General Information

CST–7261 primary emulsifier is an organic free acid and ester. The free fatty acid radical forms a soap when combined with calcium hydroxide (lime), calcium oxide (hot lime), or calcium carbonate. Calcium chloride is dissolved in the water phase in order to achieve osmotic force to dehydrate water wet formations and increase the mud weight density; this calcium over-saturates the soap fluid system.

These acids-calcium soaps will hold the saturated calcium brines in an oil phase such as crude oil, diesel, or synthetic oil; this fatty acid-calcium emulsion is loosely bound.

Suggested Formulation

CST–7261 can be mixed with a secondary emulsifier from the modified polyamide type, alkanolamides, wetting agent, or lubricant. **CST–7261** can also be used alone. The other additives such as the organophilic clay for viscosity is a primary assistant

These primary emulsifiers may be supplied in 100% concentrated form. For ease of handling, dilute approximately 50% with diesel, kerosene, or other oils. Further dilutions of one part concentrate to two parts diesel may be used as well.

Typical Physical Properties

Density, (#/gal)	7.8 – 8.0
Flash, F	>300
Acid Number,	198
Solvent , Diesel	20-25%
Activity of Primary %	70-80

Application Information

In the oil phase, fatty alkanolamides/fatty acid mixtures are strong emulsifiers for heavy brines. The soaps are formed between the lime phase with the free fatty acid and a calcium chelate with the hydroxyl ions. Emulsifiers are natural tree products as tall oil fatty acid, rosin fatty acid, and cleaved esters.

Shipping and Handling

CST–7261 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–7261.**

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CST –7681
Primary Emulsifier

General Description

CST–7681 primary emulsifier is oxidized tall oils.

General Information

CST–7681 primary emulsifier is an organic acid and ester. The free fatty acid radical forms a soap when combined with calcium hydroxide (lime), calcium oxide (hot lime), or calcium carbonate. Calcium chloride is dissolved in the water phase in order to achieve osmotic force to dehydrate water wet formations and increase the mud weight density; this calcium over-saturates the soap fluid system.

These acids-calcium soaps will hold the saturated calcium brines in an oil phase such as crude oil, diesel, or synthetic oil; this fatty acid-calcium emulsion is loosely bound.

Suggested Formulation

CST–7681 can be mixed with a secondary emulsifier from the modified polyamide type, wetting agent, or lubricant. **CST–7681** can also be used alone. The other additives such as the organophilic clay for viscosity is a primary assistant

These primary emulsifiers may be supplied in 100% concentrated form. For ease of handling, dilute approximately 50% with diesel, kerosene, or other oil.

Typical Physical Properties

Appearance	Dark brown viscous liquid
Acid Number	130 - 150
Density, lbs/gal	8.3
Solvent	none
Activity of OME (%)	100
Drum Weight (lb.)	450
Water Content, %	>1
Viscosity, 210˚F	220

Application Information

In the oil phase, fatty alkanolamides/fatty acid mixtures are strong emulsifiers for heavy brines. The soaps are formed between the lime phase with the free fatty acid and a calcium chelate with the hydroxyl ions.

Fatty alkanolamides are derived from natural tree products as tall oil fatty acid, rosin fatty acid, and cleaved esters.

Shipping and Handling

CST–7681 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 –7681.**

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CST–7691
Primary Emulsifier

General Description

CST–7691 primary emulsifier is an oxidized distilled tall oil.

Typical Physical Properties

Acid Number	130 - 150
#/Gallon	7.8 – 8.0
Solvent	none
Activity of OME (%)	100
pH,	
NA	

General Information

CST–7691 primary emulsifier is an organic free acid and ester. The free fatty acid radical forms a soap when combined with calcium hydroxide (lime), calcium oxide (hot lime), or calcium carbonate. Calcium chloride is dissolved in the water phase in order to achieve osmotic force to dehydrate water wet formations and increase the mud weight density; this calcium over-saturates the soap fluid system.

These acids-calcium soaps will hold the saturated calcium brines in an oil phase such as crude oil, diesel, or synthetic oil; this fatty acid-calcium emulsion is loosely bound.

Application Information

In the oil phase, fatty alkanolamides/fatty acid mixtures are strong emulsifiers for heavy brines. The soaps are formed between the lime phase with the free fatty acid and a calcium chelate with the hydroxyl ions.

Suggested Formulation

CST–7691 can be mixed with a secondary emulsifier from the modified polyamide type, wetting agent, or lubricant. **CST–7691** can also be used alone. The other additives such as the organophilic clay for viscosity is a primary assistant

These primary emulsifiers may be supplied in 100% concentrated form. For ease of handling, dilute approximately 50% with diesel, kerosene, or other oils.

Shipping and Handling

CST–7691 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–7691.**

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CST – 7801
Primary Emulsifier

Generic Description

CST–7801 a complex alkanolmide

General Information

CST–7801 surfactant is oil-soluble alkanolamide which functions as an invert (water-in-oil) emulsifier, oil –soluble detergent and solubilizer for other detergents in oils and solvents.

Application Information

The oil phase of emulsions formed with **CST-7801** surfactant may include mineral oils, or hydrophobic aromatics. The aqueous phase may vary from fresh water to solutions of alkalines and salts. Water-soluble/oil-insoluble detergents such as ethylene oxide adducts or alkylaryl sulfonates can be solubilized in oil by blending with a small amount of **CST-7801** surfactant to form useful oil-soluble detergents and emulsifier blends. The viscosity of invert emulsions formed with this surfactant is controlled either by adding an oil thickener such as aluminum stearate to the finished emulsion or by varying the ratio of oil to water, Increasing the water phase in increases viscosity; increasing the oil phase decreases viscosity. Emulsion performance in some instances is improved by the presence of dissolved inorganic salts in the water phase. For example, "oiling", the separation of free oil in a particular emulsion, can be minimized by the presence of 5 percent sodium sulfate in the water phase. Moreover, inorganic corrosion inhibitors may be added to the water phase to improve corrosion-resistant characteristics. Invert emulsions containing up to 95 percent water can be formed as follows:

1. Dissolve 1 to 3 percent **CST-7801**, based on the weight of the total emulsion, in the oil phase.
2. Add water slowly at a uniform rate while mixing continuously at a constant speed.

Typical Physical Properties

Active Content, %	100
Appearance	Amber Liquid
Moisture, %	0.15
Acid Number	2.5
pH, 3% in 1:1 isopropanol/water	8.6
Flash Point, PMCC, ˚F	>200
Specific Gravity, 25/4˚C	0.96

Suggested Use

- Oil-field exploration compounds
- Water solubilizer and sludge dispersant for fuel oils
- Solvent coupler for other detergents
- Lubricant emulsions
- Oil-field emulsions
- Lubricants

Shipping and Handling

CST–7801 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 **CS –7801.**

Non- Regulated, Non-Hazardous

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CST-78244
Lubricant

Generic Description

CST-78244 sulfurized tall oil

General Information

CST-78244 is a High-Tech lubricant concentrate specifically developed for highly deviated or horizontal drilling applications for both land and offshore use.

CST-78244 has a high affinity for metal surfaces, and will adhere tenaciously to drill pipe and drill collars. This guarantees that the lubricant will be concentrated exactly where it is needed, between the pipe and the formation. The pipe can then slide effectively without excessive loss of weight to the bit.

CST-78244 eliminates torque and drag, prevents differential sticking, and protects the drill pipe from corrosion.

Suggested Use

The extreme efficiency of this product allows for low use levels. For a typical 800-1000 bbl system, add 1-1/2 drums slowly (one drum per hour). Maintain the system as needed while drilling. Always add the product s-l-o-w-l-y into the suction pit as close to the suction line as possible. **CST-78244** is an oil soluble product and will not mix readily with the drilling fluid.

Typical Physical Properties

Form, @ 70°F	Liquid
Density, (lbs/Gal)	8.10 – 8.20
Flash Point, °F (TCC)	**>**200
Pour Point, °F	< 0
pH, (neat)	4 - 7
Solubility	
Fresh Water	Dispersible
High TDS Brine	Dispersible
Isopropanol	Soluble
Xylene	Soluble

Shipping and Handling

CST–78244 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–78244**. Store between 40°F - 120°F.

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CST–7901
Secondary Emulsifier

General Description

CST-7901 secondary emulsifier is a vegetable oil/amino fumarate diesel.

Typical Physical Properties

Density, (#/gal)	7.50 – 9.17
Solvent	diesel, cellosolve, carbitol
Activity of OME (%)	70
Flash, F	> 125

General Information

CST–7901 secondary emulsifiers are modified polyamides, typically fumarates, maleates, or other acrylate adducts of amino polyamides.

Amino polyamides are derived from natural fats and oils with polyamines, and FAME an d biodiesels are used as hydrophobic tails.

Application Information

The secondary emulsifiers of the modified polyamides are also useful as wetting agents when in conjunction or combination with oranophilic clay, especially in synthetic oils

Suggested Formulation

CST–7901 may be mixed or diluted with primary emulsifiers or lubricants for a single emulsifier (1). Usually, secondary emulsifiers are added in lesser quantity than primary emulsifiers.
Solutions may be presented as typical:

Diesel or synthetic oil	20 – 40%	
EGMBE(butyl cellosolve)	2 – 6%	EB
DGMBE(butyl carbitol)	2 – 6%	DB
Glycerin(by product)	< 5%	

Shipping and Handling

CST–7901 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 data safety sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-7901.**

Bulk: NA1993, Diesel Fuel, Combustible Liquid

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CST–7921
Secondary Emulsifier

General Description

CST-7921 secondary emulsifier is a vegetable oil/amino maleate.

Typical Physical Properties

Density, (#/gal)	7.50 – 9.17
Solvent	diesel, cellosolve, carbitol
Activity of OME (%)	68-70
Flash, F	> 200
pH, (5% in IPA/Water)	8.5 – 10.5

General Information

CST–7921 secondary emulsifiers are modified polyamides, typically fumarates, maleates, or other acrylate adducts of amino polyamides.

Amino polyamides are derived from natural fats and oils with polyamines, and FAME and biodiesels are used as hydrophobic tails.

Application Information

The secondary emulsifiers of the modified polyamides are also useful as wetting agents when in conjunction or combination with oranophilic clay, especially in synthetic oils

Suggested Formulation

CST–7921 may be mixed or diluted with primary emulsifiers or lubricants for a single emulsifier (1). Usually, secondary emulsifiers are added in lesser quantity than primary emulsifiers.
Solutions may be presented as typical:

Diesel or synthetic oil	20 – 40%	
EGMBE(butyl cellosolve)	2 – 6%	EB
DGMBE(butyl carbitol)	2 – 6%	DB
Glycerin(by product)	< 5%	

Shipping and Handling

CST–7921 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 data safety sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-7921.**

Bulk: UN1223, Kerosene Fuel, Combustible Liquid

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CST–7951
Secondary Emulsifier

General Description

CST-7951 secondary emulsifier is a vegetable oil/amino maleate.

Typical Physical Properties

Density, (#/gal)	7.50 – 9.17
Solvent	
Activity of OME (%)	68-70
Flash, F	> 200
pH, (5% in IPA/Water)	8.5 – 10.5

General Information

CST–7951 secondary emulsifiers are modified polyamides, typically fumarates, maleates, or other acrylate adducts of amino polyamides.

Amino polyamides are derived from natural fats and oils with polyamines, and FAME and biodiesels are used as hydrophobic tails.

Application Information

The secondary emulsifiers of the modified polyamides are also useful as wetting agents when in conjunction or combination with oranophilic clay, especially in synthetic oils

Suggested Formulation

CST–7951 may be mixed or diluted with primary emulsifiers or lubricants for a single emulsifier (1). Usually, secondary emulsifiers are added in lesser quantity than primary emulsifiers.
Solutions may be presented as typical:

Diesel or synthetic oil	20 – 40%	
EGMBE(butyl cellosolve)	2 – 6%	EB
DGMBE(butyl carbitol)	2 – 6%	DB
Glycerin(by product)	< 5%	

Shipping and Handling

CST–7951 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 data safety sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-7951.**

Bulk: NA1993, Diesel Fuel, Combustible Liquid

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CST–7971
Secondary Emulsifier

General Description

CST-7971 secondary emulsifier is a vegetable oil/amino maleate.

Typical Physical Properties

Density, (#/gal)	7.50 – 9.17
Solvent	
Activity of OME (%)	68-70
Flash, F	> 200
pH, (5% in IPA/Water)	8.5 – 10.5

General Information

CST–7971 secondary emulsifiers are modified polyamides, typically fumarates, maleates, or other acrylate adducts of amino polyamides.

Amino polyamides are derived from natural fats and oils with polyamines, and FAME and biodiesels are used as hydrophobic tails.

Application Information

The secondary emulsifiers of the modified polyamides are also useful as wetting agents when in conjunction or combination with oranophilic clay, especially in synthetic oils

Suggested Formulation

CST–7971 may be mixed or diluted with primary emulsifiers or lubricants for a single emulsifier (1). Usually, secondary emulsifiers are added in lesser quantity than primary emulsifiers.
Solutions may be presented as typical:

Diesel or synthetic oil	20 – 40%	
EGMBE(butyl cellosolve)	2 – 6%	EB
DGMBE(butyl carbitol)	2 – 6%	DB
Glycerin(by product)	< 5%	

Shipping and Handling

CST–7971 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 data safety sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of **CST-7971.**

Bulk: NA1993, Diesel Fuel, Combustible Liquid