
CALCIUM CHLORIDE
(HT Fines 94-97%)

DESCRIPTION Calcium Chlorides HT Fines($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$) a palletized manufactured salt, which is hygroscopic and highly soluble in water.

PROPERTIES

Physical

Appearance: White Pellets
Specific Gravity: 1.85
Melting Point: 176°C
Flash Point: Not Applicable

Chemical

Type: Salt
Solubility:(water 98g/100ml)
pH:7.0-10.0
Microtox: Not Applicable

APPLICATION

Calcium Chloride ht fines(94-97%) have a wide variety of oilfield uses.

- a salinity source in oil muds(**only when pre-dissolved in water**)
- a flocculant for clear water drilling
- a completion/work over fluid
- a packer fluid
- an accelerator for oil well cement (up to 4% wt. Cement)

HANDLING

Mix directly into mud hopper or pre-dissolved in a chemical barrel or cement mix water. Avoid mixing too rapidly. A mask and goggles should be worn to prevent inhalation of dust and contact with the eyes. Fresh air ventilation should be provided in the mixing area.

WHMIS

Controlled (See MSDS)

TDG

Not Regulated

PACKAGING

40 kg sack

NOTE: See disclaimer for supplier responsibility.

CHEMOIL PRODUCTS

BASE OILS

The types of crude used should be the light green and brown oils. Black crude should be avoided, as it could take up to six times more product to viscosify. Diesel oil and/or distillates can be used if the flash points are acceptable.

GROUPS

The two basic products are CHEMOIL-GEL and CHEMOIL-LINK. The gellant CHEMOIL-GEL is a metallic silicone derivative and is used in concentrations of 1.5 to 9.0 l/m³. The nominal concentration is about 3.0 l/m³. These concentrations are dependent on the type of oil to be gelled.

The activator for the gellant is CHEMOIL-LINK. This is a phosphate ester derivative. It must be used at the same concentration as the CHEMOIL-GEL, for every litre per cubic metre of gellant use a litre of activator.

Prior to mixing the gellant and activator, add the buffering agent, CHEMOIL-BUFF, recommended use, 0.75 to 1.5 l/m³. If premixed, in a liquid mud plant, 0.75 l/m³ may be sufficient. After the buffering agent has been added, begin to add the gellant and activator. It will take approximately six to ten (6-10) hours to reach the full yield. If a faster yield time is required add more buffering agent. Again, pilot testing is a must for each crude being used.

The product CHEMOIL-pH is a strong acid buffering agent containing phosphoric acid. Use CHEMOIL-pH if encountering alkaline material such as calcium carbonates. It is also used prior to weighting up with calcium carbonates. Chemoil-pH may also be used if a rapid boost in the yield point is required. This would be in lieu of adding more gellant and activator. Pilot testing is strongly recommended.

CHEMOIL-THIN is a weakly alkaline material capable of gently thinning back the system if no CHEMOIL-pH has been used. If CHEMOIL-pH has been used, it must be neutralized with CHEMOIL-BREAK prior to adding CHEMOIL-THIN. Since there are minor differences between batches when these products are made, it is always a good idea to titrate the CHEMOIL-pH with the CHEMOIL-BREAK to determine how much breaker is required to neutralize the CHEMOIL-pH.

CHEMOIL-BREAK is used to break the CHEMOIL system back to the base oil. Use the minimum amount to break the system. This will require pilot testing prior to adding the breaker. Once broken the oil can be easily separated from the colloidal drill solids which may be carried in the CHEMOIL system. If the system is NOT over treated with CHEMOIL-BREAK the crude may be regelled by adding either CHEMOIL-BUFF to neutralize the breaker or by adding CHEMOIL-pH.

The CHEMOIL-DFM defoamer is a silicone based defoaming agent. It will require a small amount to effectively defoam the CHEMOIL system.

CHEMOIL system does not follow the traditional Bingham plastic model. Experience has shown that lower yields in the range of 2.5 to 4.0 Pa. are more than sufficient to clean the hole in horizontal wells. This is a highly elastic fluid and behaves differently than conventional polymer systems. Hole cleaning is a function of the elastic modulus than of the traditional yield point. The optimum range for hole cleaning is 3.00 to 6.00 l/m³ of gellant and activator.

PRECAUTIONS Do not use zinc-based pipe dope, zinc carbonates, or zinc oxide. Use Copper Kote or equivalent for pipe dope. The zinc will kill the viscosifier and the viscosity will not be recoverable.

Do NOT drill cement with this system. When drilling out the shoe or doing squeezes use water or a water-based system.

Do not add any alkaline material like amines or other scavengers for H₂S.

Pilot testing is very important. Always pilot test before making any additions or modifications, this eliminates surprises.

WHMIS All Chemoil products are controlled (See MSDS)

TDG

Chemoil-Break	(regulated)
Chemoil-Buff	(not regulated)
Chemoil-DFM	(regulated)
Chemoil-Gel	(not regulated)
Chemoil-Link	(regulated)
Chemoil-pH	(regulated)
Chemoil-Thin	(not regulated)

PACKAGING 20 litre pails

CHEMUL-I

DESCRIPTION Chemul-I is a primary oil mud emulsifier and is a blend of stabilized fatty acids in liquid form that reacts with lime to form a soap-based emulsifier.

Physical Properties:

Form	Dark brown liquid
Specific gravity	.90 g/cc
Flash point	65 C

APPLICATION Chemul-I forms a stable water-in-oil emulsion when it is added to oil and water mixtures with lime and proper agitation.

BENEFITS

1. Provides suitable emulsion stability.
2. Compatible with other primary and supplemental emulsifiers.
3. Develops good rheological properties.
4. Higher concentrations improves filtration control.

NORMAL TREATMENT

Oil mud systems using Chemul-I are easily prepared using the proper amounts of oil, water, Chemul-I and electrolytes to form a tight emulsion.

The standard system uses 25 to 35 l/m³ of Chemul-I with equal parts of lime.

The lite system uses 9-17 l/m³ of Chemul-I with equal parts of lime. In this system, Chemul-II becomes the supplemental emulsifier.

WHMIS Controlled (See MSDS)
TDG Not Regulated
PACKAGING 20 litre pail (18 kg net product weight)

NOTE: See disclaimer for supplier responsibility.

CHEMUL-II

DESCRIPTION Chemul-II is a secondary oil mud emulsifier and is a sulfonated amido amine, blended with wetting agents to be used as a co-emulsifier with Chemul-I.

Physical Properties:

Form	Viscous amber liquid
Specific gravity	.945 g/cc
Flash point	20 C

COMPOSITION Chemul-II is a concentrated blend of sulfonated amido amine derivatives containing oil wetting agents. The product is designed to be used with Chemul-I or other similar primary emulsifiers. The carrier used in this product is non-toxic and non-hazardous.

APPLICATION Chemul-II forms a stable water-in-oil emulsion when it is added to oil and water mixtures with proper agitation.

- BENEFITS**
1. Provides emulsion stability.
 2. Not affected by electrolyte concentrations in water phase.
 3. Compatible with other primary and supplemental emulsifiers.
 4. Maintains good rheological properties.
 5. Imparts high temperature stability.
 6. May be used as an oil wetting surfactant.

NORMAL TREATMENT

Oil mud systems using Chemul-II are easily prepared using the proper amount of oil, water, and electrolytes to form a tight emulsion. The standard system uses 4 - 10 l/m³ of Chemul-II. The lite system uses 8 - 16 l/m³ of Chemul-II. In this system, Chemul-I becomes the supplemental emulsifier.

WHMIS Controlled (See MSDS)
TDG Regulated (See MSDS)
PACKAGING 20 litre pail (19 kg net product weight)

NOTE: See disclaimer for supplier responsibility.

CHEMWET-OM

DESCRIPTION Chemwet-OM is a blend of alkanolamides and phospholipids used as an oil wetting agent. This product is designed to be used in a Chemul or other compatible oil mud system.

Physical Properties:

Form	Viscous amber liquid
Specific gravity	.97 g/cc
Flash point	65 C

APPLICATION Chemwet-OM is a surfactant blend which improves oil wetting properties of oil mud systems. The product efficiently oil wets drill solids and weight material carried in an oil mud system.

BENEFITS

1. Provides emulsion stability.
2. Not affected by electrolyte concentrations in water phase.
3. Compatible with other primary and secondary emulsifiers.
4. Improves rheological properties.
5. Is able to oil-wet water-wet drill solids.
6. May improve filtration properties.

NORMAL TREATMENT

Oil mud systems use 0.3 to 3.0 l/m³ of Chemwet-OM. The product is used as required for maintaining proper rheological and fluid loss properties when solids tend to become water wet.

WHMIS Controlled (See MSDS)
TDG Not regulated
PACKAGING 20 litre pail (19.5 kg net product weight)

NOTE: See disclaimer for supplier responsibility.

PROCESSED LIME

DESCRIPTION Calcium Oxide (CaO) is a greyish white powder. It is commonly known as Slaked Lime, Quick Lime or Hot Lime.

APPLICATION The principal use for Processed Lime is in oil base systems for fluid property control.

Physical Properties:

CaO:	94%
pH:	12+
Specific gravity:	3.2 - 3.4
Boiling point:	2850 C
Acid insolubles:	2%
MgO:	2%

HANDLING Mix directly into system slowly through mud hopper or at point of agitation. Avoid contact with water and store in a cool, dry place.

CAUTION: Contact with water generates a large amount of heat and resulting solution has a high pH and may cause burns.

WHMIS Controlled
TDG Not Regulated
PACKAGING 25 kg sack

OILGEL 3000

DESCRIPTION A light cream coloured organically modified bentonite clay, capable of producing high YP/PV ratios and gel strengths in diesel oil, crude oil and mineral oils with or without a polar activator.

Oilgel 3000 is easily dispersed and provides most of its yield in one circulation with the use of conventional mixing equipment.

APPLICATION Oilgel 3000 is an effective viscosifier in oil and invert emulsion systems. As a viscosifier in oil it eliminates the need for a water or brine phase with the resultant rheological profile closer to a water based polymer system than a typical invert. In invert emulsion systems, Oilgel 3000 can provide immediate yield point and gel strengths for hole cleaning or barite suspension.

HANDLING Mix directly into mud hopper. Avoid mixing too rapidly. A mask and goggles should be worn to prevent inhalation of dust and contact with the eyes. Fresh air ventilation should be provided in the mixing area.

WHMIS Controlled (See MSDS)

TDG Not regulated.

PACKAGING 50 lb sack.

NOTE: See disclaimer for supplier responsibility.

OMV-100

DESCRIPTION	A tan colored organophilic clay used to develop gel strength and adjust rheological properties of an oil base fluid.
APPLICATION	<p>The concentration of OMV-100 required depends on the oil/water ratio and density of the system. A fluid with a higher oil/water ratio (ie 90/10) will require more OMV-100 than a fluid with lower oil/water ratio (ie 70/30). A higher density fluid will generally require less than low density fluids.</p> <p>In water free oil base systems small amounts of polar additive, such as methanol, may be required to produce full yield. Generally, concentrations will be in the range of 2.85 - 14.25 kg/m³.</p>
HANDLING	Mix directly through the mud hopper. Avoid mixing too rapidly. A mask and goggles must be worn to prevent inhalation of dust and contact with the eyes. Fresh air ventilation should be provided in the mixing area.
WHMIS	Controlled (See MSDS)
TDG	Not Regulated
PACKAGING	50 lb sack

NOTE: See disclaimer for supplier responsibility.