



CALWAXSOL™

WAX DISPERSANT

The CALWAXSOL™ solvent is a ready-to-use product. It provides ease of use compared to buying wax dispersant concentrate and blending on site. It is a specially formulated hydrocarbon solvent developed to rapidly break down wax deposits and separate wax molecules to restore flow in production strings and surface pipelines. Formulated to work under static conditions, CALWAXSOL will also tackle hard-to-access wax deposits from oil batteries and refining equipment.

The product is a combination of small iso-paraffins, aromatics, alcohols, and a dispersant, which act to rapidly break apart wax deposits. Iso-paraffins and aromatics are some of the most aggressive hydrocarbons to break apart and solvate wax. Alcohols help to remove any trace of water associated with the deposit, which allows the hydrocarbons to attack the wax deposit more effectively, causing the wax to flake off as small discrete “dry” particles. The key to CALWAXSOL is the uniquely formulated wax dispersant, which binds to these “dry” particles and imparts a cationic charge to the wax particle to ensure oil flow is restored.

ADVANTAGES

- **Price:** Less expensive compared to high octane gasoline molecules
- **Transportation:** Available by truck and rail with storage in railcars
- **Cost:** Overall treatment costs are lower than water, aromatics and hot oiling
- **Savings:** Solvent is returned to the crude battery and sold as a barrel of crude oil
- **Sustainability:** No waste disposal
- **Improved Performance:** Can be used with a hot oiler

USES

- Downhole cleanup of wax deposits
- Storage tank wax cleanup
- Pipeline wax deposit cleanup
- Surface equipment dewaxing

APPLICATION

CALWAXSOL is used to clean wax residues in crude oil production tubing, production flowlines, storage batteries and transport flowlines. The volume of solvent to be used should be calculated based on the volume needed to fill the pipe and cover the deposit.

- Once flow has been restored, the spent solvent can be sent to a crude storage system for sale as crude oil.
- CALWAXSOL can be used in multiple methods:
 - Static: Leave in contact 6-24+ hrs. depending on temperature
 - Circulating: Pumped through the pipe or tank
 - Hot oiler: Use with heat in a closed system
 - Pigging operation: Combine with mechanical loosening of deposits

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▲ CASE STUDY

OPPORTUNITY

A drilling customer was experiencing issues with low productivity from one of their wells. An initial baseline measurement was taken which showed <2 barrels/day was being produced (image below). It was then determined that the pump and well were potentially obstructed by paraffin wax.

INITIAL BASELINE



SOLUTION

Calwaxsol was gravity fed into the problematic well and then circulated. Initially the well stopped pumping and the gauge was reading 585 gallons. The lease owner then pumped additional Calwaxsol into the well and stopped monitoring for 4 weeks. After 4 weeks, the well was checked, and the gauge was reading 39,000 gallons. A sample was pulled (image below) and crude obtained went from <2 barrels/day to 6 barrels/day, concluding the Calwaxsol cleaned the paraffin wax residue and increased well productivity.

AFTER CALWAXSOL



(Study RR#2022-0014)

TYPICAL PROPERTIES

| PROPERTIES | METHOD | CALWAXSOL |
|------------------------------|------------|-----------|
| Density @ 60 °F, lbs/gal | ASTM D1250 | 6.3 |
| Flash Point TCC (°F) | ASTM D56 | 37 |
| Aromatics (Vol. %) | ASTM D1319 | 10-15 |
| Distillation, IBP (°F) | ASTM D86 | 145 |
| Distillation, Dry Point (°F) | ASTM D86 | 310 |
| Specific Gravity @ 60/60 °F | ASTM D1250 | 0.753 |
| Pour Point (°F) | ASTM D97 | <-70 |

▲ TECHNICAL ASSISTANCE

For product or technical questions, contact your Sales Representative or Calumet Product Support at (800) 437-3188 or email technical@calumet.com.

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