

Recover was specially formulated to dissolve the sludge that builds up over time in crude oil storage and transport tanks (truck, rail, and ship), enabling the recovery of petroleum products lost in the sludge. By dissolving bottom sludge, **Recover** also restores the tank to its original capacity.

Over time, solids build up at the bottom of crude oil storage and transport tanks, reducing their capacity. Periodic cleaning for required inspections typically occurs every 5 years or less, depending on the amounts of contaminants in the source crude oil, and local regulations. Paraffin waxes and asphaltenes precipitate, trapping water and inorganic sediment in an uneven buildup profile on the bottom of these tanks. All crude oil tanks experience this buildup to varying degrees based on volume, type of crude oil, and length of time the crude oil remains in the tanks.

The build-up of sludge over time at the bottom of crude oil storage tanks is typically 2 to 8 feet in depth. This represents volumes of 2,000 to 20,000 BBL of crude oil trapped within the bottom sludge – in some cases much more. Bottom sludge also reduces tank capacity and often causes operational problems. While bottom sludge is often ignored, it must be removed when the tank has scheduled efficiency maintenance to meet regulatory requirements, or because of an emergency.

Conventional manual removal methods of bottom sludge are expensive, hazardous, and time-consuming – typically resulting in months of tank down-time and lost revenue. Additionally, conventional cleaning creates significant environmental and safety issues.

APPLICATION

Recover is a proprietary, off-the-shelf blend of refinable, liquid chemicals. It is added and mixed to crude oil storage and transport tanks to liquefy the build-up of paraffin and asphaltene at the bottom – typically in soupy, milkshake or hardpan consistency. The use of **Recover** enables the recovery of saleable crude oil from bottom sludge, turning hazardous waste into additional revenue from the recovered product.

BENEFITS

- Liquefies paraffin and asphaltenes (as in crude oil).
- Returns bottom solids to saleable crude oil (except insoluble materials such as sand and gravel).
- **Cost-effective.** Value of the recovered petroleum greatly exceeds the cost of **Recover** necessary to treat the tank.
- **Fast & efficient.** Overall, the recovery process for a typical tank using ECI's **Recover** product takes **only 2-3 weeks**. The labor required is simple and minimal: Preparation (1 day), monitoring periodic tank agitation as necessary (usually 3-times daily for 2-3 weeks), confirming sludge has been dissolved (0.5 day), returning tank to service (0.5 day).

TECHNICAL DATA

Test procedure	Test code	Typical results
Viscosity	D445	1.9 @ 23°C, cps
Auto-ignition temperature	D2270	323 °C (>613 °F)
Specific gravity (g/ml)	D1298	0.835 g/ml
Density (g/ml @ 25°C)	D1298	0.838 g/ml (77°F)
Color	D1500	light orange/tan
Flash point °C (°F) (COC)	D92	< -5C° (< 23F°)
Pour point °C (°F)	D97	N/A
Odor		Pungent, organic solvent
Physical state		Liquid
pH		5.8 – 6.0
Alkalinity (ppm)		0.0

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HEALTH AND SAFETY INFORMATION

For recommendations on the safe handling and use of this product, please refer to the Safety Data Sheet (SDS), which is available on our website. Recover is a hydrocarbon-based solution that does not need removal before refining. As with any organic chemical, protective clothing should be worn when handling the material. If contact occurs, wash the affected areas with copious amounts of soap and water.