

What is UpperCut®?

UpperCut is a proprietary additive that will enhance the solvency of cutter stock (LCO, diesel, etc.) when cleaning hydrocarbon deposits or petroleum sludge. It is a powerful time-saving additive for pre-shutdown distillate wash applications on crude, coker, FCC, ROSE, bitumen or other heavy oil units. UpperCut is designed to increase the removal of hydrocarbon sludge and deposits in a one-time circulation process.

After the UpperCut wash, simply deinventory equipment and start the patented Vaporganic® cleaning process if permitted entry into a confined space is desired.

Technical Tuesday

UpperCut is a proprietary additive that increases cutter stock solvency and holding capability with heavy hydrocarbons and petroleum foulants.

Crude oil (petroleum) is comprised of a wide variety of hydrocarbons and other petroleum organic compounds, containing oxygen, sulfur, nitrogen and trace metals. The heavier fractions of crude oil, such as waxes and bitumen content, as well as heavy petroleum organics, form deposits or sludge, in processing equipment and storage vessels. When the deposits form, they are typically removed by a solvent wash (cutter) derived from crude oil.

Solvents (cutters) are used for the removal of sludges and deposits due to their affinity toward hydrocarbon and petroleum organic deposits. Because the typical cutter solvents are not exactly like the deposits in composition, their solvency is limited. UpperCut is an additive that makes cutter a better solvent.

When can you use it?

When you need to remove sludges or organic deposits from process equipment or storage equipment, such as tanks or drums.

Where can I use it?

UpperCut can be used in any process involving cutter/solvent washing.

How does it work?

Mix 2% UpperCut by volume with the cutter stock. The molecular structure of UpperCut has a high affinity for hydrocarbons found in deposits. When UpperCut is combined with the natural solvency of cutter stock, the result is a superior cleaning solution capable of removing significantly more contaminants than traditional cleaning methods. The enhanced solution of UpperCut and cutter stock will dissolve 50% more hydrocarbon deposits than cutter stock alone.

Applications

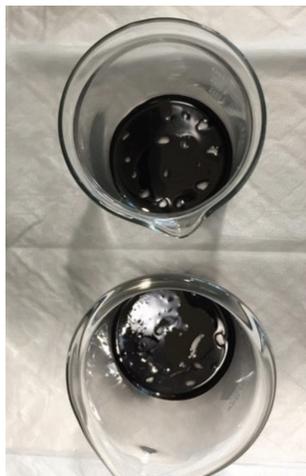
UpperCut can be used with diesel, LCO, heavy aromatic naphtha, kerosene, or mineral spirits for removing sludge or deposits from processing equipment or storage tanks. UpperCut can be used in processes involving cutter stock or solvent washing. Applications include storage tank cleaning, pre-washing refinery equipment for decontamination, heat exchanger circuit cleaning during turnarounds, or recovering heat exchanger efficiency during a slowdown/squat.

UpperCut Lab Comparison Testing

Asphalt sludge was coated on the bottom of two identical beakers. One beaker was charged with diesel (cutter); the other was charged with diesel containing 2% UpperCut. These test beakers were then occasionally swirled over a period of four hours at ambient temperature. The final hour of contact was at 120°F. Visual examination of the decanted beakers showed the diesel wash had a significant amount of asphalt sludge remaining. The diesel solution with 2% UpperCut was free of asphalt sludge.

UpperCut Compatibility Chart

EXCELLENT	GOOD	FAIR	POOR
303/4 SS 316 SS Carbon Steel Carpenter 20 Ceramic Epoxy Hastelloy C KYNAR Nylon Polypropylene Teflon Titanium Viton	Aluminum Brass Buna A (nitrile) EPDM Fiberglass Polyethylene Polycarbonate	Neoprene Polyurethane	Natural Rubber



Asphalt Sludge Preparations



Results After Wash
(UpperCut solution is on top)