WHEN IT COMES TO TREATMENT & DISPOSAL OF WASTE MACHINE COOLANT YOUR CHOICE IS CLEAR!

Wondering as to how to treat your complex waste machine coolant reliably and economically! Ionic has the right answers!

Our customers are saving lakhs of Rupees in disposal cost every year using our technology. Would you also like to benefit?

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The right treatment for your waste machine coolant treatment and disposal:

Importance of treating waste metal working machine coolants:-

What is in your waste machine coolant?

More than 90% of the machine coolant is water.

Soluble Oil:- Contains 6085% mineral oil and emulsifies in to water

Semi Synthetic:- Contains 5-50% mineral oil and emulsifies in to water

Fully synthetic:- Contains no mineral oil

Straight Oils:- Contains 70-85% mineral oil and is not water miscible

Metalworking Fluids (MWF) Components

Coolant Additives	Straight Oil	Oil Soluble	Semi Synthetic	Full Synthetic
Mineral Oil		•	•	
Emulsifiers		•	•	
Extreme Pressure	•	•	•	•
Boundary Lubricant	•	•	•	•
Corrosion Inhibitors	•	•	•	•
Defoamers	•	•	•	•
Metal Deactivators	•	•	•	•
Dye	•	•	•	•
Biocides	•	•	•	
pH Buffering Agents	•	•	•	
Stability Agent	•	•	•	
Deionized Water	•	•		
Wetting Agent	•			
Detergent	•			
Anti-Mist Agent	•			

As seen here, all MWF types have components which aid in the extreme pressure generated by the metalworking process, a boundary lubricant to keep molecules slippery, corrosion inhibitors to prevent rust, defoamers to control foam, metal deactivators to deactivate the ions that can degrade the fluid, and a dye for aesthetics.

All but the straight oils contain some type of biocide to control bacteria, pH buffers to keep the pH consistent as possible, and a stability agent to keep the mixture in solution. Oil solubles and semi-synthetics contain mineral oils as their bases, and incorporate emulsifiers to maintain their emulsions when mixed with water. A full-synthetic contains no oils, but a wetting agent to handle lubricity needs. Each type, however, has its own attributes, and these should be considered when selecting a particular blend for the metalworking operation.

Machine coolants have definite service life after which it needs to be replaced. Waste metal working coolants have many impurities and contribute to high BOD, COD, heavy metals etc and cannot be discharged to the environment directly. Waste disposal cost is increasing day by day.

There are various ways to treat Oil soluble and Semi synthetic coolants. Ionic offers membrane based system to treat Soluble oil and semi synthetics to separate primarily free oil and emulsified oil.

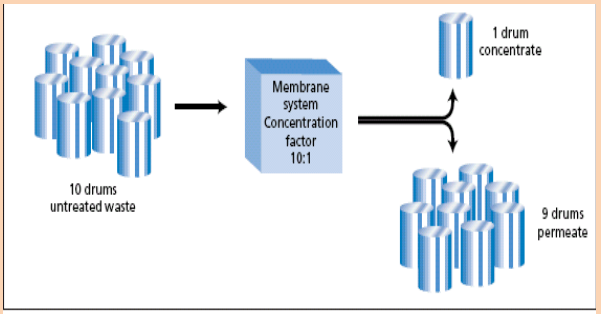

Fig 4 Cross-flow membrane concentration

Either or both of the products from a membrane separation may be of value as a resource.

UF system removes oil. Surfactants and other organic and in organic additives pass through the membrane. This is removed in the post treatment system using either advanced oxidation or adsorption process depending on site specific disposal conditions.

Besides the Capital costs, there are many other parameters that goes in determining the economics of operating a waste water treatment plant.

1. **Energy Consumption** – what does it take to operate a treatment plant can it be run using alternate energy sources?
2. **Reducing water consumption / wastage** – How much input water do we need to treat? - Can we reduce the wastage given that waste water treat is costly?
3. **What kind of consumables** are required to operate the plant daily?
4. Does the water treatment plant require **skilled personnel** to operate it?
5. **How dependable** is the waste water treatment plant to produce the desired treatment objective consistently - can it run smoothly for a long duration of time?

IONIC has the answers to these questions. Please do contact us for assistance and guidance.