

Ultrasonic Cleaning Solution Selection Chart

Deposit Type

Recommended Cleaning solution

Hydrocarbon

Light Oil and Grease	10 – 40% Paratene [®] D707
Heavy Oil and Grease	25 – 50% Paratene [®] D707
Hard Coke	20 – 40% Paratene [®] D708
Heavy Resid and asphalt	40% Paratene [®] D707Ultra

Heavy Oil plus Iron oxides	10 – 40% Paratene [®] D707 + 2 % EDTA
Polymerized Hydrocarbon	40% Paratene [®] D707 + 2% potassium Hydroxide
Heavy Paraffin	20 – 40% Paratene [®] D707 Ultra

Inorganic

Water scale (CaCO ₃)	5 – 10% Paratene [®] M390 + 0.5% Paratene [®] D740
Gypsum scale (CaSO ₄ .2H ₂ O)	10% Paratene [®] M390 + 0.5% Paratene [®] D740
Siderite (FeCO ₃)	10% Paratene [®] M390 + 0.5% Paratene [®] D740 + 2% Citric acid
Iron Oxide	5 – 10% Paratene [®] M390 + 0.5% Paratene [®] D740 + 2% Citric acid
Iron Fluorides	Paratene [®] M390 + 0.5% Paratene [®] D740 +2% citric acid
Iron Sulfides (FeS, FeS _x , FeS ₂)	Paratene [®] SHP
Carbon	50% Paratene [®] DPF

Notes about products and concentrations.

All of the products listed have been used in ultrasonic cleaning applications. The concentration of chemical required is based on the severity of the problem and the number of items to be cleaned. For example:

Removing light oil and grease using Paratene[®] D707 requires a 10% solution when cleaning only a few parts. When the product is being reused then increasing the concentration will increase the overall life of the solution.

Paratene[®] M390 is a strong organic acid that has been extensively tested in Ultrasonic applications. The acid strength needed depends on the material to be removed and the quantity of deposit. The acid is depleted in the reactions and can be tested using a standard acid/base titration. (Note: large amounts of iron ions in solution will interfere with the endpoint).

Paratene[®] DPF is a solution specifically designed to remove carbon from ceramic surfaces such as diesel particulate filters.

Paratene[®] D707 and D708 and M390 are compatible with most metallurgies including aluminum and galvanized surfaces. Copper and copper alloys such as brass or bronze require the addition of a copper specific inhibitor such as TTA (Tolyltriazole).

Paratene[®] solutions and blends with high pH such as Paratene[®] D707 Ultra and solutions where sodium or potassium hydroxide have been added are not compatible with aluminum or galvanized surfaces.

