Demulsifier (Oil–Water Separation Agent)

CAS No. mixture (polyether / cationic blend) | HS Code 3824.99

A demulsifier is a blend of polyether block copolymers and cationic polyelectrolytes, supplied as a ≥ 50% active liquid. Emulsified oil in metalworking, refining and coking effluent is held in suspension by surfactants, soaps and fine solids that keep droplets below the size a DAF unit or oil trap can capture; the demulsifier displaces those stabilising films at the oil–water interface, neutralises droplet charge and lets the oil coalesce into a separable layer. Typical dose is 10–100 ppm, injected with 1–3 minutes of mixing ahead of pH adjustment and flotation.

Performance depends on the emulsion, so the sequence matters more than the dose. Many metalworking fluids are stable at pH 8–9.5; acidifying to pH 2–3 first splits the emulsion, after which the demulsifier and a coagulant clean up the residual oil, and the stream is neutralised before the biological stage. In practice the demulsifier is used with PAC, which coagulates the fine solids and residual oil left after splitting, and with anionic or cationic PAM to build flocs strong enough to survive DAF recycle. Overdosing can re-emulsify the oil, so the dose is trimmed from a jar-test optimum rather than increased on poor separation.

Technical Specifications

Parameter	Unit	Value
Active content	%	≥ 50
Ionic character	—	Cationic / non-ionic blend
Density (20 °C)	g/cm³	0.95–1.05
pH (as supplied)	—	5.0–8.0
Pour point	°C	≤ -10
Water dispersibility	—	Dispersible
Appearance	—	Pale-yellow to amber liquid

Applications

- Metalworking and cold-rolling emulsion effluent — emulsion splitting before DAF or chemical precipitation
- Refinery, petrochemical and coking oily wastewater with stable emulsified oil
- Oilfield produced water and tank bottom water ahead of separation
- Textile knitting and finishing oil, and grease-bearing food-processing effluent

Packaging & Shipping

HDPE drum — 25 / 200 L | IBC tote — 1000 L

Storage & Shelf Life

Store between 5–40 °C in closed containers, out of direct sunlight. Shelf life 12 months; the product may stratify on standing — stir before use. Do not allow to freeze.

Transport Classification

Not classified as a dangerous good under IMDG/IATA; ships as general cargo. Protect from freezing and keep drums upright during transit.

Safety Notes

Cationic concentrate: avoid eye contact and prolonged skin contact, and wear gloves and goggles when handling neat product. Spills make floors slippery — absorb and flush with water. Do not mix with anionic surfactants before dilution. MSDS available on request.

Typical values for reference only. Final specifications are confirmed per batch Certificate of Analysis (COA) issued with each shipment. This document does not replace the MSDS — request it via the inquiry form.

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