



The Clear Choice for Biocide Protection

Cudd Energy Services (CES) and Bio-Cide International introduce Petro-Flo™ Microbiocide, an innovative water treatment additive registered by the EPA as an oilfield biocide. Offered exclusively for the global E&P market by CES, Petro-Flo™ Microbiocide offers a safer, more effective alternative.

Benefits

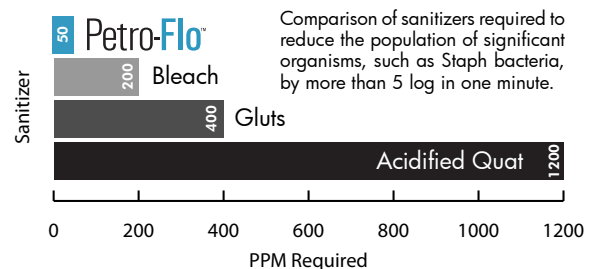
- Environmentally friendly
- Powerful oxidizing biocide
- Has residual antimicrobial protection
- Does not form harmful DBPs byproducts
- Contains the same active ingredients used in many common consumer products
- Has a lower NFPA hazard classification rating than other sanitizers

Key Features

- Rapid, sustained activity against SRB, APB, GAB
- Breaks down biofilm and inhibits its formation
- Selective oxidation of H₂S and FeS
- Effective over a broad pH range (1–10)
- Effective in high-organic loads
- Safely degrades to simple table salt
- Positive environmental profile

Unique Chemistry

Petro-Flo™ Microbiocide acts immediately to eliminate a wide range of organisms. In proven laboratory studies and field applications, its unique chemistry effectively controls bacteria that produce slime, sulfates, and acid. Petro-Flo™ Microbiocide also penetrates biofilm to aggressively break it down from within and prevent the formation of new biofilm.



Petro-Flo™ Microbiocide contains the same **active ingredient** used to **treat billions of gallons of drinking water everyday**.



Untreated



Treated with Petro-Flo™ Microbiocide

Chemical Properties

Appearance	Clear, colorless liquid
Odor	Very faint chlorine odor
pH Concentrate	8.5–9.0
EPA Toxicity	Category III
Boiling Point	221 °F
Solubility	Complete in water or brine

Environmentally Friendly – EPA Registered

With an EPA toxicity rating of CAT III, Petro-Flo™ Microbiocide is less toxic and safer for the environment than biocides such as Sodium Hypochlorite (bleach), Glutaraldehyde, and Quaternary Ammonium compounds.

Petro-Flo™ Microbiocide does not combine with organics to form carcinogens or other harmful byproducts. The absence of these harmful byproducts improves the quality of flowback water, making it safer and more suitable for re-use.

Compatibility

While some commonly used biocides can react with friction reducers to lower the effectiveness of both the friction reducer and the biocide, Petro-Flo™ Microbiocide does not interfere with the effectiveness of friction reducers and is compatible with most fracturing additives.

Trusted Reputation

Bio-Cide International has manufactured disinfectants and biocides registered by the EPA, FDA, and USDA for over 35 years. Its products are registered for use against organisms like MRSA, Listeria, Hep-C, Salmonella, VRE, E-Coli, and HIV.

NFPA 704: STANDARD SYSTEM FOR THE IDENTIFICATION OF THE HAZARDS OF MATERIALS FOR EMERGENCY RESPONSE

Sanitizer	Health	Flammability	Reactivity
Petro-Flo™ Microbiocide	1	0	1
Sodium Hypochlorite (bleach)	3	0	1
Glutaraldehyde	3	0	0
Glutaraldehyde + Quaternary Ammonium compounds	2	2	0
Tetrahydro-3, 5-Dimethyl, 2H-1, 3-5-Thiadiazine-2-Thione (DAZOMET)	3	1	0
2,2-Dibromo-3 Nitrilopropionamide (DBNPA)	3	1	1

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