



NOVO Chemionyx-103 Treatment System

Chemionyx-103 (CHMX) is a non-hazardous proprietary chemical successfully used for over 22-years to reduce environmental impacts from petroleum hydrocarbon releases to the environment. The product concentrate is diluted in water and thoroughly mixed with petroleum contaminated wastewater or soil. CHMX has the unique capability to: Suppress VOC emissions from petroleum contaminated solids or wastewater and destroy petroleum organic molecules and reform only non-hazardous fatty acids CO₂ and water.

CHMX Composition

CHMX is created under controlled chemical conditions to form a narrow-banded blocked polymer in the geometric form of a highly charged reverse micelle. This macro-molecule is best described as 'Complex Super-Surfactant' that contains: Charged surfactants, Hyper wetting chemical builders, Chemical cleaners, and Charged solids composed of amorphous silica.

CHMX Mode of Action

Under controlled conditions the combination of ingredients results in the formation and activation of 'reverse micelles'. The micelles are electrokinetically charged macro-molecules possessing hyper-wetting, sequestering, and bond-fracturing capability via the 'Columbic Effect'. With appropriate mixing the micelle attaches to petroleum waste molecules and releases its charge field. The charge energy is sufficient to trigger chemical displacement and replacement reactions resulting in the formation of simple short-chain fatty acids, carbon dioxide, and water.

- Chemical is provided in 55-gal drums or totes.
- Dilution in water ratio ranges from 7:1 to 20:1 & product must be well-mixed before use.
- The formulation is non-toxic to surface water organisms at dilution in water ratios <6:1.
- Typical doses of diluted chemical are 1-3 gal per cy soil for and 1-3 gal per 5 bbl wastewater.
- VOC concentrations emitted from wastes are suppressed by >99% in <4-hrs.
- Treats a wider range of Total TPH (<300,000 mg/Kg), pH (4-12), and temperature (20F to 120F)
- Total-TPH removal efficiencies of >95% in 30-days for solids and >98% in 1-day for wastewater.
- Synergism with System NOVO Biological system occurs enhancing both rate and time of treatment by >30%. In these cases, CHMX treatment is typically performed 1-day ahead of follow-up biological treatment. CHMX provides fatty acids to microbes and the enhanced biochemical system treats Total TPH.
- The system is currently used at the Mesa Facility in Colorado and has been historically in Texas, North Dakota, Wyoming, California, and Alaska.