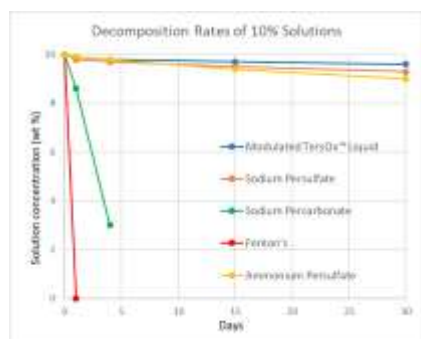


TersOx™ Modulator



- Controlled reaction: Extends hydrogen peroxide's half-life from hours to days
- Efficient exotherm and a lower cost ISCO alternative
- Neutral pH, easy implementation, injection & distribution
- No mineral residues such as sodium, sulfate or bicarbonate during reaction
- Oxidizer compatible with a aerobic bioremediation follow-up
- Degrades recalcitrant organics

Modulated TersOx™ Liquid Exothermic Controlled ISCO



Slower caloric release when compared to traditional ISCO reagents.

Formulated for Above-ground Blending



This powerful and non-selective preliminary reactions can oxidize a wide variety of organic contaminants into non-regulated compounds, yet it is extremely stable to be blended as one product for subsurface injection, above ground for safety, for long-lasting effects below ground, and to allow contact where needed.

Principle

Chemical oxidants can be used *in situ* to address contaminants in soils and aquifers. *TersOx™ Modulator* can be combined with *TersOx™ Liquid* to create a modified Fenton's reagent that steadily produces hydroxyl radicals that are very reactive toward organic compounds, with final breakdown products being carbon dioxide, water, and, in the case of chlorinated solvents, hydrochloric acid.

TersOx™ Modulator creates a reagent with the potency of Fenton's reaction, the stability of persulfates, is as safe as percarbonates and is no more viscous than water.

Advantages

- Clean, low-cost, non-disruptive application
- Highly stable reactions
- Very safe field application
- No significant gas or heat production
- Long lasting ISCO reagent
- No pH dependence
- Low viscosity injection
- Oxidize difficult constituents such as:
 - ✓ 1,4-Dioxane, DCE, VC
 - ✓ PCBs, DDT, Aldrin
 - ✓ MTBE, Isopropyl benzene

Field Application Design

TersOx™ Modulator is added to *TersOx™ Liquid*, a high strength hydrogen peroxide, to create the ISCO reagent, which is typically then diluted and injected into aquifers or mixed with contaminated soils. It is important that the SDS and handling procedures for *TersOx™ Liquid* or the hydrogen peroxide source are thoroughly reviewed prior to adding *TersOx™ Modulator*.

Modulated TersOx™ Liquid is typically added in treatment trains including:

- **Surfactant-ISCO:** *TASK™* Surfactant followed by *Modulated TersOx™ Liquid*
- **ISCO-Enhanced Bioremediation:** *Modulated TersOx™ Liquid* and *TersOx™ Microbes*
- **Soil treatment:** Oxidation and composting with *TersOx™* products



<90°F ✓

NOTE: *TersOx™ Modulator* can only be added to *TersOx™ Liquid* if Temperature of the liquids are less than 90°F (< 32.2°C).

Product Content

Proprietary acids and salts

Product Characteristics

Appearance	White crystalline solid, miscible in water
Odor	Characteristic
Density	2.1 S.G. @ 26°C
pH	1.18 @ 25°C

Packaging Options

- 50-lb plastic pails

Storage and Handling

Keep in a well-ventilated area. Protect bulk storage area from sparks and flame. Keep packages tightly closed. Avoid breathing dust. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

Transport

Title III Hazardous Classifications sections 311, 312

Safety

This product is often used with High Strength Hydrogen Peroxide. Evaluate the use of PPE materials with hydrogen peroxide by consult the best available performance data and manufacturers' recommendations.

The use of body protection appropriate to task being performed is always suggested when handling chemicals. Wear impervious gloves for prolonged or repeated exposure as appropriate to task. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada or other relevant standards.



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