

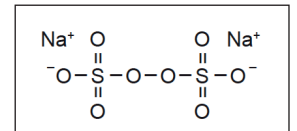
## PersulfOx<sup>®</sup> Technical Description

PersulfOx<sup>®</sup> is an *In Situ* Chemical Oxidation (ISCO) reagent that destroys organic contaminants found in groundwater and soil through powerful, yet controlled, chemical reactions. A sodium persulfate-based technology (figure 1), PersulfOx employs a patented catalyst to enhance the oxidative destruction of both hydrocarbons and chlorinated contaminants in the subsurface.

Typically, sodium persulfate is activated with the addition of heat, chelated metals, hydrogen peroxide, or base in order to generate sulfate radicals. These activation processes are inherently complex, costly and can pose additional health and safety risks. In comparison, PersulfOx is a relatively safe and easy-to-use ISCO agent with a built-in catalyst which activates the persulfate component, generating contaminant-destroying free radicals without the need for the addition of a separate activator. The equation below shows the net complete oxidation of toluene, a constituent of gasoline, by PersulfOx:



Example of PersulfOx



For a list of treatable contaminants with the use of PersulfOx, view the [Range of Treatable Contaminants Guide](#).

### Chemical Composition

- Sodium Persulfate - CAS #7775-27-1
- Sodium Silicate - CAS #1344-09-8

### Properties

- pH - 7 to 11.5 at 25°C
- Appearance – White, free-flowing powder, clear to cloudy when mixed with water
- Odor – Not detectable
- Vapor Pressure – None
- Chemical Hazard Classification - Class 5.1 Oxidizer

### Storage and Handling Guidelines

Storage	Handling
Store locked up	Minimize dust generation and accumulation
Keep away from heat	Routine housekeeping should be instituted to ensure that dust does not accumulate on surfaces
Store in a cool, dry place out of direct sunlight	

# PersulfOx<sup>®</sup> Technical Description

## Storage and Handling Guidelines

Storage (continued)	Handling (continued)
Store in original tightly closed container	Avoid mixing with combustibles
Store in a well-ventilated place	Avoid contamination
Do not store near combustible materials	Keep away from clothing and other combustible materials
Store away from incompatible materials	Wear appropriate personal protective equipment
Recommended to store at less than 40°C	Avoid breathing dust
Provide appropriate exhaust ventilation in places where dust is formed	Avoid contact with eyes, skin, and clothing
	Avoid prolonged exposure
	Do not taste or swallow
	When using, do not eat, drink or smoke
	Wash hands thoroughly after handling
	Observe good industrial hygiene practices

## Applications

- PersulfOx is mixed with water at a rate of 5% to 20% prior to application.
- For most applications, REGENESIS suggests a 10-15% solution. The resulting mixture has viscosity similar to water.
- Injects into formation through direct push injection points, injection wells or other injection delivery systems.

Application instructions for this product are contained here [PersulfOx Application Instructions](#).

## Health and Safety

Material is relatively safe to handle; however, avoid contact with eyes, skin and clothing. OSHA Level D personal protection equipment including: vinyl or rubber gloves, eye protection, and dust mask are recommended when handling this product. Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: [PersulfOx SDS](#).



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