



Products and Treatable Contaminants

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Contaminants	Acronym	Aqueous Solubility (mg/L) ⁽¹⁾	In Situ Sorption & Bio	SEAR	Anerobic Bioremediation	Aerobic Bioremediation	ISCR
			NutriBind®	TASK™	EDS-Advanced™, EDS-ER™, EDS-QR™, Nutrimens®	TersOx™	ironGel, mZVI, ISR-CI
Halogenated Volatile Organic Compounds (CVOCs)							
Chlorinated Ethenes							
Tetrachloroethylene	PCE	150	✓	✓	✓		✓
Trichloroethene	TCE	1,100	✓	✓	✓		✓
cis-1,2-Dichloroethene	cis-DCE	3,500	✓	✓	✓		✓
trans-1,2-Dichloroethene	trans-DCE	6,260	✓	✓	✓	✓	✓
1,1-Dichloroethene	1,1-DCE	3,344	✓	✓	✓	✓	✓
Vinyl chloride	VC	2,763	✓	✓	✓	✓	✓
Chlorinated Ethanes							
Perchloroethane	HCA	50	✓	✓	✓		✓
Pentachloroethane	PCA	500	✓	✓	✓		✓
1,1,1,2-Tetrachloroethane	1,1,1,2-TeCA	1,100	✓	✓	✓		✓
1,1,2,2-Tetrachloroethane	1,1,2,2-TeCA	2,962	✓	✓	✓		✓
1,1,2-Trichloroethane	1,1,2-TCA	4,394	✓	✓	✓		✓
1,1,1-Trichloroethane	1,1,1-TCA	1,495	✓	✓	✓		✓
1,2-Dichloroethane	1,2-DCA	8,606	✓	✓	✓		✓
1,1-Dichloroethane	1,1-DCA	4,676	✓	✓	✓		✓
Chloroethane	CA	5,700	✓	✓	✓		✓
Chlorinated Methanes							
Carbon tetrachloride	CT	800	✓	✓	✓		✓
Chloroform	CF	8,200	✓	✓	✓		✓
Dichloromethane	DCM	13,200	✓	✓	✓		✓
Chloromethane	CM	5,235	✓	✓	✓		✓

Contaminants	Aqueous Solubility (mg/L at 20° to 25°C)	In Situ Sorption & Bio	SEAR	ISCO		Anerobic Bioremediation	Aerobic Bioremediation
		NutriBind®	TASK™	TersOx™ (Liquid & Modulator)	Persulfate	Nutrisulfate®	TersOx™
BTEX							
Benzene	76 ⁽²⁾	✓	✓	✓	✓	✓	✓
Toluene	7 ⁽²⁾	✓	✓	✓	✓	✓	✓
Ethylbenzene	22 ⁽²⁾	✓	✓	✓	✓	✓	✓
m-Xylene	6 ⁽²⁾	✓	✓	✓	✓	✓	✓
o-Xylene	5 ⁽²⁾	✓	✓	✓	✓	✓	✓
p-Xylene	6.5 ⁽²⁾	✓	✓	✓	✓	✓	✓
Fuel Oxygenates							
Methyl Tertiary Butyl Ether (MTBE)	51,000 ⁽⁴⁾	✓	✓	✓	✓	✓	✓
Tertiary Butyl Alcohol (TBA)	Infinite ⁽⁵⁾		✓	✓	✓		✓
Polynuclear Aromatic Hydrocarbons (PAHs)							
Acenaphthene	4.24 ⁽²⁾	✓	✓	✓	✓		✓
Acenaphthylene	3.93 ⁽³⁾	✓	✓	✓	✓		✓
Anthracene	0.0434 ⁽²⁾	✓	✓	✓	✓		✓
Benzo(a)anthracene	9.4x10 ⁻³ ⁽²⁾	✓	✓	✓	✓		✓
Benzo(a)pyrene	1.6x10 ⁻³ ⁽²⁾	✓	✓	✓	✓		✓
Benzo(b)fluoranthene	1.5x10 ⁻³ ⁽²⁾	✓	✓	✓	✓		✓
Benzo(g,h,i)perylene	2.6x10 ⁻⁴ ⁽³⁾	✓	✓	✓	✓		✓
Benzo(k)fluoranthene	8x10 ⁻⁴ ⁽²⁾	✓	✓	✓	✓		✓
Chrysene	1.6x10 ⁻³ ⁽²⁾	✓	✓	✓	✓		✓
Fluoranthene	0.206 ⁽²⁾	✓	✓	✓	✓		✓
Fluorene	1.98 ⁽²⁾	✓	✓	✓	✓		✓
Indeno(1,2,3-c,d)pyrene	2.2x10 ⁻⁵ ⁽²⁾	✓	✓	✓	✓		✓
Naphthalene	31 ⁽²⁾	✓	✓	✓	✓		✓
Phenanthrene	1.2 ⁽³⁾	✓	✓	✓	✓		✓
Pyrene	0.135 ⁽²⁾	✓	✓	✓	✓		✓

Contaminants	In Situ Sorption & Bio	SEAR	ISCO		Anerobic Bioremediation	Aerobic Bioremediation
	NutriBind®	TASK™	TersOx™ (Liquid & Modulator)	Persulfate	Nutrisulfate®	TersOx™
Petroleum Hydrocarbons						
Gasoline Range Organics	✓	✓	✓	✓	✓	✓
Diesel Range Organics	✓	✓	✓	✓	✓	✓
Oil Range Organics	✓	✓	✓	✓	✓	✓
Creosote / Coal Tar	✓	✓	✓	✓	✓	✓
Aromatics						
Chlorobenzene	✓		✓	✓		✓
Dichlorobenzene	✓		✓	✓		✓
N-butylbenzene	✓		✓	✓		✓
Nitrobenzene	✓		✓	✓		✓
2-chlorophenol	✓		✓	✓		✓
2,4-dichlorophenol	✓		✓	✓		✓
2,4-dinitrophenol	✓		✓	✓		✓
4-chloro-3-methyl phenol	✓		✓	✓		✓
4-iso-propyltoluene	✓		✓	✓		✓
4-nitrophenol	✓		✓	✓		✓
Pentachlorophenol	✓		✓	✓		✓
Phenol	✓		✓	✓		✓
Propylbenzene	✓		✓	✓		✓
Styrene	✓		✓	✓		✓
Trichlorobenzene	✓		✓	✓		✓
Trimethylbenzene	✓		✓	✓		✓

Contaminants	Anerobic Bioremediation	ISCR	Precipitation
	EDS-Advanced™, EDS-ER™, EDS-QR™, Nutrimens®	ironGel, mZVI, ISR-Cl	Calcium Polysulfide
Heavy Metals and Miscellaneous			
Chromium (VI)	✓	✓	
Selenium	✓		
Arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, silver, and zinc			✓
Cyanide			✓
Nitrates	✓	✓	
Perchlorate and energetic compounds (TNT, DNT, Nitroglycerine, HMX, RDX)	✓	✓	

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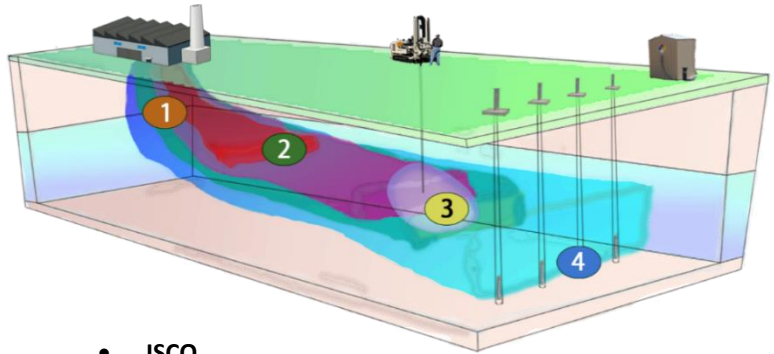
References

- (1) Source: https://www.environmentalrestoration.wiki/index.php?title=Chlorinated_Solvents
- (2) US Environmental Protection Agency (USEPA), 1996. Soil screening guidance: User's guide. USEPA, Office of Solid Waste and Emergency Response, Washington, D.C. Publication 9355.4-23.
- (3) Agency for Toxic Substance and Disease Registry (ATSDR), 2019. Priority List of Hazardous Substances. US Department of Health and Human Services. <https://www.atsdr.cdc.gov/spl/> <https://wwwn.cdc.gov/TSP/index.aspx>
- (4) <https://pubchem.ncbi.nlm.nih.gov/compound/Methyl-tert-butyl-ether>



Products & Services for *In Situ* Remediation

For Every Zone of Your Plume, We've Got You Covered!



1

Vadose Zone

- **In-Situ Chemical Oxidation (ISCO)**
Modulated TersOx™ Liquid
- **In Situ Chemical Reduction (ISCR)**
Microscale ZVI Suspensions

2

Source Zone

- **Surfactant-Enhanced Aquifer Remediation (SEAR)**
TASK™ (Tersus Advanced Surface Kinetics)

- **ISCO**
Modulated TersOx™ Liquid
- **ISCR**
Microscale ZVI Suspensions

3

Dissolved Phase

- **In Situ Sorption and Biodegradation**
NutriBind®
- **ISCR**
Microscale ZVI Suspensions
Iron Sulfide Reagent (ISR)
- **Anaerobic Reductive Bioremediation**
Emulsified Vegetable Oils (EVO): *EDS-ER™* and *EDS-Advanced™*
EVO Emulsifiers: *TASK™ MicroEVO™*
Self-Emulsifier
Soluble electron donors: *EDS-QR™* and *Nutrimens®*

- **Anaerobic Reductive Bioremediation (Continued)**
Nutrients: *Nutrimens®* and *TersOx™*
Nutrients
Vitamin B₁₂ supplement for *Dhc*
Bioaugmentation: *KB-1®* culture and anoxic media *KB-1® Primer*
- **Anaerobic Oxidative Bioremediation**
Nutrisulfate®
- **ISCO**
Modulated TersOx™ Liquid

4

Leading Edge

- **Aerobic Bioremediation**
Oxygen-releasing chemistries (*TersOx™*)
TersOx™ Nutrients (Slow Release, Quit Release, and Custom Formulations)
Oxygen delivery systems (*Waterloo Emitter™*)
TersOx™ Microbe

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