



## Product Data

### Hydrogen Peroxide Catalyst

## VTX CATALYST

### GENERAL DESCRIPTION

VTX is a highly effective catalyst that creates powerful “hydroxyl radicals” when combined with hydrogen peroxide. The process has been shown to be extremely effective for quickly oxidizing molecules that are very difficult to oxidize such as benzene, phenols, cyanide, MtBE, hydrogen sulfide (H<sub>2</sub>S), toluene, and virtually all chlorinated hydrocarbons including TCE, PCE and vinyl chloride (see table below).

The treatment requires no acidification step, creates no sludge under most treatment conditions, avoids costly material of special construction, is easily adapted to existing treatment units and, importantly, is typically the least cost option for treatment when compared to all other technologies for the treatment or removal of recalcitrant organic chemicals.

### TYPICAL PHYSICAL PROPERTIES

Appearance.....	Dark Brown Liquid
Odor.....	Slightly Acrid
pH.....	5.5 – 6.0
Specific Gravity.....	1.30 ± 0.1
Boiling Point.....	106°C (223°F)
Vapor Pressure.....	40 mmHg @ 35C

### DOSAGE AND FEEDING

The VTX technique is effective within a pH range of 3.5 to 8.5, although it is most typically used in a range of pH from 6.0 to 8.0. Typically the amount of peroxide necessary for complete oxidation of target contaminants ranges from 1.0 to 5.0 times the contaminant mass as measured by the Chemical Oxygen Demand (COD) test with 3.0 times being the most typical ratio. The VTX Catalyst is formulated to be added at a volume:volume ratio of 1 part VTX catalyst to 1 part of the calculated hydrogen peroxide (35%) dosage. Treatability studies can quickly determine the most efficient dosage rates.

Typical results are as follows:

<b>Contaminant</b>	<b>Concentration before treatment (ppb)</b>	<b>Concentration after treatment (ppb)</b>
MTBE	85,000	< 5
Benzene	294,875	< 5
Phenol	13,200	<10
Vinyl Chloride	40	< 5
Trichloroethylene	502,000	< 5
Toluene	153,678	< 5
Hydrogen Sulfide	100,000	<1

#### **SAFETY PRECAUTIONS**

**Do not mix the VTX catalyst with the Hydrogen Peroxide in a drum, tote or to a line prior to addition.** The VTX Catalyst and Hydrogen Peroxide must be added **simultaneously** into the receiving waste stream and allowed to mix within the waste stream. For specific information on handling, safety and first aid, please review the product's Material Safety Data Sheet.

#### **SHIPPING**

The VTX Process is available in 55-gallon drums, 275 gallon totes, and in bulk.