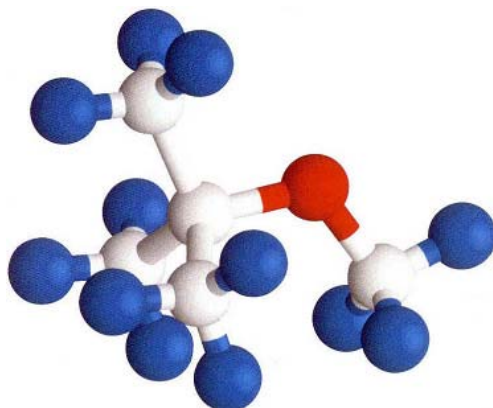


# Advances in MTBE Remediation and Treatment Strategies



Prepared for the  
**Methanol Institute**

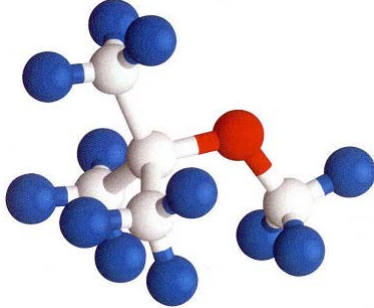
By

**MALCOLM  
PIRNIE**

2000 Powell Street, Suite 1180  
Emeryville, CA 94608  
510-596-3060  
[www.pirnie.com](http://www.pirnie.com)

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# **Advances in MTBE Remediation and Treatment Strategies**

## **Introduction**

## **Environmental Fate and Transport of MTBE**

■

■

*ex situ*

■

■

*White et al., 1996*

**MTBE Treatment and Remediation Technologies**

*in situ*    *ex situ*

*in situ*

*in situ*

*in situ*

**Pump-and-Treat**

*California MTBE Research Partnership, 2000; Creek and Davidson, 1998*

*USEPA, 1998*

### **Soil Vapor Extraction (SVE)**

*California MTBE Research Partnership, 2000*

*Johnson and Ettinger, 1997*

### ***In Situ* Air Sparging (IAS)**

*Hinchee, 1994; Johnson, 1998*

### ***In Situ* Bioremediation**

*In situ*

*Deeb et al., 2001; Stocking et al., 2001*

*Salanitro et al., 2000*

*in situ*

*Mackay et al., 1999*  
*In situ*

### ***In Situ* Chemical Oxidation**

*in situ*

*In situ*  
*USEPA, 1998*  
*in situ*

### **Monitored Natural Attenuation**

*Petroleum Institute, 1992*

*American*

## **Emerging Technologies**

*ex situ*

*in situ*

*California MTBE Research Partnership, 2000*

*California MTBE Research Partnership, 2000*

*In situ*

*in situ*

*Newmark and Aines, 1995; Udell, 1994*

*in situ*

## **Treatment Costs**

## **Conclusions**

*Salanitro et al., 2000; Mackay et al., 1999*

**References**

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**2000**

*Proceedings of the 1998 Petroleum Hydrocarbons and Organic  
Chemicals in Ground Water: Prevention, Detection, and Remediation*

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