

Treatment Technologies for Removal of Methyl Tertiary Butyl Ether (MTBE) from Drinking Water:

- ♦ Air Stripping
- ♦ Advanced Oxidation Processes
- ♦ Granular Activated Carbon
- ♦ Synthetic Resin Sorbents

SECOND EDITION

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List of Acronyms

ACT	accelerated column test
ACWA	Association of California Water Agencies
AOP	advanced oxidation process
AQMD	Air Quality Management District
ASTM	American Society for Testing and Materials
AWR	air/water ratio
BACT	best available control technologies (as defined by EPA)
BAT	best available treatment (technology)
BTEX	benzene, toluene, ethylbenzene, xylenes (<i>o</i> -, <i>m</i> -, <i>p</i> -xylene)
BV	bed volume; volume of a resin or GAC vessel
CARB	California Air Resources Board
CB	conduction band
Cl•	chlorine radical
CO	carbon monoxide
COD	chemical oxygen demand
D/DBP	disinfection/disinfection by-product
DBP	disinfection by-products
DCA	dichloroethane
DCB	dichlorobenzene
DCE	dichloroethylene
DHS	(California) Department of Health Services
DLR	detection limit for the purpose of reporting
DO	dissolved oxygen
DOC	dissolved organic carbon
E-beam	high energy electron beam
EBCT	empty bed contact time
EBRF	Electron Beam Research Facility
EE/O	Electrical Energy per Order of Removal
EPA	United States Environmental Protection Agency
ETV	Environmental Technology Verification
FRP	fiberglass reinforced plastic
GAC	granular activated carbon
GET	Guardian Environmental Technologies
gpm	gallons per minute
•H	hydrogen atom
H ₂ O ₂	hydrogen peroxide
HAA	haloacetic acid
HAP	hazardous air pollutant
HVEA	High Voltage Environmental Applications
kWh	kilowatt-hours
LP-UV	continuous wave low pressure mercury vapor lamps
hν	UV radiation
MCL	Primary Maximum Contaminant Level

MEK	methyl ethyl ketone
MP-UV	continuous wave medium pressure mercury vapor lamps
MTBE	methyl tertiary butyl ether
MTZ	mass transfer zone
NaOCl	sodium hypochlorite
NDMA	<i>N</i> -nitroso dimethyl amine
NHDES	New Hampshire Department of Environmental Services
NO _x	oxides of nitrogen
NOM	natural organic matter
NPDES	National Pollutant Discharge Elimination System
•OH	hydroxyl radicals
O ₂ •	superoxide radical
O ₃	ozone
O ₃ /UV	ozone/UV
O&M	operation and maintenance
O&P	overhead and profit
OFA	Oxygenated Fuels Association
ORC	Oxygen Releasing Compound
P-UV	Pulsed UV
PCB	polychlorinated biphenyls
PCE	perchloroethylene (also known as tetrachloroethylene)
PEE	Process Equipment and Engineering
PHG	Public Health Goal
POC	particulate organic carbon
POE	point-of-entry
PSDM	Pore Surface Diffusion Model
RFG	Reformulated Gasoline
RSSCT	rapid small-scale column test
SDWA	Safe Drinking Water Act
SMCL	Secondary Maximum Contaminant Level
SO _x	oxides of sulfur
SOC	synthetic organic chemical
TBA	tertiary-butyl alcohol
TBF	tertiary-butyl formate
TCE	trichloroethylene
THM	trihalomethanes
TiO ₂	titanium dioxide
TOC	total organic carbon
TPH	total petroleum hydrocarbons
UCLA	University of California, Los Angeles
UST	underground storage tank
UV	ultraviolet
VOC	volatile organic compound
VTM	volume treated per carbon mass
WSPA	Western States Petroleum Association