

Prepared by: Delta Environmental Consultants, Inc.

Contact: Mike Martinson (mmartinson@deltaenv.com or 800.477.7411).

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH	
Alabama	20	None								As of October 2003, all corrective action levels are derived from a risk-based assessment. MTBE at 20 ppb represents the risk-based "initial screening levels".
Alaska	None	None								Staff has option to require the compounds of concern to be sampled & analyzed.
Arizona	20 / 94	35								20 ppb = receptor threatened or impacted / 94 ppb = no receptor. Health-risk guidance level for drinking water is 35 ppb.
Arkansas	None	None								MTBE: 20 ppb drinking water advisory. Groundwater discharge to surface water MTBE value = 7,000 ppb.
California	13 / 5	13 / 5		12						MTBE: 13 ppb / 5 ppb = Primary MCL / Secondary MCL (both enforceable); TBA: 12 ppb = Provisional Action Goal (enforceable).
Colorado	Site-specific	None	Likely 20 ppb RBSL in 2004							Currently, cleanups are site-specific for ether and alcohol fuel oxygenate compounds. MTBE risk-based screening level (RBSL) for groundwater ingestion pathway proposed for 20 ppb based on aesthetics and may be promulgated into regulation 7/1/04.

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:	
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH		
Connecticut	70	70		100;	-----Total Oxygenate Target Level-----			None	Value expected in 2004	MTBE: 70 ppb for groundwater protection criteria and drinking water action level. TBA currently has an "Interim Drinking Water Target Level" at 100 ug/L. DEP utilizes a "total oxygenate target level" (e.g., DIPE + TAME, + TBA, + ETBE, + MTBE) that is also not to exceed 100 ug/L. Total oxygenate levels greater than or equal to 100 ug/L require an alternative drinking water supply for those well owners who are affected by the pollution. MeOH groundwater protection criterion expected to be established in 2004.	
Delaware	180 / site-specific	10		140	Possible changes in 2004	750	Possible changes in 2004	None	None	MTBE: 180 ppb / site-specific = action level / risk-based cleanup level. Primary health-based drinking water standard. TBA: 140 ppb action level. TAME: 750 ppb action level.	
District of Columbia	20	None		No action, corrective action, or drinking water values							MTBE: 20 ppb cleanup level.
Florida	50	50	20 proposed for 2004	1,500 proposed in 2004	No CTL proposed	No CTL proposed	No CTL proposed	10,000	5,000 current level; 3,800 proposed in 2004	Cleanup Target Levels (CTL): MTBE: 50 ppb for groundwater. Proposed CTLs for 2004: MTBE - 20 ppb, TBA - 1,500 ppb, MeOH - 3,800 ppb.	
Georgia	None	EPA Advisory (20-40 ppb)		No action, corrective action, or drinking water values							Waiting for EPA MCL.

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:	
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH		
Hawaii	20 / 202,000	None		No action, corrective action, or drinking water values							MTBE: 20 ppb / 202,000 ppb = threatened / not-threatened drinking water, respectively. Risk-based site-specific values are determined on case-by-case basis.
Idaho	Site-specific	None	New risk-based guidance in 2004	No action, corrective action, or drinking water values							MTBE: Site-specific action/cleanup levels. New risk-based guidance in 2004 will change action/cleanup levels for MTBE.
Illinois	70	70 / 35		No action, corrective action, or drinking water values					571,000	None	MTBE: 70 ppb = action/cleanup groundwater value as well as primary health-based standard; 35 ppb MTBE is state advisory level for drinking water. Ethanol: 571,000 ppb groundwater cleanup value.
Indiana	40 / 870	EPA Advisory (20-40 ppb)		Site-specific	Site-specific	Site-specific	Site-specific	Site-specific	Site-specific	Site-specific	MTBE cleanup levels: 40 / 870 = residential / industrial. Drinking water advisory per EPA Advisory levels (20-40 ppb). Case-by-case basis for other fuel oxygenates.
Iowa	None	20		No action, corrective action, or drinking water values							No EPA MCL for MTBE; however, EPA's HAL/odor threshold value of 20 ppb used for drinking water supplies.
Kansas	20	Method detection limit		No action, corrective action, or drinking water values							MTBE: 20 ppb = cleanup level; action level = method detection limit (any level). Drinking water value = method detection limit (any level).
Kentucky	None	50		No action, corrective action, or drinking water values							Waiting for EPA MCL. Alternative drinking water source required for MTBE impacts \geq 50 ppb drinking water guideline.

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:	
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH		
Louisiana	20 (based on aesthetics)	None		Other oxygenates cleanup levels are aesthetically-based							MTBE: 20 ppb = action levels/cleanup levels based upon aesthetics (taste/odor). TBA and other oxygenates: aesthetics would address action/cleanup levels.
Maine	25 / 35	35		25	25	25	25	None	None	MTBE: 25 ppb / 35 ppb = action level / cleanup level, respectively. TBA, DIPE, TAME & ETBE analyzed at LUST sites and have 25 ppb default action level, respectively. No testing for EtOH & MeOH.	
Maryland	Site-specific	20		TBA action level on hold	No action, corrective action, or drinking water values					MTBE: site-specific cleanup values / 20 ppb drinking water value, respectively. All oxygenates sampled at least once per LUST site. TBA: action level on hold; currently sampled and tested.	
Massachusetts	70	70		No action, corrective action, or drinking water values							MTBE: 70 ppb = groundwater used as drinking water cleanup value and drinking water guideline. Cleanup possible to aesthetic secondary value (20-40 ppb).
Michigan	240 / 40	240 / 40		3,900 / 11,000	30 / 86	190 / 910	49 / 49	1,900,000	3,700 / 10,000	MTBE: 240 / 40 ppb = health-based / aesthetic criteria. TBA: 3,900 / 11,000 ppb = residential drinking water / commercial-industrial land uses. DIPE: 30 / 86 ppb = residential drinking water / commercial-industrial land uses. TAME: 190 / 910 ppb = aesthetics / health-based criteria. ETBE: 49 / 49 = residential drinking water / commercial-industrial land uses. Methanol: 3,700 / 10,000 ppb = residential drinking water / commercial-industrial land uses.	

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:	
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH		
Minnesota	70	70		No action, corrective action, or drinking water values						3,000	MTBE: 70 ppb = health-based value (HBV), generally preceding development of health risk limit (HRL). MeOH: 3,000 ppb = HRL. Both HBV and HRL can be used to set cleanup level.
Mississippi	None	None		No action, corrective action, or drinking water values							MTBE & other oxygenate data collected at Federal & Trust-Fund sites.
Missouri	146 / Tier 2&3 risk-based	None	Risk-based corrective action levels in 2004	104	0.438	231	5.52	580	109	MTBE: 146 ppb / Site-specific = Risk-based: Tier 1 residential default target levels / site-specific Tier 2 & 3 target levels. Rule-making process in 2004 established risk-based corrective action groundwater values.	
Montana	30	None		No action, corrective action, or drinking water values							MTBE: 30 ppb = cleanup level.
Nebraska	20 / site-specific	None		No action, corrective action, or drinking water values							MTBE: 20 ppb / site-specific = Tier 1 RBSL action or cleanup level / Tier 2 drinking water level. Other oxygenate sampling at state-lead sites.
Nevada	20 / 200	EPA Advisory (20-40 ppb)		No action, corrective action, or drinking water values							MTBE: 20 ppb / 200 ppb = Risk-based action/cleanup levels for drinking water receptor / NPDES discharge or non-drinking water receptor, respectively
New Hampshire	13	13 / 20		Level possible to be adopted in 2004	Level possible to be adopted in 2004	Level possible to be adopted in 2003	Level possible to be adopted in 2004	None	None	MTBE: 13 ppb = cleanup level. TBA, ETBE, DIPE & TAME: possible Rules Making Process in 2004. Public Health recommendations for TBA, ETBE & TAME; waiting on TAME.	
New Jersey	70	70		100	20,000	None	None	None	4,000	ISM=Interim Specific Criteria for consistency with SDWA; IS=Interim Specific Criteria. MTBE: 70 ppb = ISM cleanup value & primary health-based drinking water standard. IS cleanup values: TBA: 100 ppb; DIPE: 20,000 ppb; MeOH: 4,000 ppb.	

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:	
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH		
New Mexico	100	100		No action, corrective action, or drinking water values							MTBE: 100 ppb = regulated standard cleanup value. Petroleum Storage Tank Regulation (section 20.5.12.1233.A.2 NMAC) states "remediation shall not be considered complete until the 100 ppb MTBE groundwater standard has been achieved".
New York	10	10		50	50	50	50	50	50	MTBE: 10 ppb = enforceable NYS-DEC Ambient Water Quality Surface and Groundwater Guidance Value and also enforceable NYS-DOH Drinking Water Standard. Discovery of any levels of MTBE in groundwater will trigger an investigation of sources. Enforceable Unspecified Organic Contaminant (UOCs) regulated at 50 ppb for other fuel oxygenates: TBA, DIPE, TAME, ETBE, EtOH & MeOH	
North Carolina	200 / risk-based	EPA Advisory (20-40 ppb)	Possible changes in 2005	None	70	None	None	None	3,500	MTBE: 200 ppb / risk-based = action / cleanup level. MTBE standards proposed for 70 ppb & 11.6 ppb; possible change for 2005. DIPE cleanup value at 70 ppb.	
North Dakota	None	EPA Advisory (20-40 ppb)		No action, corrective action, or drinking water values							No cleanup or action values for any fuel oxygenates.
Ohio	40 / site-specific	EPA Advisory (20-40 ppb)		No action, corrective action, or drinking water values							Corrective Action Rules revised in 2003. TBA not addressed.
Oklahoma	20 / site-specific	None		Site-specific	Site-specific	Site-specific	Site-specific	Site-specific	Site-specific	MTBE: 20 ppb / site-specific = action level / site-specific standards can be required. If a chemical is released from a regulated storage tank, site-specific standards can be required.	

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:	
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH		
Oregon	6.4 / 13 / 38	EPA Advisory (20-40 ppb)		No action, corrective action, or drinking water values							MTBE: 6.4 / 13 / 38 ppb = tap water standards for residential, urban-residential, and occupational uses, respectively. OR-DEQ adopted Cal-EPA's MTBE slope factor to determine MTBE values.
Pennsylvania	20	EPA Advisory (20-40 ppb)		No action, corrective action, or drinking water values						4,900	MTBE: 20 ppb = residential cleanup standard. MeOH: 4,900 ppb = cleanup or action value.
Rhode Island	20 / 40 / 5,000	40		No action, corrective action, or drinking water values							MTBE: 20 / 40 / 5,000 ppb = Groundwater action level / state health advisory for drinking water receptor & GA/GAA groundwater cleanup value / cleanup value for groundwater not suitable for drinking water without treatment.
South Carolina	40	None		No action, corrective action, or drinking water values							MTBE: 40 ppb = health-based cleanup or action value. SC has been sampling & testing other fuel oxygenates at about 100 sites over the past two years. Also, SC is assessing other oxygenates within 1,000-1,500 feet from release sites.
South Dakota	None	EPA Advisory (20-40 ppb)	No changes expected in 2003	No action, corrective action, or drinking water values							BTEX remediation also cleaning up any oxygenates that are present.
Tennessee	Site-specific	None	Possible changes in 2004	No action, corrective action, or drinking water values							MTBE: Exposure assessment during full plume delineation allows consideration of oxygenate COCs (e.g., MTBE) and specifying site-specific cleanup levels in soil and groundwater. TN developing RBCA program in 2004.

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH	
Texas	240 / 15	15		2,200	2,400	980	24	806	12,000	The Petroleum Storage Tank (PST) program joined the Texas Risk Reduction Program (TRRP) in September 2003, at which time all fuel oxygenate cleanup levels become valid for PST sites. Action levels for MTBE are the Tier 1 residential PCLs (240 ppb for groundwater). Cleanup levels can be Tier 1 values (either residential or commercial/industrial as appropriate, but site-specific Tier 2 or 3 options are available. The secondary drinking water standard of 15 ppb applies if a drinking water well is impacted. PST program typically does not request analyses for oxygenates other than MTBE, but if oxygenates are found, then development of cleanup levels may be required.
Utah	70 / site-specific	None		No action, corrective action, or drinking water values					MTBE: 70 ppb / site-specific = recommended cleanup level (RCL) / UT-DEQ RBCA site-specific cleanup level (SSLC).	
Vermont	40	40		No action, corrective action, or drinking water values					MTBE: 40 ppb = cleanup level and primary health-based drinking water level.	
Virginia	Site-specific	20		No action, corrective action, or drinking water values					MTBE: site-specific = risk-based site-by-site consideration of MTBE cleanup levels. Drinking water wells impacted with fuel oxygenates participate in the "Alternative Water Supply Program".	
Washington	20	None		No action, corrective action, or drinking water values					MTBE: 20 ppb = Method A cleanup level. WA-DOE Table 830-1, Required Testing for Petroleum Releases, specifies that "other additives and blending components of potential environmental significance may need to be considered for testing, including: TBA, TAME, ETBE, EtOH & MeOH".	

Groundwater Oxygenate Cleanup Levels for LUST Sites

15-Mar-2004

State	Data current as of March 2004. All values in ug/L (or ppb).									Comments:	
	MTBE	Drinking water value for MTBE?	MTBE level or change in 2004?	TBA	DIPE	TAME	ETBE	EtOH	MeOH		
West Virginia	[20-40]	None		No action, corrective action, or drinking water values							MTBE: [20-40 ppb] = site-specific values in the EPA DW Advisory range applied. 20 ppb MTBE action level associated with Voluntary Remediation (risk-based) program and not the standard enforcement program.
Wisconsin	60 / 12	None		No action, corrective action, or drinking water values						5,000 / 1,000	MTBE: 60 ppb / 12 ppb and Methanol: 5,000 / 1,000 = Enforcement Standard (ES) / Preventive Action Limit (PAL) goal.
Wyoming	40	None	Possible changes in 2004 to 30 ppb	3,200 currently / 220 proposed for 2004	1,200 proposed for 2004	130 proposed for 2004	190 proposed for 2004	None	16,000 currently	MTBE: 40 ppb = current action or cleanup goal. TBA: 3,200 ppb = current action or cleanup goal / proposed change for 2004. Proposed Groundwater Standards/Action Levels under consideration: MTBE (30 ppb), TBA (220 ppb), DIPE (1,200 ppb), TAME (130 ppb), ETBE (190 ppb) & Methanol (18,000 ppb).	