

Massachusetts Cleanup Standards for Hydrocarbon Contaminated Groundwater

Product	Parameter/ Constituent	Lab Test Protocol & Number	Notification Level (1)	Cleanup Level (2) A/B/C
Gasoline	Benzene	NS	5/2000µg/L	5/2000/10,000µg/L or site specific
	Toluene	NS	1000/40,000µg/L	1000/50,000/40,000µg/L or site specific
	Ethylbenzene	NS	700/5000µg/L	700/20,000/5000µg/L or site specific
	Total Xylenes	NS	5000/5000µg/L	10,000/9000/5000µg/L or site specific
	MtBE	NS	70/5000µg/L	70/50,000/50,000µg/L or site specific
	Naphthalene	NS	140/1000µg/L	140/1000/20,000µg/L or site specific
	C5-C8 Aliphatic Hydrocarbons	MADEP VPH	300/3000µg/L	300/3000/50,000µg/L or site specific
	C9-C12 Aliphatic Hydrocarbons	MADEP VPH	700/5000µg/L	700/5000/50,000µg/L or site specific
	C9-C10 Aromatic Hydrocarbons	MADEP VPH	200/7000µg/L	200/7000/50,000µg/L or site specific
Diesel/ #2 Fuel	Naphthalene	NS	20/6000µg/L	140/1000/20,000µg/L or site specific
	2-Methylnaphthalene	NS	10/3000µg/L	10/2,000/20,000µg/L or site specific
	Phenanthrene	NS	50/50µg/L	40/NA/10,000µg/L or site specific
	Acenaphthene	NS	20/5000µg/L	20/NA/6000µg/L or site specific
	C9-C18 Aliphatic Hydrocarbons	MADEP EPH	700/5000µg/L	700/5000/50,000µg/L or site specific
	C19-C36 Aliphatic Hydrocarbons	MADEP EPH	14000/50,000µg/L	14,000/NA/50,000µg/L or site specific

	C11-C22 Aromatic Hydrocarbons	MADEP EPH	200/5000µg/L	200/50,000/5000µg/L or site specific
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Note: µg/L approximates ppb.

NS = Not Specified in regulation.

NA = Not Applicable (non volatile contaminants).

(1) Two notification thresholds have been established depending upon potential use of groundwater.

(2) Three generic cleanup standards have been established depending upon potential groundwater use/exposure: A- groundwater actual/potential drinking water supply; B- where groundwater could be the source of vapor emissions to buildings; C- everywhere. Alternative levels are permissible based upon a site-specific Risk Characterization.

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Massachusetts Cleanup Standards for Hydrocarbon Contaminated Soil

Product	Parameter/ Constituent	Lab Test Protocol & Number	Notification Level (1)	Cleanup Level (2) A/B/C
Gasoline	Benzene	NS	2/200µg/g	2-900µg/g or site specific
	Toluene	NS	30/1000µg/g	30-3000µg/g or site specific
	Ethylbenzene	NS	40/1000µg/g	40-3000µg/g or site specific
	Total Xylenes	NS	300/300µg/g	300-3000µg/g or site specific
	MTBE	NS	0.1/100µg/g	0.1-500µg/g or site specific
	Naphthalene	NS	4/40µg/g	4-3000µg/g or site specific
	C5-C8 Aliphatic Hydrocarbons	MADEP VPH	100/500µg/g	100-500µg/g or site specific
	C9-C12 Aliphatic Hydrocarbons	MADEP VPH	1000/3000µg/g	1000-5000µg/g or site-specific
	C9-C10 Aromatic Hydrocarbons	MADEP VPH	100/500µg/g	100-500µg/g or site specific
Diesel/ #2 Fuel	Naphthalene	NS	4/40µg/g	4-3000µg/g or site specific
	2-Methylnaphthalene	NS	0.7/80µg/g	0.7-500µg/g or site specific
	Phenanthrene	NS	10/1000µg/g	10-3000µg/g or site specific
	Acenaphthene	NS	4/3000µg/g	4-5000µg/g or site specific
	C9-C18 Aliphatic Hydrocarbons	MADEP EPH	1000/3000µg/g	1000-5000µg/g or site specific
	C19-C36 Aliphatic Hydrocarbons	MADEP EPH	3000/5000µg/g	3000-5000µg/g or site specific

	C11-C22 Aromatic Hydrocarbons	MADEP EPH	1000/3000µg/g	1000-5000µg/g or site specific
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NS=Not Specified in regulation.

(1) Two notification thresholds have been established for "high" and "low" exposure potential areas.

(2) Nine generic cleanup standards have been established depending upon exposure potential/accessibility of soil, and use/classification of underlying groundwater. Alternative cleanup levels are permissible based upon a site-specific risk characterization. See Massachusetts regulations 310 CMR 40.000 and associated support/policy documents for complete details and requirements

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