

Washington Cleanup Standards for Hydrocarbon Contaminated Groundwater

Product	Parameter/ Constituent	Lab Test Protocol & Number	Detection Level (µg/L)	Notification Level	Cleanup Level
Gasoline Range Organics-- GRO	Benzene	EPA 8021B or 8260B	1	*	5µg/L
	Toluene	EPA 8021B or 8260B	1	*	1000µg/L
	Ethylbenzene	EPA 8021B or 8260B	1	*	700µg/L
	Xylenes	EPA 8021B or 8260B	3	*	1000µg/L
	GRO without benzene	NWTPH-Gx	250	*	1000µg/L
	GRO with benzene	NWTPH-Gx	250	*	800 µg/L
Diesel Range Organics--DRO	DRO	NWTPH-Dx	250	*	500µg/L
	Heavy oil	NWTPH-Dx	500	*	500µg/L
	Electrical insulating mineral oil (non-PCB)	NWTPH-Dx	500	*	500 µg/L
Other (depending on source and age of product)	Naphthalenes	EPA 8270	1	*	160 µg/L
	MTBE	EPA 8260B	1	*	20 µg/L
	Total Lead	EPA 6010, 7420, or 7421	0.2	*	15µg/L
	Total Metals	EPA 6000 and 7000 series	**	*	metal specific
	PCBs	EPA 8082	0.1	*	0.1µg/L
	Volatile Organics	EPA 8021,8260B	**	*	analyte specific
	PAHs (carcinogenic)	EPA 8100, 8270, or 8310	0.02	*	0.1µg/L***

*Not specified by contaminant. See WAC 173-340-300 for release reporting requirements (available on the web site).

** Test Specific.

*** Based on benzo(a)pyrene

These are Method A cleanup levels for Ground Water. This table has been developed for specific purposes. It is intended to provide conservative cleanup levels for drinking water beneficial uses at sites undergoing routine cleanup actions or those sites with relatively few hazardous substances. This table may not be appropriate for defining cleanup levels at other sites. Site specific cleanup levels can be calculated for Method B (unrestricted uses) and Method C (restricted uses) including GRO and DRO using a surrogate/fraction approach. All pathways must be evaluated for Methods B and C including ingestion, vapor, and impact

to surface water. Free product is not permitted. The user should check the applicable entries and footnotes in the Method A Tables and the Required Testing for Petroleum Releases Table as well as other pertinent sections in WAC 173-340. NWTPH, hydrocarbon identification (HCID), and surrogate/fraction analytical methods are available in Ecology Publication # ECY 97-602 (available on the web site). It is important to note that the uses of Methods B and C do not account for some applicable state and federal legal considerations. These methods also do not account for several health and ecological considerations regarding groundwater, soils and air.

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Washington Cleanup Standards for Hydrocarbon Contaminated Soil

Product	Parameter/ Constituent	Lab Test Protocol & Number	Detection Level (mg/kg)	Notification Level	Cleanup Level
Gasoline Range Organics-- GRO	Benzene	EPA 8021B or 8260B	0.005	*	0.03 mg/kg
	Ethylbenzene	EPA 8021B or 8260B	0.005	*	6 mg/kg
	Toluene	EPA 8021B or 8260B	0.005	*	7 mg/kg
	Xylenes	EPA 8021B or 8260B	0.005	*	9 mg/kg
	GRO without benzene and no more than 20% aromatic hydrocarbons between EC 8 and EC 16	NWTPH-Gx	5	*	100mg/kg
	GRO (all other)	NWTPH-Gx	5	*	30 mg/kg
Diesel Range Organics--DRO	DRO	NWTPH-Dx	25	*	2000 mg/kg
	Heavy oil	NWTPH-Dx	100	*	2000 mg/kg
	Electrical insulating mineral oil (non-PCB)	NWTPH-Dx	100	*	4000 mg/kg
Other (depending on source and age of product)	Naphthalenes	EPA 8270	0.5	*	5 mg/kg
	MTBE	EPA 8260B	0.005	*	0.1 mg/kg
	Total Lead	EPA 6010, 7420 or 7421	0.5	*	250 mg/kg
	Total Metals	EPA 6000 and 7000 series	**	*	metal specific
	PCBs	EPA 8082	0.04	*	1mg/kg
	Volatile Organics	EPA 8021 or 8260B	**	*	analyte specific
	PAHs (carcinogenic)	EPA 8100, 8270, or 8310	0.05	*	0.1mg/kg***

*Not specified by contaminant. See WAC 173-340-300 for release reporting requirements (available on the web site).

** Test Specific.

*** Based on benzo(a)pyrene

Note: These are Method A cleanup levels for routine sites with unrestricted land use. Site specific cleanup levels can be calculated for Method B (unrestricted uses) and Method C (restricted uses) including GRO and DRO using a surrogate/fraction approach. All pathways must be evaluated for Methods B and C including ingestion (plus dermal for TPH), vapor, ground water protection, and ecological. The user should check the applicable entries and footnotes in the Method A Tables and the Required Testing for Petroleum Releases Table as well as other pertinent sections in WAC 173-340. NWTPH, hydrocarbon identification

(HCID), and surrogate/fraction analytical methods are available in Ecology Publication # ECY 97-602 (available on the web site). It is important to note that the uses of Methods B and C do not account for some applicable state and federal legal considerations. These methods also do not account for several health and ecological considerations regarding groundwater, soils and air.

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