

Pennsylvania Clean-up Standards for Hydrocarbon Contaminated Groundwater

Product	Parameter/ Constituent	Lab Test Protocol & Number	Water Standard / Action Level
Leaded Gasoline, Aviation Gasoline, Jet Fuel	Benzene	EPA 5030B/8021B, 5030B/8260B or 524.2	5µg/L
	Toluene	EPA 5030B/8021B, 5030B/8260B or 524.2	1000µg/L
	Ethylbenzene	EPA 5030B/8021B, 5030B/8260B or 524.2	700µg/L
	Xylenes	EPA 5030B/8021B, 5030B/8260B or 524.2	10000µg/L
	Cumene	EPA 5030B/8021B, 5030B/8260B or 524.2	840µg/L
	Naphthalene	EPA 5030B/8021B, 5030B/8260B or 524.2	100µg/L
	Trimethyl benzene, 1,2,4- (Trimethyl benzene, 1,3,4-)	EPA 5030B/8021B, 5030B/8260B or 524.2	15µg/l
	Trimethyl benzene 1,3,5-	EPA 5030B/8021B, 5030B/8260B or 524.2	13µg/l
	1,2-Dichloroethane	EPA 5030B/8021B, 5030B/8260B or 524.2	5µg/L
	EDB	EPA 8011 or 504.1	0.05µg/L
	Lead (dissolved)	EPA 6020 or 7421	5µg/L
Unleaded Gasoline	Benzene	EPA 5030B/8260B or 524.2	5µg/L
	Toluene	EPA 5030B/8260B or 524.2	1000µg/L
	Ethylbenzene	EPA 5030B/8260B or 524.2	700µg/L
	Xylenes	EPA 5030B/8260B or 524.2	10000µg/L
	Cumene	EPA 5030B/8260B or 524.2	840µg/L
	MTBE	EPA 5030B/8260B or 524.2	20µg/L
	Naphthalene	EPA 5030B/8260B or 524.2	100µg/L

	Trimethyl benzene, 1,2,4- (Trimethyl benzene, 1,3,4-)	EPA 5030B/8260B or 524.2	15µg/l
	Trimethyl benzene 1,3,5-	EPA 5030B/8260B or 524.2	13µg/l
Kerosene, No.1 Fuel Oil	Benzene	EPA 5030B/8260B or 524.2	5µg/L
	Toluene	EPA 5030B/8260B or 524.2	1000µg/L
	Ethylbenzene	EPA 5030B/8260B or 524.2	700µg/L
	Cumene	EPA 5030B/8260B or 524.2	840µg/L
	MTBE	EPA 5030B/8260B or 524.2	20µg/l
	Naphthalene	EPA 5030B/8260B or 524.2	100µg/L
	Trimethyl benzene, 1,2,4- (Trimethyl benzene, 1,3,4-)	EPA 5030B/8260B or 524.2	15µg/l
	Trimethyl benzene 1,3,5-	EPA 5030B/8260B or 524.2	13µg/l
Diesel, No.2 Fuel Oil	Benzene	EPA 5030B/8260B or 524.2	5µg/L
	Toluene	EPA 5030B/8260B or 524.2	1000µg/L
	Ethylbenzene	EPA 5030B/8260B or 524.2	700µg/L
	Cumene	EPA 5030B/8260B or 524.2	840µg/L
	MTBE	EPA 5030B/8260B or 524.2	20µg/l
	Naphthalene	EPA 5030B/8260B or 524.2	100µg/L
	Trimethyl benzene, 1,2,4- (Trimethyl benzene, 1,3,4-)	EPA 5030B/8260B or 524.2	15µg/l
	Trimethyl benzene 1,3,5-	EPA 5030B/8260B or 524.2	13µg/l
No. 4,5,6 Fuel Oil, Lubricating Oil & Fluids	Benzene	EPA 5030B/8021B, 5030B/8260B or 524.2	5µg/L
	Naphthalene	EPA 5030B/8021B, 5030B/8260B or 524.2	100µg/L
	Phenanthrene	EPA 8270C, 8310 or 525.2	1100µg/L
	Pyrene	EPA 8270C, 8310 or 525.2	130µg/L
	Chrysene	EPA 8270C, 8310 or 525.2	1.9µg/L

Used Motor Oil	Benzene	EPA 5030B/8021B, 5030B/8260B or 524.2	5µg/L
	Toluene	EPA 5030B/8021B, 5030B/8260B or 524.2	1000µg/L
	Ethylbenzene	EPA 5030B/8021B, 5030B/8260B or 524.2	700µg/L
	Cumene	EPA 5030B/8021B, 5030B/8260B or 524.2	840µg/L
	Naphthalene	EPA 5030B/8021B, 5030B/8260B or 524.2	100µg/L
	Pyrene	EPA 525.2	130µg/L
	Benzo(a)anthracene	EPA 525.2	0.29µg/L
	Chrysene	EPA 525.2	1.9µg/L
	Benzo(b)fluoranthene	EPA 525.2	0.29µg/L
	Benzo(a)pyrene	EPA 525.2	0.2µg/L
	Indeno(1,2,3-cd)pyrene	EPA 525.2	0.29µg/L
	Benzo(g,h,i)perylene	EPA 525.2	0.26µg/L
	Lead (dissolved)	EPA 6020 or 7421	5µg/L

Obvious contamination and results above the Water Standard/Action Level are reportable. Obvious contamination includes, but is not limited to, free product or sheen on water in the excavation, or free product or sheen on the groundwater surface. The Water Standard/Action Levels are for confirmatory samples collected at closure site assessments and for use in the corrective action process. The more conservative statewide standards are presented. Depending on the particular contamination situation, different statewide standards may apply or other cleanup options may be available.

Contact: Bureau of Environmental Cleanup and Brownfields, Commonwealth of Pennsylvania Department of Environmental Protection, 717-783-1566.

E-mail: tankcleanup@pa.gov

Web Site: <http://www.dep.state.pa.us>

Pennsylvania Clean-up Standards for Hydrocarbon Contaminated Soil

Product	Parameter / Constituent	Lab Test Protocol & Number	Saturated Soil Standard /Action Level	Unsaturated Soil Standard /Cleanup Level
Leaded Gasoline, Aviation Gasoline, Jet Fuel	Benzene	EPA 5035/8021B or 5035/8260B	0.5mg/kg	0.5mg/kg
	Toluene	EPA 5035/8021B or 5035/8260B	100mg/kg	100mg/kg
	Ethylbenzene	EPA 5035/8021B or 5035/8260B	70mg/kg	70mg/kg
	Xylenes	EPA 5035/8021B or 5035/8260B	1000mg/kg	1000mg/kg
	Cumene	EPA 5035/8021B or 5035/8260B	84/350110/230mg/kg	600/2500mg/kg
	Naphthalene	EPA 5035/8021B or 5035/8260B	10mg/kg	25mg/kg
	1,2-Dichloroethane	EPA 5035/8021B or 5035/8260B	0.5mg/kg	0.5mg/kg
	EDB	EPA 5035/8021B or 5035/8260B	0.005mg/kg	0.005mg/kg
	Trimethyl benzene, 1,2,4- (Trimethyl benzene, 1,3,4-)	EPA 5035/8021B or 5035/8260B	1.5/6.2mg/kg	8.4/35mg/kg
	Trimethyl benzene, 1,3,5-	EPA 5035/8021B or 5035/8260B	1.3/5.3mg/kg	2.3/9.3mg/kg
Total Lead	EPA 6010B or 7420	45mg/kg	450mg/kg	

Unleaded Gasoline	Benzene	EPA 5035/8260B	0.5mg/kg	0.5mg/kg
	Toluene	EPA 5035/8260B	100mg/kg	100mg/kg
	Ethylbenzene	EPA 5035/8260B	70mg/kg	70mg/kg
	Xylenes	EPA 5035/8260B	1000mg/kg	1000mg/kg
	Cumene	EPA 5035/8260B	84/350mg/kg	600/2500mg/kg
	MTBE	EPA 5035/8260B	2mg/kg	2mg/kg
	Naphthalene	EPA 5035/8260B	10mg/kg	25mg/kg
	Trimethyl benzene, 1,2,4- (Trimethyl benzene,1,3,4-)	EPA 5035/8260B	1.5/6.2mg/kg	8.4/35mg/kg
	Trimethy benzene, 1,3,5-	EPA 5035/8260B	1.3/5.3mg/kg	2.3/9.3mg/kg
Kerosene, No.1 Fuel Oil	Benzene	EPA 5035/8260B	0.5mg/kg	0.5mg/kg
	Toluene	EPA 5035/8260B	100mg/kg	100mg/kg
	Ethylbenzene	EPA 5035/8260B	70mg/kg	70mg/kg
	Cumene	EPA 5035/8260B	84/350mg/kg	600/2500mg/kg
	MTBE	EPA 5035/8260B	2mg/kg	2mg/kg
	Naphthalene	EPA 5035/8260B	10mg/kg	25mg/kg
	Trimethyl benzene, 1,2,4- (Trimethyl benzene,1,3,4-)	EPA 5035/8260B	1.5/6.2mg/kg	8.4/35mg/kg
	Trimethy benzene, 1,3,5-	EPA 5035/8260B	1.3/5.3mg/kg	2.3/9.3mg/kg

Diesel, No.2 Fuel Oil	Benzene	EPA 5035/8260B	0.5mg/kg	0.5mg/kg
	Toluene	EPA 5035/8260B	100mg/kg	100mg/kg
	Ethylbenzene	EPA 5035/8260B	70mg/kg	70mg/kg
	Cumene	EPA 5035/8260B	84/350mg/kg	600/2500mg/kg
	MTBE	EPA 5035/8260B	2mg/kg	2mg/kg
	Naphthalene	EPA 5035/8260B	10mg/kg	25mg/kg
	Trimethyl benzene, 1,2,4- (Trimethyl benzene,1,3,4-)	EPA 5035/8260B	1.5/6.2mg/kg	8.4/35mg/kg
	Trimethy benzene, 1,3,5-	EPA 5035/8260B	1.3/5.3mg/kg	2.3/9.3mg/kg
No. 4,5,6 Fuel Oil, Lubricating Oil & Fluids	Benzene	EPA 5035B/8021B or 5035/8260B	0.5mg/kg	0.5mg/kg
	Naphthalene	EPA 5035B/8021B or 5035/8260B	10mg/kg	25mg/kg
	Fluorene	EPA 8270C, 8310	300/380mg/kg	3000/3800mg/kg
	Anthracene	EPA 8270C, 8310	35mg/kg	350mg/kg
	Phenanthrene	EPA 8270C, 8310	1000mg/kg	10000mg/kg
	Pyrene	EPA 8270C, 8310	220mg/kg	2200mg/kg
	Benzo(a)anthracene	EPA 8270C, 8310	2.5/32mg/kg	5.7/320mg/kg
	Chrysene	EPA 8270C, 8310	23mg/kg	230mg/kg
	Benzo(b)fluoranthene	EPA 8270C, 8310	4/17mg/kg	5.7/170mg/kg

	Benzo(a)pyrene	EPA 8270C, 8310	0.57/4.6mg/kg	0.57/46mg/kg
	Benzo(g,h,i)perylene	EPA 8270C, 8310	18mg/kg	180mg/kg
Used Motor Oil	Benzene	EPA 5035B/8021B or 5035/8260B	0.5mg/kg	0.5mg/kg
	Toluene	EPA 5035B/8021B or 5035/8260B	100mg/kg	100mg/kg
	Ethylbenzene	EPA 5035B/8021B or 5035/8260B	70mg/kg	70mg/kg
	Cumene	EPA 5035B/8021B or 5035/8260B	84/350mg/kg	600/2500mg/kg
	Naphthalene	EPA 5035B/8021B or 5035/8260B	10mg/kg	25mg/kg
	Pyrene	EPA 8270C, 8310	220mg/kg	2200mg/kg
	Benzo(a)anthracene	EPA 8270C, 8310	2.5/32mg/kg	5.7/320mg/kg
	Chrysene	EPA 8270C, 8310	23mg/kg	230mg/kg
	Benzo(b)fluoranthene	EPA 8270C, 8310	4/17mg/kg	5.7/170mg/kg
	Benzo(a)pyrene	EPA 8270C, 8310	0.57/4.6mg/kg	0.57/46mg/kg
	Indeno(1,2,3-c,d)pyrene	EPA 8270C, 8310	5.7/2800mg/kg	5.7/28000mg/kg
	Benzo(g,h,i)perylene	EPA 8270C, 8310	18mg/kg	180mg/kg
	Total Lead	EPA 6010B or 7420	45mg/kg	450mg/kg

Note: In cases where two numbers are shown for an individual parameter, the lower number applies to residential sites and the higher number applies to non-residential sites.

Obvious contamination and results above the Soil Standards/Action Levels are reportable. Obvious contamination includes, but is not limited to product stained or product saturated soil or backfill, or ponded product at the excavation.

The Soil Standards/Action Levels are for confirmatory samples collected at closure site assessments and in localized contamination situations. Because only a limited site characterization is required to be conducted in localized contamination situations, the more conservative statewide standards are presented. Depending on the particular contamination situation, different statewide standards may apply or other cleanup options may be available.

Contact: Bureau of Environmental Cleanup and Brownfields, Commonwealth of Pennsylvania Department of Environmental Protection, 717-783-1566.

E-mail: tankcleanup@pa.gov

Web Site: <http://www.dep.state.pa.us>