

Petroleum Contaminated Soil (PCS)



What is PCS?

Generally speaking, Petroleum Contaminated Soil (PCS) is generated when gasoline, diesel, and/or used oil are released into the environment. PCS is defined in the Arizona Revised Statutes A.R.S. § 49-851(A)(3) as soils excavated for storage, treatment, or disposal containing one of more of the 17 contaminants listed in Table 1 in concentrations in excess of levels determined by the Arizona Department of Environmental Quality (ADEQ) director pursuant to A.R.S. § 49-152 to protect public health and the environment.

What is Special Waste?

As defined in A.R.S. § 49-851(A)(5), Special Waste means a solid waste as defined in section 49-701.01, other than a hazardous waste, that requires special handling and management to protect public health or the environment and that is listed in section 49-852 or in rules adopted pursuant to section 49-855.

Table 1: Contaminant Levels for PCS

Special Waste Constituents A.R.S. § 49-851(A)(3)	Regulated Contaminants	Non-Regulated Soil	Solid Waste PCS	PCS as Special Waste
		< Residential SRLs (in ppm, mg/kg)	≥ Residential SRLs (in ppm, mg/kg)	≥ Non-Residential SRLs* (in ppm, mg/kg)
BTEX EPA Method 8260 or 8021	Benzene	< 0.65	≥ 0.65	≥ 1.4
	Toluene	< 650	≥ 650	≥ 650
	Ethylbenzene	< 400	≥ 400	≥ 400
	Total Xylenes	< 270	≥ 270	≥ 420
PAHS Polynuclear aromatic hydrocarbons Commonly found in diesel and lubricant oil EPA Method 8310	Acenaphthylene	< 3,700	≥ 3,700	≥ 29,000
	Anthracene	< 22,000	≥ 22,000	≥ 240,000
	Benz(A)anthracene	< 6.9	≥ 6.9	≥ 21
	Benzo(A)pyrene	< 0.69	≥ 0.69	≥ 2.1
	Benzo(B)fluoranthene	< 6.9	≥ 6.9	≥ 21
	Benzo(K)fluoranthene	< 69	≥ 69	≥ 210
	Chrysene	< 680	≥ 680	≥ 2,000
	Dibenz(A,H)anthracene	< 0.69	≥ 0.69	≥ 2.1
	Fluoranthene	< 2,300	≥ 2,300	≥ 22,000
	Fluorene	< 2,700	≥ 2,700	≥ 26,000
Indenopyrene	< 6.9	≥ 6.9	≥ 21	
Naphthalene	< 56	≥ 56	≥ 190	
Pyrene	< 2,300	≥ 2,300	≥ 29,000	

*If the test results are above non-residential SRLs, verify the waste will not need to be classified as hazardous waste.

PCS as Special Waste

PCS as Special Waste is PCS as defined in A.R.S. § 49-851(A)(3), which are not Solid Waste PCS or hazardous waste (unless excluded under 40 CFR 261.4 (b)(10)), and one or more of the 17 contaminant levels in Table 1 have exceeded the non-residential Soil Remediation Levels (SRLs). PCS shipped for storage, treatment, or disposal to an ADEQ permitted facility is designated special waste at or above the Non-Residential SRLs because its treatment, storage, transportation, or disposal has the potential to cause adverse effects on public health and the environment.

Solid Waste PCS

Solid Waste PCS is PCS as defined in (A.R.S.) § 49-851(A)(3), which are not PCS as Special Waste or hazardous waste (unless excluded under 40 CFR 261.4 (b)(10)), and one or more of the 17 contaminant levels have exceeded the residential SRLs but have not reached the non-residential SRLs. Solid Waste PCS is then shipped for storage, treatment, or disposal to an ADEQ permitted facility. These soils are exempt from PCS rules except for the waste determination requirements and are subject to solid waste regulations found in the A.A.C. Title 18, Chapter 8, Article 16.

Exemptions from PCS rules

Excavated soil that has had a waste determination conducted, including sampling and testing for the 17 contaminant levels in Table 1, and the levels of regulated contaminant are at or below the residential SRLs are non-regulated soils and are EXEMPT from PCS rules. These soils are exempt from regulation as a solid waste provided that the applicable requirements under A.R.S. § 49-701.02 are met.

Asphaltic cement, which is non-hazardous waste, is exempt for PCS rules.

Soils which are contaminated with petroleum, which have been generated by households and which are not hazardous waste, are exempt from PCS rules.

I think I have PCS. Now what do I do?

A generator must determine if the soil is hazardous waste (unless excluded under 40 CFR 261.4 (b)(10)), PCS as Special Waste, Solid Waste PCS, or non-regulated soil through waste determination. Waste determination must be made through laboratory analysis by a laboratory licensed through the Arizona Department of Health Services (ADHS) or by generator knowledge. ADEQ may require sampling to confirm accuracy if generator knowledge is used. The basis for determination must be maintained for at least 3 years and must be made available upon ADEQ request.

Waste determination using laboratory analysis is required to be performed in accordance with a written site-specific sampling plan using either of the following:

- “Test Methods for Evaluating Solid Waste”, EPA SW-849, 3rd Edition Volume II: Field Manual, Physical/Chemical Method, Chapter Nine (SW-846 Third Edition).
- ADEQ’s Petroleum Contaminated Soil sampling plan. The sampling plan is available at azdeq.gov/PetroleumContaminatedSoil.

I have PCS. Now what do I do?

- Obtain a Special Waste ID Number, as defined in A.A.C. R18-13-1302.
- Complete the “Generator” section of a special waste manifest prior to offsite consignment, as defined in A.A.C. R18-13-1302.
- Only use a shipper/transporter with a special waste ID number issued by ADEQ, as defined in A.A.C. R18-13-1303.
- Dispose of PCS at a storage, disposal, or treatment facility permitted by ADEQ and that has obtained a special waste ID number.

How should PCS be stored?

A PCS storage facility cannot store a shipment of PCS for a period exceeding one year from the date of the shipment. A PCS storage facility shall obtain approval from ADEQ prior to commencement of construction or operation.

Each PCS storage area, tank, or container used for storage or accumulation of PCS must be labeled as follows:

CAUTION: CONTAINS PETROLEUM CONTAMINATED SOIL
GENERATOR NAME:
GENERATOR SPECIAL WASTE ID#:
ACCUMULATION START DATE:

Requirements for PCS stored in tanks or containers include:

- Preventing leakage of the PCS and any free liquids from the tank or container.
- Be made of, or lined with, materials which will not react with the PCS.
- Be kept closed during storage except to add or remove PCS.
- Not be opened, handled, or stored in a manner which may rupture the tank or container or cause a leak.
- Inspected monthly by the owner and/or operator of the facility for leaks and deterioration. A written record of the inspection is required to be prepared at the time of inspection and document any corrective action, if any, that was taken as a result of the inspection.

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Requirements for PCS stored in piles include:

- All piles are covered or otherwise manage to control wind dispersal of PCS.
- Inspected weekly by the owner and/or operator of the facility. A written record of the inspection is required to be prepared at the time of the inspection and documents any corrective action, if any, that was taken as result of the inspection, including the following:
 - Deterioration, malfunctions, or improper operation of run-on and run-off control systems.
 - Malfunction of wind dispersal control systems.
 - Presence of leachate and the malfunction of any leachate collection and removal systems.

Records

Keep all PCS records for at least 3 years. If you are notified of an enforcement action by ADEQ, records are required to be kept until a final determination has been made in the matter or in accordance with the final determination.

Contact information

For questions, please contact the Solid Waste Unit at 602-771-4673.

For additional information, please visit azdeq.gov/PetroleumContaminatedSoil

Requirements of PCS accumulation sites:

- PCS from one or more points under the control of a single generator may be accumulated on a site under the control of that generator for up to 90 days before a shipment to a storage, disposal, or treatment facility is made.
- An accumulation site must comply with all of the same requirements as a storage facility except facility approval as described in A.A.C. R18-13-1612.

ADEQ will take reasonable measures to provide access to department services to individuals with limited ability to speak, write or understand English and/or to those with disabilities. Requests for language interpretation, ASL interpretation, CART captioning services or disability accommodations must be made at least 48 hours in advance by contacting Ian Bingham, Title VI Nondiscrimination Coordinator at 602-771-4322 or Bingham.Ian@azdeq.gov. Teleprinter services are available by calling 7-1-1 at least 48 hours in advance to make necessary arrangements.

ADEQ tomará las medidas razonables para proveer acceso a los servicios del departamento a personas con capacidad limitada para hablar, escribir o entender inglés y/o para personas con discapacidades. Las solicitudes de servicios de interpretación de idiomas, interpretación ASL, subtítulos de CART, o adaptaciones por discapacidad deben realizarse con al menos 48 horas de anticipación contactando a Ian Bingham, Coordinador de Anti-Discriminación del Título VI al 602-771-4322 o Bingham.Ian@azdeq.gov. Los servicios de teleimpresores están disponibles llamando al 7-1-1 con al menos 48 horas de anticipación para hacer los arreglos necesarios.