

TECHNICAL GUIDANCE DOCUMENT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



Auto Salvage Yard Contaminants of Concern (COCs)

Office of Land Quality

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Guidance Created: May 1, 2007

Guidance Revised September 17, 2014; September 13, 2018

This document was written to assist with the investigation or remediation of soils and groundwater at auto salvage yards. This document is not intended for waste disposal determinations.

Materials typically found at auto salvage yards are antifreeze, lead batteries, fuels (gas and diesel), motor oils, brake fluids, differential oils, hydraulic fluid, power steering fluid, transmission fluids, brake parts, mercury switches, fluff from shredding vehicles, and refrigerants.

The following table presents the contaminants of concern (COCs) and the analytical requirements for each material. Note: These requirements may be modified dependent upon historical site conditions and the type and nature of the release.

Material	Contaminant of Concern	Analytical Method
Antifreeze	Ethylene glycol and propylene glycol	8015
	Metals*	6010B, 6020, 7000 methods
Battery	Lead, Cadmium*	6010B, 6020, 7000 methods
	pH (soils)	9045C
Gasoline	VOCs** (including Naphthalenes***)	8260
	Ethanol	8015, 8260
Diesel Fuel	VOCs**	8260B
	PAHs	8270C SIM, 8310
Motor Oil, used	PAHs	8270C SIM, 8310
	Site specific only (metals and PCBs)	6010, 6020, 7000 methods, 8082
Brake fluids	PAHs	8270C SIM, 8310
Differential oils	PAHs	8270C SIM, 8310
Hydraulic fluids	PAHs	8270C SIM, 8310
Power steering fluid	PAHs	8270C SIM, 8310
Transmission fluids	PAHs	8270C SIM, 8310
Mercury switches	Mercury *	7470, 7471
Brake parts	Asbestos	Site Specific
Fluff from vehicles****	Metals*	6010B, 6020, 7000 methods
	PCBs	8082
Refrigerants	VOCs**(including Naphthalenes***)	8260B
Asbestos	Asbestos	PLM, TEM, SEM

PAHs – polyaromatic hydrocarbons

VOCs – volatile organic compounds

PCBs – polychlorinated biphenyls

SIM – Selective Ion Monitoring

PLM – Polarized Light Microscopy; TEM – Transmission Electron Microscopy; SEM – Scanning Electron Microscopy

*When metals and ionizable compounds are contaminants of concern, soil pH should be taken to verify that RCG screening levels are applicable. Ionizable compounds include 2-chlorophenol and 2,4-dichlorophenol. Soil pH is particularly of concern at facilities that manage automotive batteries.

**Soil samples to be analyzed for low level volatile compounds should be sampled in accordance with method SW-846 5035A. In areas of known or suspected VOC contamination, traditional sampling methods may be used.

***Naphthalenes include 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene.

****Fluff from shredding vehicles may contain any of the contaminants of concern and should be analyzed for all the contaminants of concern.

Analysis for asbestos should be considered on a site specific basis.

References:

The IDEM's Remediation Closure Guide (RCG)

http://www.in.gov/idem/files/remediation_closure_guide.pdf

The IDEM's Remediation Program Guide (RPG)

http://www.in.gov/idem/files/remediation_program_guide.pdf

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)

<https://www.epa.gov/hw-sw846>

IDEM's Auto Salvage Guidance & Resources

<https://www.in.gov/idem/landquality/2465.htm>

Analytical Methodologies for Fuel Oxygenates, 2003, EPA 510-F-03-001

<http://www.epa.gov/oust/mtbe/omethods.pdf>