

Preventing and Detecting PCB Contamination in Used Oil

Best Management Practices for commercial and municipal used oil collection centers and recyclers¹

August 2017



Managing Used Oil to Prevent Costly PCB Contamination

EPA recommends commercial and municipal used oil collection centers and recyclers use the best management practices (BMPs) outlined in this document to decrease the frequency of PCB incidents and reduce the spread of PCB contamination in used oil. Some investment upfront can really pay off in the future.

Used oil containing PCBs at concentrations of 50 parts per million (ppm) or greater is strictly regulated for disposal under the Toxic Substances Control Act (TSCA). At lower PCB concentrations (2-49 ppm), used oil may be burned as a fuel, subject to restrictions listed in 40 CFR 761.20(e). These restrictions may not be avoided through dilution of PCB concentrations greater than 50 ppm to less than 50 ppm.

The mismanagement of used oil contaminated with PCBs is a recurring issue faced by EPA and states, commercial and municipal used oil collection centers, and recyclers. Used oil transporters pick up oil from a variety of facilities, often without ensuring that the oil is free of PCB contamination. When PCB oil ≥ 50 ppm is introduced into non-PCB oil, the whole volume (which otherwise generally could be recycled and reused) must be disposed of in accordance with the TSCA regulations, which can be quite costly. Additionally, all tanks and trucks in which the oil was held must be appropriately decontaminated.

Polychlorinated Biphenyls (PCBs) in Oil

PCBs were intentionally manufactured between 1929 and 1979 and used extensively in many applications such as coolants in hydraulic systems and as dielectric fluids in electrical equipment. Most manufacturing, processing, distribution in commerce, and use of PCBs was banned under TSCA after 1979. However, PCBs may still be present in products and materials produced before 1979 (including oil used in motors and hydraulic systems) and can still be released into the environment, where they do not readily break down.

PCBs have been identified as probable human carcinogens and cause a variety of non-cancer health effects.²

¹ This document identifies BMPs that may be utilized by commercial and municipal used oil collection centers and recyclers to minimize contamination of used oil with PCBs and reduce the spread of PCB contamination in used oil. The BMPs in this document do not impose legally binding requirements and will not be implemented as binding in practice. They do not impose any obligations on private parties nor are they intended to direct the activities of any other Federal, State or local agency or to limit the exercise of their legal authority.

² <https://www.epa.gov/pcbs/learn-about-polychlorinated-biphenyls-pcbs#healtheffects>



What can you do to protect yourself from costly PCB contamination incidents and potential TSCA violations?

BMPs Recommended for Commercial and Municipal Collection Centers

- Collect a sample of used oil from each batch received, known as a retain sample. In the event of detection of PCBs in the collection tank, these samples can be analyzed to determine the source of PCBs.
- Sample from the collection tank before pump-out. Lock and label used oil tanks immediately after sampling. If possible, use dual-compartment tanks, where one side can be locked when full to await test results while the other side is open to collect used oil.
- If used oil is between 2 and 49 ppm PCBs, use the retain samples to determine whether the PCBs are from a source at or over 50 ppm that has been diluted. If used oil is at or over 50 ppm or is between 2 and 49 ppm PCBs as a result of dilution, label the tank or container and notify your Regional PCB Coordinator immediately. Offer to submit test results to used oil recyclers prior to pick up.
- Testing for PCBs in oil can be done by most certified laboratories and costs can range from around \$60 to \$150 per sample, depending on turnaround time. Routine sampling could save money in the long run. Contact your state agency for information on certified laboratories in your area.
- Post signs at collection facilities providing notification that only used oil should be put in tanks (see photo from City of Madison on page 4).
- Keep all used oil containers and tanks sealed and secured (locked) when not in use.
- Do not add oil from potential PCB-containing sources (such as transformers, capacitors, hydraulic equipment, old brake fluid, etc.) to non-PCB used oil.

BMPs Recommended for Used Oil Recyclers

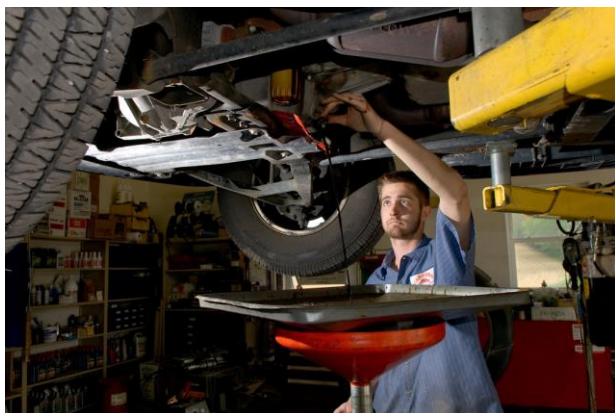
- Educate commercial and municipal collection centers and transporters on the importance of preventing the mixing of PCB-contaminated oil with, for example, traditional used motor oils.
- Obtain analytical results from each collection tank at a commercial or municipal collection center prior to pick-up showing that each batch of used oil contains less than 2 ppm PCBs. Signed certifications without analytical results do not absolve any facility from obligation to comply with applicable regulations or excuse any facility from enforcement.
- Ensure analytical lab results are submitted to used oil recyclers as opposed to relying on word of mouth or experience.

- Offer to analyze samples from commercial and municipal collection centers prior to pick-up, if they decline to submit test results. Analyzing samples in advance of pickup could prevent contamination of the tanker truck. Provide a sample collection kit with easy-to-follow instructions to help collection centers take accurate samples of their oil to send to the recycler or to a certified laboratory for testing before shipment to the recycler.
- Take a sample of used oil from each incoming shipment. Offload the used oil into a guard tank, which should remain locked while waiting for PCB test results. Smaller guard tanks provide less opportunity for costly volumes of contamination.
- If PCBs are detected in the used oil at the guard tank, analyze retain samples previously collected by the transporter to find the responsible party.
- Maintain records that document the testing and analysis of used oil samples to determine the presence and concentration of PCBs prior to any processing or re-refining of the used oil. Applicable EPA testing procedures and protocols for testing of PCBs should be followed.



Help stop future used oil PCB incidents by finding the source of contamination.

- When taking a retain sample of each batch collected, collect a duplicate sample in a separate sealed container that can be sent to EPA for testing if an enforcement action is considered by EPA.
- Keep a defensible chain of custody for the duplicate sample. Document and verify each transfer of custody.
- For analysis of samples, only use labs that follow approved EPA analytical methodology and that have quality assurance management programs. Facilities with their own labs can develop their own Quality Assurance Project Plans (QAPP). For more information, see <https://www.epa.gov/quality/guidance-quality-assurance-project-plans-epa-qag-5>.



Commercial and municipal used oil collection centers and recyclers, after implementing BMPs or taking other actions to address sources of PCB contamination, should be able to significantly reduce the incidence and extent of PCB contamination. Facilities should always ensure compliance with all applicable state and federal regulations.

Case Study: Madison, Wisconsin

The municipal used oil collection program in Madison, Wisconsin, received PCB-contaminated used oil twice in the past few years. With the first event, the PCB contamination was not detected by the city and the used oil recycler picked up 600 gallons of contaminated oil (> 50 ppm) and mixed it with non-PCB oil, resulting in 17,000 gallons of PCB-contaminated oil that became subject to the TSCA PCB disposal regulations. This left the parties open to potential enforcement for violation of TSCA and its implementing regulations. The total cleanup and disposal cost for the incident was reported to be \$206,000. Following this incident, the city implemented a strict sampling procedure under which the transporter is required to sample the oil, lock out the city's tank, and confirm that the oil is PCB-free before the transporter can pick it up. This prevents further downstream cleanup costs caused by mixing contaminated oil with larger quantities of uncontaminated oil. The second time PCB-contaminated used oil was received happened after the city implemented the sampling procedure. By limiting the quantity of oil that was contaminated by > 50 ppm PCB oil to 250 gallons, the sampling procedure helped limit response costs to only \$12,000, which included disposal of the contaminated oil and decontamination of the tank.

The city expects to further invest in dual-compartment tanks when they upgrade all of their public used oil drop-off sites. Once upgrades are made, city residents will be able to drop off used oil when the other tank is locked out after sampling.



New signs posted at a City of Madison used oil collection site.

Contact your EPA Regional PCB Coordinator

If you have concerns about PCB contamination or need more information, consult your EPA Regional PCB Coordinator at <http://www.epa.gov/pcbs/program-contacts>. EPA recommends that you make decisions about appropriate action after thoughtful consideration of all available information and all legal requirements.

Or Call:

EPA Region 1 (CT, MA, ME, NH, RI, VT) Tel: 617-918-1527
 EPA Region 2 (NJ, NY, PR, US Virgin Islands) Tel: 732-906-6817
 EPA Region 3 (DE, DC, MD, PA, VA, WV) Tel: 215-814-2177
 EPA Region 4 (AL, FL, GA, KY, MS, NC, SC, TN) Tel: 404-562-8512
 EPA Region 5 (IL, IN, MI, MN, OH, WI) Tel: 312-886-7890
 EPA Region 6 (AK, LA, NM, OK, TX) Tel: 214-665-6796
 EPA Region 7 (IA, KS, MO, NE) Tel: 913-551-7504
 EPA Region 8 (CO, MT, ND, SD, UT, WY) Tel: 303-312-6446
 EPA Region 9 (AZ, CA, HI, NV, American Samoa, Guam) Tel: 415-972-3360
 EPA Region 10 (AK, ID, OR, WA) Tel: 206-553-1616

