

Cross-cutting area: Disposal of PFAS-contaminated investigation-derived waste

Remediation PFAS Guidance

Goal: Ensure that PFAS-contaminated waste is properly characterized and managed. Sites from which per- and polyfluoroalkyl substances (PFAS) are released into the environment may be subject to liability under the Minnesota Environmental Liability Act (MERLA), including releases from improperly managed wastes from such sites. To limit this potential liability, the Minnesota Pollution Control Agency (MPCA) recommends managing PFAS-contaminated wastes, including investigation-derived waste (IDW) equivalent to hazardous wastes. In addition, if the IDW includes other chemical families, it may be considered regulated hazardous waste and require such management as discussed in this fact sheet.

Potential PFAS-contaminated IDW may include environmental media, used equipment, filter media, and rinse water.

Actions

Action 1: Characterize waste

The first step is to determine the potential risk to human health and the environment presented by the IDW by sampling each media type for the presence of PFAS.

Prior to sample collection, ensure that appropriate containers are available for storage of the samples. You may find guidance for sample container selection in MPCA fact sheet #p-eao2-27, PFAS Sampling Guide, available at: <https://www.pca.state.mn.us/sites/default/files/p-eao2-27.pdf>.

Ensure that the representative samples collected from the IDW are:

- Media-specific
- Sufficient number to accurately represent the materials
- Appropriate sample type (i.e. grab, composite, etc.)

Appropriate analytical methods for each media type must be used to determine to reliably detect PFAS. For a list of analytical methods, see Table 2-1 on page 6 of MPCA fact sheet #c-rem3-28c, Life Cycle Stage 2: Site Investigation, available at: <https://www.pca.state.mn.us/sites/default/files/c-rem3-28c.pdf>.

Analytical results should be used to evaluate potential risk to receptors through a comparison against existing screening criteria for PFAS. Screening criteria may also be used as de minimis concentrations for impacted environmental media to determine the proper disposal options. Screening criteria could include applicable ambient concentrations for certain media or risk-based criteria for groundwater, surface water, soil, and soil leaching values.

For additional details on processes for determining whether waste has been impacted by PFAS, see MPCA fact sheet #c-rem3-28d, Life Cycle Stage 3: Risk Assessment, available at: <https://www.pca.state.mn.us/sites/default/files/c-rem3-28d.pdf>.

If you determine that the on-site environmental media has been impacted, you should identify remedial approaches. The IDW generated as part of the investigation will also need to be handled appropriately.

Action 2: Determine need for on-site treatment

If analytical results indicate that PFAS values exceed ambient or risk-based values, on-site treatment methods may help to ensure that the site is not re-exposed to contamination. On-site remedial options allow the mitigation of potential harm to human health and/or the environment. Materials used to treat the impacted media will also require appropriate waste management. The Remediation section provides additional information about current methods and technologies.

Action 3: Identify appropriate disposal options

If IDW cannot be treated on-site or for other reasons must be moved off-site, you must evaluate the waste to determine if it is a hazardous waste. Wastes that are not evaluated must be assumed to be hazardous and managed accordingly. Find guidance regarding hazardous waste evaluation in MPCA fact sheet #w-hw1-01, Evaluate waste, available at: <https://www.pca.state.mn.us/sites/default/files/w-hw1-01.pdf>.

Hazardous wastes must be managed under one of the appropriate options summarized in MPCA fact sheet #w-hw1-06, Treat or dispose of hazardous waste, available at: <https://www.pca.state.mn.us/sites/default/files/w-hw1-06.pdf>.

If you evaluate that a waste is non-hazardous, but does contain PFAS, the MPCA recommends that you consider managing the waste equivalent to hazardous waste to minimize your potential liability under MERLA.

Non-hazardous wastes may be managed at a permitted solid waste disposal facility that has agreed to accept the waste.

More information

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