Hazard Evaluation Process Procedures

For Hazard Evaluation Process Policy (#OE010)

2-25-2022

Introduction

This document describes the procedures for implementation of the Minnesota Department of Transporation's (MnDOT's) Hazard Evaluation Process Policy.

Definitions

Approved/Qualified Products process
The process to approve or qualify products, materials, or engineered systems for use on MnDOT property and construction and maintenance projects.

Hazardous Substance
A chemical, mixture of chemicals, or material possessing a hazardous characteristic as described in Identification and Listing of Hazardous Waste, Part 261, Code of Federal Regulations.

Hazardous Waste
Any refuse, sludge, or other waste material or combinations of refuse, sludge or other waste materials in solid, semisolid, liquid, or contained gaseous form which because of its quantity, concentration, or chemical, physical, or infectious characteristics may (a) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." (Minnesota Statutes §116.06, subd. 11).

Waste Material
A material that is no longer suitable for its original intended purpose because of wear, damage, defect or a worthless or useless byproduct resulting from industrial, commercial, mining, agriculture, infrastructure, or community activities and includes contaminated soil, water, solids, semisolids, sludge, gas, and solid waste.

Procedures

1. Employees must understand product procurement and waste material re-use criteria.

- Under no circumstance will MnDOT accept hazardous wastes or hazardous substances from others for re-use or any other purpose.
- Refer to the MnDOT Approved/Qualified Products Policy that applies to materials, products, and engineered systems for use on MnDOT property and construction and maintenance projects. Use of the process and product lists assist MnDOT with the following:
    - Preparing procurement specifications when a material, product or engineered system is on an existing Approved/Qualified Products List

    - Understanding the procedure for evaluating new material, product, or engineered system for possible inclusion on an Approved/Qualified Products List
- Consider potential use of research and development opportunities to provide additional information needed to evaluate use of the product or waste material.

2. The Office of Environmental Stewardship (OES) receives information for MnDOT consideration.

OES evaluates materials, products, or engineered systems for MnDOT use based on Minnesota law. Approvals from other states or governmental agencies do not replace MnDOT evaluation processes.

Information provided to OES should include the following:

- Manufacturer information
    - Name of Company
    - Address
    - Technical Contact Name and Telephone Number
- Product information
    - Product trade name and chemical name, if applicable
    - Product Technical Data Sheet
    - Safety Data Sheets (SDS) for all chemicals in the product/waste material
- Chemical status
    - Provide individual chemical & physical properties; melting point (EPA Method 830.7200); boiling point (830.7220); water solubility (830.7840); storage stability (830.6317); dissociation constant (830.7370); partition coefficient (830.7570); vapor pressure (830.7950); soil adsorption coefficient (835.1230); and hydrolysis (835.2130) or equivalent methods
    - Identify chemicals with molecular weights greater than 1000 Daltons (OECD Methods 118 or equivalent method)
    - Proof that final product will not be a hazardous waste (EPA Toxicity Characteristic Leaching Procedure 1311 under current Minnesota Rules Chapter 7045.0131) if spilled or disposed of during product life cycle
    - Provide Names and Chemical Abstract Services numbers (CAS numbers) of the reportable substances in the product (40 CFR 302)
- Product-specific testing information
  The following product-specific testing information is required, if known. If information for a representative test is unknown, it must be stated as such. Testing must follow standardized testing procedures, such as U.S. EPA SW-846 test methods, OECD test methods, or U.S. EPA Office of Chemical Safety and Pollution Prevention Harmonized Test Guidelines.
    - Chemical leaching
        - EPA Synthetic Precipitation Leaching Procedure 1312 with subsequent analysis for metals and product components
    - Chemical biodegradation
        - Ready biodegradability (EPA Method 835.3110)
        - Aerobic mineralization (835.3190)
        - Inherent biodegradability (835.3215)
        - Soil biodegradation (835.3300)
        - Aerobic soil metabolism (835.4100), or equivalent methods
    - Chemical Ecotoxicity (harmful to the environment or a specific ecosystem)

- Include three trophic levels;
    - Acute daphnia (water flea) toxicity (EPA Method 850.1300)
    - Fish early life stage toxicity (850.1400)
    - Algae growth inhibition (850.5400)
    - Terrestrial plants growth (850.4100)
    - Earthworm acute toxicity (850.6200) or equivalent methods
- Other available test methods that provide individual chemical fate and pathway information.

3. The Office of Environmental Stewardship (OES) reviews the information provided.

OES reviews the information provided and makes a recommendation to the APL/QPL Review Coordinator based on the expected environmental performance.

Frequently Asked Questions

Who pays for the testing required by the Hazard Evaluation Process?

The product manufacturer is responsible for all costs associated with testing requirements.

Is this evaluation necessary if another state has approved a product or waste material?

Yes, MnDOT evaluates materials, products or engineered systems for use based on Minnesota law. An approval from other state does not replace the MnDOT Approved/Qualified Products process.

Are all product submittals to the MnDOT Approved/Qualified Products Process subject to HEP review?

No, only products or proposed reuse of waste materials that have a potential to release chemicals during application or long-term use of the product or material and that could result in contamination of the environment are evaluated with the MnDOT Hazard Evaluation Process.

Is the environmental review for a product, material or engineered system required when the respective item does not have an Approved/Qualified Products List?

Yes, a review by the Office of Environmental Stewardship is required.