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OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

AUG 30 1988

MEMORANDUM

SUBJECT: Regulation and Permitting of Laboratories

FROM: Sylvia K. Lowrance, Director  
Office of Solid Waste (OS-300)

TO: Waste Management Division Directors  
Regions I-X

On July 19, 1988, EPA promulgated an exemption for samples used in treatability studies (53 FR 27290). To help increase awareness of the new exemption, and to clarify the regulatory and permitting requirements for laboratories in general, we have prepared the attached decision tree and a summary of the treatability sample rule. This is intended to help lab managers and enforcement personnel understand the regulations. Questions in this area may be addressed to Stephen Cochran at FTS-475-9715.

Attachments

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## Attachment 1

### DETAILED FACT SHEET SMALL-SCALE TREATABILITY STUDIES SAMPLE EXEMPTION

Status: Final Rule, effective July 19, 1988 (53 FR 27290)

OSW Contact: Paul Mushovic

#### 1. Effect of the Rule

The final rule conditionally exempts small quantities of hazardous waste being utilized in small-scale treatability studies from the RCRA hazardous waste regulations. Such testing requires no prior EPA approval. Quantity limitations for treatability studies are set per waste stream per treatment process. Limitations are also being set for quantities shipped, and for treatment rates and storage limitations per facility.

New paragraphs (e) and (f) to 40 CFR 261.4 accomplish the following. First, persons who generate samples are exempted from the generator and transporter requirements when samples are shipped by the generator, or any other person who collects the sample (the "sample collector"), to a laboratory or testing facility for the purpose of conducting a treatability analysis, or when shipped from the facility back to the sample collector, provided that certain packaging and labeling requirements are met. Second, any laboratory or testing facility that conducts treatability studies may store these waste samples and residues generated from the treatability study within the quantity and time limits specified and not be subject to the requirements of 40 CFR, Parts 264, 265, and 270. Third, the actual testing of the samples does not require a permit, provided the laboratory or testing facility complies with the notification requirements in the rule and meets the quantity and time limitations specified in the rule.

**Definition and Examples.** A treatability study (newly-defined) subjects a relatively small amount of hazardous waste to a treatment process. Its purpose is to determine:

- whether the waste is amenable to a treatment process;
- what pretreatment (if any) is required;
- the optimal process conditions;

- the efficiency of the treatment process; or,
- the characteristics and volume of residuals from a particular treatment process.

A treatability study is not to be used for commercial treatment or disposal of hazardous waste. Examples of the types of treatability studies included in the exemption are:

- physical/chemical/biological treatment;
- thermal treatment (incineration, pyrolysis, oxidation, combustion);
- solidification;
- sludge dewatering;
- volume reduction;
- toxicity reduction; and,
- recycling feasibility.

The rule also allows the following types of waste testing studies:

- liner compatibility studies;
- corrosion studies;
- toxicological and health effects studies; and,
- other material compatibility studies (e.g., relating to leachate collection systems, geotextile materials, other land disposal unit requirements, pumps and personal protective equipment).

## 2. Purpose and Rationale of the Rule

A. Need for Simplified Procedures. The hazardous waste regulations, when applied to waste samples used in small-scale treatability studies, are more comprehensive than is necessary to adequately protect human health and the environment. The Agency needs to promote research and the development of innovative technologies to manage hazardous wastes.

B. Factors Limiting Risk. The Agency believes that the following factors combine to ensure that the risks to human health and the environment are de minimis:

- the various quantity and time restrictions contained in the rule;
- the high cost of collecting and shipping the sample and

conducting legitimate treatability studies;

- certain reporting and recordkeeping requirements that will enable the Agency to conduct inspections and bring enforcement actions against persons who abuse this exemption; and,
- Department of Transportation (DOT), U.S. Postal Service (USPS), or other regulations governing the transportation of hazardous materials.

The Agency also believes that sufficient professional and financial incentives are in place to provide for the safe shipment of samples to and from, and proper handling of samples at, laboratories and testing facilities conducting treatability studies.

### 3. Limitations Contained in the Rule

Specific limitations in the final rule ensure de minimis risk to human health and the environment.

A. Waste Quantity Exempted per Waste Stream. There are limits on the amount of waste that can be subject to a treatability study evaluation per generated waste stream. The rule exempts (per waste stream per treatment process):

- 1000 kg of non-acute hazardous waste; or,
- 1 kg of acute hazardous waste; or,
- 250 kg of soils, water, or debris contaminated by acute hazardous waste.

The rule also allows the Regional Administrator to grant requests for waste stream quantity limits in excess of those specified above, up to an additional 500 kg of non-acute hazardous waste, 1 kg of acute hazardous waste, and 250 kg of soils, water, and debris contaminated with acute hazardous waste when it can be demonstrated that an additional quantity of hazardous waste is needed to complete a treatability study when:

- there has been equipment or mechanical failure;
- there is a need to verify previous results;
- there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or,
- there is a need to determine final specifications for treatment.

B. Transportation Shipment Limits. The Agency has set a single shipment limitation as follows:

- 1000 kg of non-acute hazardous waste; or,
- 1 kg of acute hazardous waste; or,
- 250 kg of soils, water, or debris contaminated with acute hazardous waste.

These shipment limitations, covering the exemption from the RCRA hazardous waste transporter regulations and manifesting requirements, will apply when the materials are being shipped to a laboratory or testing facility or returned to the generator or sample collector.

C. Facility Treatment Rate Limit. The Agency has adopted a treatment rate limit of 250 kg per day of as received waste for the entire laboratory or testing facility. "As received" refers to the waste shipped by the generator or sample collector as it arrives at the laboratory or testing facility.

D. Facility Storage Quantity Limits. The Agency has also adopted an overall storage limitation of 1000 kg of "as received" waste per testing facility. This limitation can include up to 500 kg of soils, water, or debris contaminated with acute hazardous waste or 1 kg of acute hazardous waste. The Agency is making it clear in this rule that the storage exemption only applies to laboratories or testing facilities conducting treatability studies. The rule does not allow for intermediate storage.

E. Facility Storage Time Limits. Any untreated sample and any residue generated during the treatability study must be returned to the generator within 90 days of study completion or within 1 year from the date of shipment by the generator to the laboratory or testing facility, whichever is earlier. Otherwise, these materials must be managed, by the laboratory or testing facility conducting the treatability study, as a RCRA hazardous waste (unless the waste is no longer hazardous).

MTUs conducting treatability studies may qualify for this exemption. The requirements of the exemption apply to each location where an MTU will conduct treatability studies. When more than one MTU is operating at one location they will be treated as one MTU facility for purposes of applying the

limitations.

#### 4. Procedure for Compliance with the Rule

Facilities conducting small-scale treatability studies would not be required to obtain the permit; and the shipment of samples to and from facilities would no longer need to be manifested. There are still certain procedures required to qualify for the exemption.

##### A. General Reporting and Recordkeeping Requirements.

Reporting and recordkeeping requirements are being imposed to facilitate inspector review, and if necessary, to take enforcement action. The generator of the sample (who may also be the shipper or sample collector) and the laboratory or testing facility conducting the treatability study must keep copies of contracts and shipping documents for a minimum of 3 years after the completion of the study.

##### B. Generator-Specific Requirements. Generators and sample collectors must also maintain records indicating the following:

- the amount of waste (per waste stream and treatment process) shipped under the exemption;
- the name, address, and EPA identification number of the study facility;
- shipment dates; and,
- whether or not any unused sample or any residue generated from the treatability study was returned.

Beginning in 1989, generators must report this information in their biennial reports. In addition, generators and/or sample collectors who seek a variance to submit supplemental sample material from a particular waste stream must indicate the reason for the request, support the additional quantity requested, account for all sample material previously submitted from the waste stream, and describe any technical or equipment modifications and the corrected results.

##### C. Facility-Specific Requirements. Owners or operators of a study facility must:

- notify the Regional Administrator or authorized State, by

letter, of the intent to conduct treatability studies at least 45 days prior to conducting any such studies;

- obtain an EPA identification number if it does not have one;
- maintain records documenting compliance with the specified time and quantity limits for treatment and storage for 3 years from the completion of each treatability study.

Specific minimum information, by treatability study, that must be maintained includes:

- the name, address, and EPA identification number of the generator or sample collector;
- Information on the quantities of and dates that waste materials were received, stored, and tested; and,
- the date the unused sample and residue were returned to the generator or, if sent to a designated facility, the name of the facility and its EPA identification number.

By March 15 of each year, each facility must submit a comprehensive report to the authorized State or Regional Administrator that includes the above information for all studies or the previous calendar year and an estimate of the number of studies and the amount of waste expected to be used in treatability studies during the current year.

Additionally, laboratories or testing facilities that do not return the unused sample or the residues to the generator or sample collector within the specified time limits are subject to appropriate regulation. Facilities must determine if they meet requirements of Subject 262.34.

## 5. Impact of the Rule

This exemption will reduce the overall costs and economic impact of EPA's hazardous waste management regulations by eliminating permitting requirements for laboratories and testing facilities intending to conduct treatability studies. Facilities and laboratories will be spared the time (as much as 2 years) and the costs (estimated to be between \$100,000 and \$200,000) otherwise necessary to obtain a RCRA permit. The Agency anticipates that most of the estimated 400 facilities which will be conducting treatability studies will include testing laboratories, research organizations, colleges, universities,

technical institutes, and those facilities involved in solid and hazardous waste management.

#### 6. Effective Date of the Rule

The need for more effective hazardous waste treatment alternatives and the fact that this amendment reduces, rather than increases, the existing requirements for facilities that handle waste samples provide good cause to make this rule effective immediately upon publication notwithstanding Section 4(d) of the Administrative Procedure Act, 5 U.S.C. Section 553(d). This amendment takes effect immediately upon publication in the Federal Register. The regulations will be applicable only in those States that do not have final authorization. Because these changes are less stringent or reduce the scope of the Federal program, States are not required to adopt this rulemaking, although EPA strongly encourages States to do so as quickly as possible. EPA will expedite review of authorized State program revision applications.

#### 7. Agency Contact

For further information regarding the Treatability Studies-Sample Exemption, contact Stephen Cochran at EPA Headquarters telephone No. 202-475-9715 or FTS No. 475-9715.

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Attachment 2

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OFFICE OF SOLID WASTE LABORATORY DECISION TREE

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Guidance on Laboratory Testing and RCRA Permitting

This guidance addresses only the issue of whether materials received by a laboratory must be handled as a hazardous waste under the federal permit or interim status hazardous waste management standards. It does not address the issue of the laboratory which generates hazardous wastes and whether permitting is required for the laboratory-as-generator.

Individual states (whether authorized under RCRA or not) may also have requirements that are more strict than the federal requirements. Thus, although this guidance may indicate that a particular activity may be conducted without requiring a permit, in all cases the laboratory director must confirm with the appropriate state agency whether a permit is required.

Additional assistance on all aspects of the determination process outlined in this guidance may be obtained by calling the RCRA/Superfund Industry Assistance Hotline ((800) 424-9346, commercial (202) 382-3000; FTS-382-3000).

Step 1. Determine the type of testing that will occur.

If the testing is solely to determine a waste, soil, water, or air sample's characteristics or composition, the sample's handling may be subject to reduced regulations under 40 CFR §261.4(d).

Step 2. Determine whether the material is a solid waste per §261.2 (or, in the case of contaminated soil or water, contains a solid waste). [Note: The term "solid waste" does not refer to a

material's physical form, but its legal status as a waste vs. commodity.]

This step requires looking at both the status of the material as it is handled in the "outside world" and as it is handled in the laboratory. For instance, an EP toxic wastewater treatment sludge which is landfilled in the "outside world" is a solid waste and a hazardous waste; however, if it is being tested for reclamation possibilities, it would be neither a solid waste nor a hazardous waste until the experimental residues are discarded. Another example would be an off-specification commercial chemical product listed in §261.33. If, in the "outside world", it is sent for reclamation, it is neither a solid waste nor a hazardous waste. However, if the laboratory intends to incinerate it, it is both a solid waste and a hazardous waste. Assistance in this step may be found by referring to the Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes (EPA 530-SW-86-015), or by calling the RCRA/Superfund Industry Assistance Hotline with details about the specific situation.

Step 3. Determine whether the solid waste is a hazardous waste.

Refer to §261.4(b) to see if it is a "solid waste which is not a hazardous waste." If it is not excluded by §261.4(b), refer to §§261.31-261.33, to determine if it is a listed hazardous waste; if it is not listed, refer to §§261.20-261.24 to determine if it is a characteristic hazardous. For assistance, call (800) 424-9346.

Step 4. Determine whether the laboratory's activity qualifies for the treatability study exemption at §261.4(e) and (f).

See the July 19, 1988 Federal Register (53 FR 27290). Individual states may not recognize this exemption.

Step 5. Determine whether the laboratory will be performing any of the recycling operations on wastes which are described in §261.6(a)(3). If so, the activity is not subject to federal RCRA regulation.

Step 6. Determine whether the laboratory will be recycling wastes in the manner described in §261.6(a)(2).

[Note: Burning for energy recovery must be legitimate recycling. Current enforcement guidance uses 5000-8000 BTU/lb as generated

(not as blended for burning) as the dividing point between legitimate energy recovery and incineration.]

If so, the regulations in §261.6(a)(2) refer the reader to the appropriate sections of Part 266. In some cases, these activities will require permits.

Step 7. Determine whether the laboratory's activity is recycling which may be (currently) exempt from regulation under §261.6(c). A storage permit may be required.

Step 8. Determine whether storage of hazardous waste received from off-site occurs. If so, a storage permit is required (§270.1(c)) unless the activity is specifically excluded from the permit requirement by §270.1(c)(2) and (3). Check Part 268 for additional regulation of storage of certain hazardous wastes. Continue to step 9.

Step 9. Determine whether treatment or disposal (as defined in §260.10) occur. If so, a permit covering these activities may be required (§270.1(c)). Research, Development, and Demonstration activities may be covered by a special type of permit (see §270.65). In addition, the laboratory must refer to Part 268 for restrictions on placement of hazardous wastes on land (if land placement is proposed).

Step 10. Verify that the activity requires a permit. Certain activities are exempt from the permit requirement (see §270.1(c)(2) and (3)). In addition, Part 268 contains the restrictions on land placement of certain hazardous wastes.