

SUBJECT

DATE

- 1448. Definitions of Inactive Portion, Active Portion and Closed Portion of a RCRA TSDF
- 1449. Hazardous Waste Determinations and Hazardous Waste Code Determinations

AUG 12, 2021
AUG 19, 2021

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TWO MINUTE TRAINING

TO: CENTRAL PLATEAU CLEANUP COMPANY

FROM: PAUL W. MARTIN, RCRA Subject Matter Expert
CPCCo Environmental Protection, Hanford, WA

SUBJECT: HAZARDOUS WASTE DETERMINATIONS AND HAZARDOUS WASTE CODE DETERMINATIONS

DATE: AUGUST 19, 2021

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TWO MINUTE TRAINING

SUBJECT: Hazardous Waste Determinations and Hazardous Waste Code Determinations

Q: A laboratory chemist has been trained on the Generator Improvements Rule (GIR) and is concerned about EPA's emphasis that hazardous waste determinations must occur at the initial point of generation (POG). The chemist is also concerned that they must make the hazardous waste determination and determine applicable hazardous waste codes as the initial generator of the waste, even though they are not qualified to make waste determinations. In terms of hazardous waste determinations, when does a generator need to determine the hazardous wastes codes for a waste - at the initial point of generation or at some other time downstream from the POG?

A: EPA stated in the [November 28, 2016, Federal Register](#) on page 85750 that the revision to [40 CFR 262.11](#), Hazardous Waste Determinations, was not a substantive change to the regulations and that EPA has always maintained that hazardous waste determinations must be made at the initial point of generation.

Also, in the Hazardous Waste Generator Improvements Final Rule, Response to Comments Document Summaries and Responses, dated October 4, 2016, Docket # [EPA-HQ-RCRA-2012-0121](#), on page 109, Section 4.2.2 - Determinations at point of generation, EPA stated:

"The question that needs to be answered is whether the waste is hazardous or not, and why; i.e., what hazard is exhibited that makes the waste a hazardous waste, such as ignitable, toxic, corrosive and reactive. Once they know the hazard, they can place a label in an appropriate place where the waste will be stored until it is picked up and moved to a central accumulation area. The Agency believes technical staff can help those working in a lab to determine whether their experiments will produce a hazardous waste and determine why the waste is hazardous. The Agency also believes students, researchers, etc. are already being trained in this determination because they have to be aware of the potential hazards they are dealing with. (In fact, this commenter said so; i.e., "While these individuals are aware of the associated hazards, that knowledge does not qualify them to make hazardous waste determinations." The problem appears to be whether the researcher will need to identify the RCRA waste codes. The process for identifying RCRA waste codes begins at the point of generation, but the actual marking of these codes on a container must occur prior to the wastes being sent off-site to a RCRA permitted TSDF, or prior to being treated and disposed of on-site. In other words, sufficient time will exist for the technical experts in the laboratory to identify the RCRA waste codes to complete the waste determination process. The Agency believes this process should alleviate this issue in a laboratory setting."

Therefore, at the initial point of generation, before any dilution, mixing, or other alteration of the waste occurs, a determination must be made if the waste is a hazardous waste, i.e., does the waste exhibit a hazard such as ignitability, corrosivity, reactivity, or toxicity. The process to determine the hazardous waste codes begins at the point of generation but must be completed prior to shipping the hazardous waste offsite and marking the waste codes on the container, or prior to treatment and disposal onsite. EPA stated that this would provide sufficient time for technical experts to identify the RCRA waste codes and complete the waste determination process.

SUMMARY:

- Hazardous waste determinations begin at the initial POG before any dilution, mixing, or other alteration of the waste.
- The hazards of the waste determine if the waste is a hazardous waste.
- The determination of waste codes begins at the initial point of generation and must be completed prior to shipping the waste offsite or prior to treatment and disposal onsite.

Excerpts from EPA's Response to Comments and 40 CFR 262.11 are attached to the e-mail. If you have any questions, please contact me at [Paul W. Martin@rl.gov](mailto:Paul_W_Martin@rl.gov) or at (509) 376-6620.

FROM: Paul W. Martin

DATE: 8/19/2021

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TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: Hazardous waste Determinations and Hazardous waste Code Determinations

Hazardous Waste Generator Improvements Final Rule

Response to Comments Document

Summaries and Responses

US EPA

October 4, 2016

Docket # EPA-HQ-RCRA-2012-0121

Page 109

Section 4.2.2 - Determinations at point of generation

Comment: The proposed rule that would require hazardous waste determinations be made at the point of generation would create significant problems for both compliance and environmental protection. This proposal risks forfeiting accuracy for speed. That is a trade off with questionable benefits and very real potential detriments. Therefore, this change should not be made. The proposed requirement may be reasonable for some generators producing large quantities of fairly homogeneous constant waste streams in centralized operations (e.g., production facilities). In such a situation, a determination can likely be made by a qualified person either at the point of generation or even prior to generation. There are many generators, especially academic and research laboratories that produce relatively small volume, highly diverse, ever-changing, and unpredictable waste streams. Containers are often just a few hundred grams and, at most, four liters. The wastes are produced by a relatively large number of individuals across decentralized operations and are frequently stored for a period of time at the point of generation (in satellite accumulation areas). Those generating hazardous wastes in laboratories include everyone from professors to technicians to undergraduate students. While these individuals are aware of the associated hazards, that knowledge does not qualify them to make hazardous waste determinations. It is common for academic and research laboratories to have wastes characterized by a qualified person at some point after the wastes are produced. Often this occurs upon transfer to central accumulation areas. It could be argued that individual generators (professors, technicians, and research students) could be trained to make hazardous waste determinations. However, that approach carries two significant problems. First, the training would be burdensome if not almost impossible to achieve, especially for an ever changing student body. Second, it would tend to shift the determination process away from those professionals dedicated to such tasks to individuals less dedicated and prepared. Even if all professors, technicians, and students could be properly trained, hazardous waste determinations would represent a chore that distracts them from their primary focus of research, teaching, etc. Those individuals, even if motivated and well intentioned, are unlikely to put forth the same effort and skill as individuals for whom hazardous waste handling is a primary job task. For these reasons, the proposed rule change regarding "When and Where To Make a Hazardous Waste Determination" is a change that would reduce personal safety, environmental safety, and compliance, rather than enhance it. **(0063)**

Response: The Agency's policy and position from the beginning of the RCRA program has been that a waste determination must be made at the point of generation (i.e., the point at which the material first becomes a solid waste under RCRA. See, for example, 55 FR 11830, March 29, 1990). This includes both the time and place the waste is first generated. By requiring that the hazardous waste determination be made at the point of generation in § 262.11(a), the final regulation clarifies that the determination cannot be made downstream in the process, where other materials could be mixed with the waste or where the waste may have changed its physical or chemical characteristics. A generator's hazardous waste determination at the initial point of generation is critical to ensure proper management of the waste not only by the generator, but also by transporters and TSDFs who rely on the generator's determination to allow them to safely manage the waste and provide appropriate treatment and disposal. This proposed revision to § 262.11 is not a substantive change to the program; preambles to a number of previous rules explain that EPA has always maintained that hazardous waste determinations must be made at the initial point of generation. (See 45 FR33095-96, May 19, 1980 and 55 FR 11830, March 29, 1990) The Agency is also aware that many generators, such as academic and industrial laboratories, generate new or different waste streams frequently, and that making hazardous waste determinations for multiple waste streams is more difficult than when a generator has a small number of waste streams that seldom vary. However, EPA stresses that in the laboratory setting, it may be even more important to make accurate hazardous waste determinations at the point of generation, so that emergency scenarios involving mixing of incompatible wastes or other dangerous situations can be avoided and lab worker safety maintained. Whether a generator

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make accurate hazardous waste determinations at the point of generation, so that emergency scenarios involving mixing of incompatible wastes or other dangerous situations can be avoided and lab worker safety maintained. Whether a generator generates one new waste daily or annually, the process for making a hazardous waste determination is still the same. Through knowledge of the process or materials, and/or through testing, all generators must make a hazardous waste determination at the point of generation. The Agency would expect generators producing new wastes frequently to establish efficient processes to make those waste determinations, particularly to the extent they can use knowledge of the materials or feedstocks in the waste determination process. The Agency realizes that the educational and industrial laboratory sectors raised concerns about the undue waste determination burden from the large numbers of potentially hazardous wastes that might be generated at their sites. EPA realizes that these sectors operate differently from the traditional industrial hazardous waste generators. In fact, to address laboratory sector concerns, EPA developed an optional set of alternative standards in 40 CFR part 262 subpart K, entitled, "Alternative Requirements for Hazardous Waste Determination and Accumulation of Unwanted Material for Laboratories Owned by Eligible Academic Entities." This rule was designed to account for the manner in which academic laboratories operate. In addition, a few years ago, the EPA began a review of how RCRA hazardous waste regulations apply to the retail sector in order to better understand retailers' challenges in complying with RCRA regulation. These efforts are on-going. From a practical viewpoint, those involved in conducting experiments in a laboratory setting will need to make a hazardous waste determination when they have a generated a waste they know will be disposed. The question that needs to be answered is whether the waste is hazardous or not, and why; i.e., what hazard is exhibited that makes the waste a hazardous waste, such as ignitable, toxic, corrosive and reactive. Once they know the hazard they can place a label in an appropriate place where the waste will be stored until it is picked up and moved to a central accumulation area. The Agency believes technical staff can help those working in a lab to determine whether their experiments will produce a hazardous waste and determine why the waste is hazardous. The Agency also believes students, researchers, etc. are already being trained in this determination because they have to be aware of the potential hazards they are dealing with. (In fact this commenter said so; i.e., "While these individuals are aware of the associated hazards, that knowledge does not qualify them to make hazardous waste determinations." The problem appears to be whether the researcher will need to identify the RCRA waste codes. **The process for identifying RCRA waste codes begins at the point of generation, but the actual marking of these codes on a container must occur prior to the wastes being sent off-site to a RCRA permitted TSDF, or prior to being treated and disposed of on-site.** In other words, sufficient time will exist for the technical experts in the laboratory to identify the RCRA waste codes to complete the waste determination process. The Agency believes this process should alleviate this issue in a laboratory setting.

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40 CFR §262.11 Hazardous waste determination and recordkeeping

A person who generates a solid waste, as defined in 40 CFR 261.2, must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. A hazardous waste determination is made using the following steps:

- (a) The hazardous waste determination for each solid waste must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the RCRA classification of the waste may change.
- (b) A person must determine whether the solid waste is excluded from regulation under 40 CFR 261.4.
- (c) If the waste is not excluded under 40 CFR 261.4, the person must then use knowledge of the waste to determine whether the waste meets any of the listing descriptions under subpart D of 40 CFR part 261. Acceptable knowledge that may be used in making an accurate determination as to whether the waste is listed may include waste origin, composition, the process producing the waste, feedstock, and other reliable and relevant information. If the waste is listed, the person may file a delisting petition under 40 CFR 260.20 and 260.22 to demonstrate to the Administrator that the waste from this particular site or operation is not a hazardous waste.
- (d) The person then must also determine whether the waste exhibits one or more hazardous characteristics as identified in subpart C of 40 CFR part 261 by following the procedures in paragraph (d)(1) or (2) of this section, or a combination of both.

(1) The person must apply knowledge of the hazard characteristic of the waste in light of the materials or the processes used to generate the waste. Acceptable knowledge may include process knowledge (*e.g.*, information about chemical feedstocks and other inputs to the production process); knowledge of products, by-products, and intermediates produced by the manufacturing process; chemical or physical characterization of wastes; information on the chemical and physical properties of the chemicals used or produced by the process or otherwise contained in the waste; testing that illustrates the properties of the waste; or other reliable and relevant information about the properties of the waste or its constituents. A test other than a test method set forth in subpart C of 40 CFR part 261, or an equivalent test method approved by the Administrator under 40 CFR 260.21, may be used as part of a person's knowledge to determine whether a solid waste exhibits a characteristic of hazardous waste. However, such tests do not, by themselves, provide definitive results. Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at 40 CFR 260.10.

(2) When available knowledge is inadequate to make an accurate determination, the person must test the waste according to the applicable methods set forth in subpart C of 40 CFR part 261 or according to an equivalent method approved by the Administrator under 40 CFR 260.21 and in accordance with the following:

(i) Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at 40 CFR 260.10.

(ii) Where a test method is specified in subpart C of 40 CFR part 261, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste.

(e) If the waste is determined to be hazardous, the generator must refer to parts 261, 264, 265, 266, 267, 268, and 273 of this chapter for other possible exclusions or restrictions pertaining to management of the specific waste.

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(f) *Recordkeeping for small and large quantity generators.* A small or large quantity generator must maintain records supporting its hazardous waste determinations, including records that identify whether a solid waste is a hazardous waste, as defined by 40 CFR 261.3. Records must be maintained for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal. These records must comprise the generator's knowledge of the waste and support the generator's determination, as described at paragraphs (c) and (d) of this section. The records must include, but are not limited to, the following types of information: The results of any tests, sampling, waste analyses, or other determinations made in accordance with this section; records documenting the tests, sampling, and analytical methods used to demonstrate the validity and relevance of such tests; records consulted in order to determine the process by which the waste was generated, the composition of the waste, and the properties of the waste; and records which explain the knowledge basis for the generator's determination, as described at paragraph (d)(1) of this section. The periods of record retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

(g) *Identifying hazardous waste numbers for small and large quantity generators.* If the waste is determined to be hazardous, small quantity generators and large quantity generators must identify all applicable EPA hazardous waste numbers (EPA hazardous waste codes) in subparts C and D of part 261 of this chapter. Prior to shipping the waste off site, the generator also must mark its containers with all applicable EPA hazardous waste numbers (EPA hazardous waste codes) according to §262.32.

[81 FR 85807, Nov. 28, 2016]