

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 260

[FRL-3981-9]

Hazardous Waste Management System; Testing and Monitoring Activities

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA or Agency) is proposing to revise certain testing methods used in complying with the requirements of Subtitle C of the Resource Conservation and Recovery Act (RCRA). EPA also is proposing to approve several new testing methods for use in complying with the requirements of Subtitle C of RCRA. These new and revised methods, designated as Update II, are proposed to be added to the Third Edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. This action is necessary to provide better and more complete analytical test methods for RCRA-related testing.

DATES: Comments on this proposed rule must be submitted on or before November 1, 1993.

ADDRESSES: The public should submit an original and two copies of their comments on this proposed rule to the Docket Clerk (OS-305), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460. The official record for this rulemaking (Docket No. F-93-WT2P-FFFFF) is located at the above address in room M-2427, and is available for viewing from 9 a.m. to 4 p.m., Monday through Friday, excluding Federal holidays. The public must make an appointment to review docket materials by calling (202) 260-9327. The public may copy a maximum of 100 pages of material from any one regulatory docket at no cost; additional copies cost \$0.15 per page.

Copies of the Third Edition of SW-846, Update I, and the proposed Update II to the Third Edition are part of the official docket for this rulemaking, and also are available from the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402, (202) 783-3238. The GPO document number is 955-001-0000-1.

FOR FURTHER INFORMATION CONTACT: For general information contact the RCRA Hotline at (800) 424-9346 (toll free) or call (703) 920-9810; or, for hearing impaired, call TDD (800) 553-7672. For

technical information, contact Kim Kirkland, Office of Solid Waste (OS-331), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, (202) 260-4761.

SUPPLEMENTARY INFORMATION:

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I. Authority

These regulations are being promulgated under the authority of sections 1006, 2002, 3001, 3002, 3004, 3005, 3006, 3010, and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (commonly known as RCRA), as amended [42 U.S.C. 6905, 6912, 6921, 6922, 6924, 6924, 6925, 6926, 6930, and 6935].

II. Background Summary and Regulatory Framework

EPA Publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," contains the analytical and test methods that EPA has evaluated and found to be among those acceptable for testing under subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA), and that are required for specific regulations as discussed below. These methods are intended to promote accuracy, sensitivity, specificity, precision, and comparability of analyses and test results. In situations where the regulations require the use of appropriate SW-846 methods, the regulations, as amended by a final rule published elsewhere in today's **Federal Register**, specify use of the Third Edition of EPA's SW-846 manual as amended by Update I. SW-846 will be amended further to include the new and revised methods contained in this proposed Update II if these methods are adopted in final form.

Several of the hazardous waste regulations under Subtitle C of RCRA require that specific testing methods described in SW-846 be employed for certain applications. Any reliable analytical method may be used to meet other requirements in 40 CFR parts 260 through 270. For the convenience of the reader, the Agency lists below a number of the sections found in 40 CFR parts

of the sections found in 40 CFR parts 260 through 270 that require the use of a specific method for a particular application, or the use of appropriate SW-846 methods in general:

- (1) Section 260.22(d)(1)(i)—Submission of data in support of petitions to exclude a waste produced at a particular facility (*i.e.*, delisting petitions);
- (2) Sections 261.22(a)(1) and (2)—Evaluation of waste against the corrosivity characteristic;
- (3) Sections 261.24(a)—Leaching procedure for evaluation of waste against the toxicity characteristic;
- (4) Sections 264.190(a), 264.314(c), 265.190(a), and 265.314(d)—Evaluation of waste to determine if free liquid is a component of the waste;
- (5) Section 266.112(b)(1)—Certain analyses in support of exclusion from the definition of a hazardous waste of a residue which was derived from burning hazardous waste in boilers and industrial furnaces;
- (6) Section 268.32(i)—Evaluation of a waste to determine if it is a liquid for purposes of certain land disposal prohibitions;
- (7) Sections 268.40(a), 268.41(a), and 268.43(a)—Leaching procedure for evaluation of waste to determine compliance with Land Disposal treatment standards;
- (8) Sections 270.19(c)(1)(iii) and (iv), and 270.62(b)(2)(i)(C) and (D)—Analysis and approximate quantification of the hazardous constituents identified in the waste prior to conducting a trial burn in support of an application for a hazardous waste incineration permit; and
- (9) Sections 270.22(a)(2)(ii)(B) and 270.66(c)(2)(i) and (ii)—Analysis conducted in support of a destruction and removal efficiency (DRE) trial burn waiver for boilers and industrial furnaces burning low risk wastes, and analysis and approximate quantitation conducted for a trial burn in support of an application for a permit to burn hazardous waste in a boiler and industrial furnace.

In other situations, this EPA publication functions as a guidance document setting forth acceptable, although not required, methods to be implemented by the user, as appropriate, in responding to RCRA-related sampling and analysis requirements.

SW-846 is a document that will change over time as new information and data are developed. Advances in analytical instrumentation and

techniques are continually reviewed by the Agency and periodically incorporated into SW-846 to support changes in the regulatory program and to improve method performance. Update II represents such an incorporation. Therefore, EPA solicits any available data and information that may affect the usefulness of SW-846.

III. Proposal

A. Revised Methods and Chapters

The Agency is today proposing to revise several methods contained in the Third Edition of SW-846 and its Update I, incorporated by reference into 40 CFR 260.11 by a separate rulemaking published elsewhere in today's Federal Register. These proposed revisions would improve the methods and provide additional performance information for each method. The Agency is also revising SW-846 Chapters Two and Three and section 4.1 of Chapter Four to more accurately reflect SW-846 method improvements. In addition, the Agency is revising section 7.2.1 of SW-846 Chapter Seven. A discussion regarding the Agency's basis for revising Chapter Seven is provided in section III.C of this preamble.

Table 1 lists the methods and chapter sections that are proposed for revision. The revised methods and chapters are available from GPO, and are part of the official docket for this rulemaking. The Agency is soliciting comments on all sections of the methods.

B. New Methods

The Agency is today proposing to add several new methods to the Third Edition of SW-846. These new methods would be added to allow more flexibility of method selection and to

provide methods that may be used for additional analytes. Table 2 lists the methods that are proposed for addition to SW-846. These new methods are available from GPO, and are part of the official docket for this rulemaking. The Agency is soliciting comments on all sections of these methods.

TABLE 1.—PROPOSED REVISED METHODS AND CHAPTERS

Method No.	Title
	Chapter Two—Choosing the Correct Procedure (all sections).
	Chapter Three—Metallic Analytes (sections 3.1–3.3).
	Chapter Four—Organic Analytes (section 4.1).
	Chapter Seven—Introduction and Regulatory Definitions (section 7.2.1).
3510B	Separatory Funnel Liquid-Liquid Extraction.
3520B	Continuous Liquid-Liquid Extraction.
3540B	Soxhlet Extraction.
3550A	Ultrasonic Extraction.
3600B	Cleanup.
3630B	Silica Gel Cleanup.
3640A	Gel-Permeation Cleanup.
5040A	Analysis of Sorbent Cartridges from Volatile Organic Sampling Train (VOST): GC/MS Technique.
7060A	Arsenic (Atomic Absorption, Furnace Technique).
7080A	Barium (Atomic Absorption, Direct Aspiration).
7131A	Cadmium (Atomic Absorption, Furnace Technique).
7470A	Mercury in Liquid Waste (Manual Cold-Vapor Technique).
7471A	Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique).
7741A	Selenium (Atomic Absorption, Gaseous Hydride).
8010B	Halogenated Volatile Organics by Gas Chromatography.
8020A	Aromatic Volatile Organics by Gas Chromatography.

TABLE 1.—PROPOSED REVISED METHODS AND CHAPTERS—Continued

Method No.	Title
8021A	Halogenated and Aromatic Volatiles by Gas Chromatography Using Electrolytic Conductivity and Photoionization Detectors in Series: Capillary Column Technique.
8080A	Organochlorine Pesticides and Polychlorinated Biphenyls by Gas Chromatography.
8120A	Chlorinated Hydrocarbons by Gas Chromatography.
8141A	Organophosphorus Compounds by Gas Chromatography: Capillary Column Technique.
8150B	Chlorinated Herbicides by Gas Chromatography.
8240B	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS).
8250A	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS).
8260A	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Column Technique.
8270B	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Column Technique.
9020B	Total Organic Halides (TOX).
9040A	pH Electrometric Measurement.
9045B	Soil and Waste pH.
9071A	Oil and Grease Extraction Method for Sludge and Sediment Samples.
9200A	Nitrate.
9252A	Chloride (Titrimetric, Mercuric Nitrate).

Note: A suffix of "A" in the method number indicates revision one (the method has been revised once). A suffix of "B" in the method number indicates revision two (the method has been revised twice).

TABLE 2.—NEW METHODS PROPOSED FOR ADDITION TO SW-846

Method No.	Title
1312	Synthetic Precipitation Leaching Procedure.
3015	Microwave Assisted Acid Digestion of Aqueous Samples and Extracts.
3051	Microwave Assisted Acid Digestion of Sediments, Sludges, Soils, and Oils.
3541	Automated Soxhlet Extraction.
3665	Sulfuric Acid/Permanganate Cleanup.
5041	Protocol for Analysis of Sorbent Cartridges from Volatile Organic Sampling Train (VOST): Wide-bore Capillary Column Technique.
5050	Bomb Combustion Method for Solid Waste.
5100	Determination of the Volatile Organic Concentration of Waste Samples.
5110	Determination of Organic Phase Vapor Pressure in Waste Samples.
6020	Inductively Coupled Plasma—Mass Spectrometry.
7062	Antimony and Arsenic (Atomic Absorption, Gaseous Borohydride).
7742	Selenium (Atomic Absorption, Gaseous Borohydride).
8031	Acrylonitrile by Gas Chromatography.
8032	Acrylamide by Gas Chromatography.
8061	Phthalate Esters by Capillary Gas Chromatography with Electron Capture Detection (GC/ECD).
8081	Organochlorine Pesticides and PCBs as Aroclors by Gas Chromatography: Capillary Column Technique.
8121	Chlorinated Hydrocarbons by Gas Chromatography: Capillary Column Technique.

TABLE 2.—NEW METHODS PROPOSED FOR ADDITION TO SW-846—Continued

Method No.	Title
8151	Chlorinated Herbicides by Gas Chromatography Using Methylation or Pentafluorobenzoylation Derivatization: Capillary Column Technique.
8275	Thermal Chromatography/Mass Spectrometry (TC/MS) for Screening Semivolatile Organic Compounds.
8290	Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High Resolution Gas Chromatography/High-Resolution Mass Spectrometry (HRGC/HRMS).
8315	Determination of Carbonyl Compounds by High Performance Liquid Chromatography (HPLC).
8316	Acrylamide, Acrylonitrile and Acrolein by High Performance Liquid Chromatography (HPLC).
8318	N-Methylcarbamates by High Performance Liquid Chromatography (HPLC).
8321	Solvent Extractable Non-Volatile Compounds by High Performance Liquid Chromatography/Thermospray/Mass Spectrometry (HPLC/TSP/MS) or Ultraviolet (UV) Detection.
8330	Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC).
8331	Tetrazene by Reverse Phase High Performance Liquid Chromatography (HPLC).
8410	Gas Chromatography/Fourier Transform Infrared (GC/FT-IR) Spectrometry for Semivolatile Organics: Capillary Column.
9056	Anion Chromatography Method.
9075	Test Method for Total Chlorine in New and Used Petroleum Products by X-Ray Fluorescence Spectrometry (XRF).
9076	Test Method for Total Chlorine in New and Used Petroleum Products by Oxidative Combustion and Microcoulometry.
9077	Test Methods for Total Chlorine in New and Used Petroleum Products (Field Test Kit Methods).
9096	Liquid Release Test (LRT) Procedure.
9253	Chloride (Titrimetric, Silver Nitrate).

C. Free Liquids and Characteristic Tests

The Agency is today proposing to delete a statement in SW-846 which implies that Method 9095 (the Paint Filter Liquids Test) is the appropriate test to use in determining whether a waste contains a liquid for purposes of testing for the characteristic of corrosivity. More specifically, that statement, which appears in section 7.2.1 of Chapter Seven of SW-846, states that "Method 9095, Paint Filter Liquids Test, Chapter Six [may be used] to determine free liquid" for purposes of testing for the corrosivity characteristic.

While liquids obtained using Method 9095 (or any other common laboratory separation technique such as decanting or pipetting) may be used in testing for corrosivity or ignitability, these methods are not adequate to demonstrate that a waste does not contain a liquid for purposes of testing for those characteristics. In order to demonstrate that a waste does not contain a liquid for purposes of testing for those characteristics, the Agency is today clarifying in section 7.2.1 of Chapter Seven that the pressure filtration technique specified in Method 1311 (the TCLP) is suitable. This technique defines a liquid as the material which passes through a 0.6-0.8 micron filter when subjected to 50 psi pressure. The Agency solicits comments on this clarification.

D. pH Testing

The Agency is requesting comment on whether to add a temperature requirement for the purposes of corrosivity testing in proposed Method 9040A (pH Electrometric Measurement). Specifically, we are requesting comment on whether the following language

should or should not be added to Section 7.1.2 of Method 9040A:

"(. . . also, for corrosivity characterization, the sample must be measured at 25°C±1°C if the pH of the waste is above 12.0.)"

In the alternative, EPA is requesting comment on whether language should be added to Section 7.1.2 requiring samples to be measured at the temperature found at the site where the waste is to be managed.

The Agency is also requesting comment on whether the same language should be added to the proposed Method 9045B (Soil and Waste pH) for consistency.

This language would clarify regulatory requirements as to the temperature at which these tests should be run. This clarification is important because there are wastes (e.g. highly alkaline wastes) for which the temperature affects pH testing results. The temperature at which the corrosivity test is conducted may therefore affect whether or not the wastes are hazardous wastes.

The argument in favor of specifying a temperature is that many hazardous wastes are transported from one site to another, and it is important in a "cradle-to-grave" national hazardous waste regulatory program that the regulatory status of a waste not be dependent on a factor such as temperature which can vary from day-to-day as well as from site-to-site. A standardized temperature in Methods 9040A and 9045B would make clear how to determine the temperature at which to test a waste. A standard temperature might also be more practical for laboratories that routinely run chemical tests at standard temperatures. Twenty-five degrees Centigrade was chosen because the

buffer solutions used to calibrate the pH meter are themselves calibrated to twenty-five degrees Centigrade.

The argument in favor of running these methods at a temperature that is relevant to the site at which a waste is to be managed or conditions under which it will be transported is that the better predictor of a waste's environmental hazard at a site may be a measurement made under conditions that most closely duplicate the conditions at the site. It is not necessarily relevant to environmental determinations that laboratories may routinely run tests at standard temperature, if using a different temperature would provide a better predictor of the environmental hazard.

EPA asks for comments on this issue, and asks that commenters relate their positions to both the better indicator of environmental hazards and the implementation aspects of the two approaches, and to provide scientific/technical support for their position.

EPA also requests comments on whether there are any other aspects of the Agency's rules and standard measurement techniques involving pH that require further clarification.

IV. State Authority

A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. (See 40 CFR part 271 for the standards and requirements for authorization.) Following authorization, EPA retains enforcement authority under sections 3008, 7003 and 3013 of RCRA, although

authorized States have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final authorization administered its hazardous waste program entirely in lieu of EPA administering the Federal program in that State. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facilities in the State that the State was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the State was obliged to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under section 3006(g) of RCRA, 42 U.S.C. 6926(g), new requirements and prohibitions imposed by the HSWA take effect in authorized States at the same time that they take effect in nonauthorized States. EPA is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State is granted authorization to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA applies in authorized States in the interim.

B. Effect on State Authorization

Today's rule, if promulgated, will provide standards that are not effective in authorized States since the requirements are being imposed pursuant to pre-HSWA authority. Therefore, it is not immediately effective in authorized States. The requirements will be applicable only in those States that do not have interim or final authorization. In authorized States, the requirements will not be applicable until the State revises its program to adopt equivalent requirements under State law.

40 CFR 271.21(e)(2) requires that States that have final authorization must modify their programs to reflect Federal program changes and subsequently must submit the modifications to EPA for approval. The deadline by which the State must modify its program to adopt today's proposed rule will be determined based on the date of promulgation of the final rule in accordance with 40 CFR 271.21(e). These deadlines can be extended in certain cases (40 CFR 271.21(e)(3)). Once EPA approves the modification, the State requirements become Subtitle C RCRA requirements.

States with authorized RCRA programs may already have requirements similar to those in today's

proposed rule. These State requirements have not been assessed against the Federal regulations being proposed today to determine whether they meet the tests for authorization. Thus, if today's proposed rule is promulgated, a State will not be authorized to carry out these requirements in fulfillment of the final rule until the State program modification is submitted to EPA and approved. Of course, States with existing standards may continue to administer and enforce their standards as a matter of State law.

If today's rule is promulgated, States that submit their official applications for final authorization within 12 months after the effective date of the rule are not required to include in their applications requirements equivalent to the requirements in the final rule. However, the State must modify its program by the deadlines set forth in 40 CFR 271.21(e). States that submit official applications for final authorization 12 months or more after the effective date of the rule must include requirements at least as stringent as the requirements in the final rule in their applications. 40 CFR 271.3 sets forth the requirements a State must meet when submitting its final authorization application.

V. Regulatory Analyses

A. Regulatory Impact Analysis

Under Executive Order 12291, EPA must determine whether a regulation is "major" and, therefore, subject to the requirement of a Regulatory Impact Analysis. This proposed rule will not increase the number of situations in which SW-846 test methods are required; rather, if promulgated, it will provide greater flexibility to the regulated community in testing and monitoring solid waste. The proposed rule entails no additional testing or recordkeeping burden. The effects on the economy for incorporating technical corrections and adding new test methods are essentially zero.

For the same reasons, EPA has also determined that this proposed rule will not cause a major increase in prices and will not have a significant adverse effect on competition or the ability of U.S. enterprises to compete with foreign enterprises. There is no additional economic impact, therefore, due to today's rule. The Agency has determined that today's rule is not a major regulation; thus, no Regulatory Impact Analysis is required.

B. Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act (5 U.S.C. section 601-612, Pub. L. 96-354, September 19, 1980), whenever

an agency publishes a General Notice of Rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis (RFA) that describes the impact of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). No regulatory flexibility analysis is required, however, if the head of the agency certifies that the rule will not have a significant impact on a substantial number of small entities.

If promulgated, this rule will not require the purchase of new instruments or equipment. The regulation will not require any new reports beyond those now required. This proposed rule will not have an adverse economic impact on small entities since its effect will be to provide greater flexibility to the regulated community, including small entities. Therefore, in accordance with 5 U.S.C. 605(b), I hereby certify that this rule, if promulgated, will not have a significant adverse economic impact on a substantial number of small entities (as defined by the Regulatory Flexibility Act). Thus, this proposed regulation does not require an RFA.

C. Paperwork Reduction Act

There are no additional reporting, notification, or recordkeeping provisions associated with today's proposed rule. Such provisions, were they included, would be submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.*

List of Subjects in 40 CFR Part 260

Administrative practice and procedure, Confidential business information, Hazardous waste, Incorporation by reference.

Dated: August 24, 1993.

Carol Browner,
Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is proposed to be amended as follows:

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

1. The authority citation for part 260 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921-6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974.

Subpart B—Definitions

2. Section 260.11 is amended by revising the "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" reference of paragraph (a) to read as follows:

46056 Federal Register / Vol. 58, No. 167 / Tuesday, August 31, 1993 / Proposed Rules

§ 260.11 References.

(a) * * *

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (Third Edition (September, 1986), as amended by Updates I (July 1992) and II. The Third

Edition of SW-846 and Updates I and II (document number 955-001-00000-1) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 783-3238. Copies may be inspected at the Library and RCRA Docket No. F-93-

WTMF-FFFFF, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

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