



Environmental Fact Sheet

TOXICITY CHARACTERISTIC RULE FINALIZED

The final Toxicity Characteristic rule adds 25 organic chemicals to the eight metals and six pesticides on the existing list of constituents regulated under RCRA. The rule also establishes regulatory levels for the new organic chemicals listed, and replaces the Extraction Procedure leach test with the Toxicity Characteristic Leaching Procedure. Generators must comply with this regulation within six months of the date of notice in the Federal Register; small quantity generators must comply within one year.

BACKGROUND

On June 13, 1986, the Environmental Protection Agency (EPA) proposed to revise the existing toxicity characteristic, one of four characteristics used by the Agency to identify hazardous waste to be regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA). The proposed rule was designed to refine and broaden the scope of the RCRA hazardous waste regulatory program, and to fulfill specific statutory mandates under the Hazardous and Solid Waste Amendments of 1984.

Under current regulations, EPA uses two procedures to define wastes as hazardous: *listing* and *hazardous characteristics*. The listing procedure involves identifying industries or processes that produce wastes that pose hazards to human health and the environment. The second procedure involves identifying properties or "characteristics" that, if exhibited by any waste, indicate a potential hazard if the waste is not properly controlled. Toxicity is one of four characteristics that must be considered when identifying a waste as hazardous. The others are ignitability, reactivity, and corrosivity.

The proposed version of the new rule added 38 new substances to the Toxicity Characteristic list; 13 of these constituents are not included in the final version due to technical difficulties in establishing appropriate regulatory levels. EPA bases all regulatory levels for hazardous chemicals on health-based *concentration thresholds* and a *dilution/attenuation factor* specific to each chemical. A concentration threshold

indicates how much of the chemical adversely affects human health, while the dilution/attenuation factor indicates how easily the chemical could seep (or "leach") into ground water. The levels set in the Toxicity Characteristic (TC) rule were determined by multiplying the health-based number by a dilution/attenuation factor of 100.

The introduction of the TC rule in 1986 generated extensive public comment on a variety of issues. The TC involves a new "modeling" approach, a mathematical computer model, to simulate what happens to hazardous waste in a landfill. Results from the Toxicity Characteristic Leaching Procedure (TCLP), a new test that is part of the TC rule, are more reproducible than results from the old Extraction Procedure (EP) leach test, and the new test is easier to run.

Following the 1986 proposal, EPA published several supplemental notices in an effort to evaluate and incorporate public comments before finalizing the rule.

ACTION

EPA is finalizing the regulatory levels for 25 of the 38 constituents of concern that were identified in the proposed Toxicity Characteristic rule. Regulatory levels for the remaining 13 constituents will be proposed at a later date.

A waste may be a "TC waste" if any of the chemicals listed below are present in waste sample extract or leachate resulting from application of the TCLP to that waste. If chemicals are present at or above the specified regulatory levels, the waste is a "TC waste," and is subject to all RCRA hazardous waste requirements. Regulatory levels established under the EP toxicity characteristic remain the same, but require application of the new test.

Waste generators who have already notified the Agency that they generate other hazardous wastes and who have obtained an EPA identification number for their facility are not required by this rule to notify EPA that they now generate a "TC waste." Facilities that are permitted to treat, store, or dispose of hazardous waste, however, may require new or modified permits to handle "TC waste," and should contact their EPA Regional office for more information.

Implementation of the TC rule will initially be the responsibility of EPA's Regional offices. State hazardous waste programs must modify their regulations to reflect the requirements of the TC rule before they can be authorized for implementation.

The following constituents are now regulated under the Toxicity Characteristic rule. Waste generators must determine the levels present in their waste sample extract or leachate, based either on their knowledge of their processes or by application of the TCLP.

New Constituents/Regulatory levels

Benzene . . . 0.50 mg/l
 Carbon tetrachloride . . . 0.50 mg/l
 Chlordane . . . 0.03 mg/l
 Chlorobenzene . . . 100.0 mg/l
 Chloroform . . . 6.0 mg/l
 m-Cresol . . . 200.0 mg/l*
 o-Cresol . . . 200.0 mg/l
 p-Cresol . . . 200.0 mg/l
 1,4-Dichlorobenzene . . . 7.5 mg/l
 1,2-Dichloroethane . . . 0.50 mg/l
 1,1-Dichloroethylene . . . 0.70 mg/l
 2,4-Dinitrotoluene . . . 0.13 mg/l**
 Heptachlor (and
 its hydroxide) . . . 0.008 mg/l
 Hexachloro-1,3-butadiene . . . 0.5 mg/l
 Hexachlorobenzene . . . 0.13 mg/l**
 Hexachloroethane . . . 3.0 mg/l
 Methyl ethyl ketone . . . 200.0 mg/l
 Nitrobenzene . . . 2.0 mg/l
 Pentachlorophenol . . . 100.0 mg/l***
 Pyridine . . . 5.0 mg/l**
 Tetrachloroethylene . . . 0.7 mg/l
 Trichloroethylene . . . 0.5 mg/l
 2,4,5-Trichlorophenol . . . 400.0 mg/l
 2,4,6-Trichlorophenol . . . 2.0 mg/l
 Vinyl chloride . . . 0.20 mg/l

Old EP Constituents/Regulatory levels

Arsenic . . . 5.0 mg/l
 Barium . . . 100.0 mg/l
 Cadmium . . . 1.0 mg/l
 Chromium . . . 5.0 mg/l
 Lead . . . 5.0 mg/l
 Mercury . . . 0.2 mg/l
 Selenium . . . 1.0 mg/l
 Silver . . . 5.0 mg/l
 Endrin . . . 0.02 mg/l
 Lindane . . . 0.4 mg/l
 Methoxychlor . . . 10.0 mg/l
 Toxaphene . . . 0.5 mg/l
 2,4-Dichlorophenoxyacetic acid . . . 10.0 mg/l
 2,4,5-Trichlorophenoxypropionic
 acid . . . 1.0 mg/l

Many Underground Storage Tank (UST) sites are regulated under Subtitle I of RCRA. The Toxicity Characteristic rule will not apply to UST petroleum-contaminated media and debris regulated under Subtitle I until the Agency completes a number of studies of the impacts of the TC on these wastes. During the study period, UST sites will continue to be regulated under Subtitle I of RCRA.

Listed wastes, unlike characteristic wastes such as a "TC waste," can be removed from EPA's lists of hazardous wastes through a process called

- * If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol concentration is used. The regulatory level for total cresol is 200.0 mg/l.
- ** Quantitation limit is greater than the calculated regulatory level. The quantitation limit, therefore, becomes the regulatory level.
- *** The Agency will propose a new regulatory level for this constituent, based on the latest toxicity information.

delisting. Delisting determinations are made on a case-by-case, site-specific basis. Although it is not discussed in the preamble to the TC rule, the guidance for submitting delisting petitions will be modified in the near future to reflect the replacement of the EP leach test with the Toxicity Characteristic Leaching Procedure. Notification of the effective date for this change will appear in a future *Federal Register* notice.

CONCLUSION

Based on consideration of 12 affected industries, EPA estimates that the Toxicity Characteristic rule will bring a significant volume of additional wastewaters, solid waste, and sludge under the control of its hazardous waste regulations. The rule will bring a large number of waste generators under Subtitle C regulation for the first time, and many treatment, storage, and disposal facilities will require new or modified permits to handle "TC waste."

The Agency strongly encourages industry to reduce the generation of all hazardous wastes through pollution prevention and waste minimization practices. For information and publications on pollution prevention options, contact the toll-free RCRA Hotline number listed below.

TC Impact on Used Oil Regulation

Used oil that is disposed of, rather than recycled or burned for energy recovery, is regulated as a hazardous waste under Subtitle C if it exhibits any of the four characteristics described above. The Toxicity Characteristic rule adds a number of substances to the toxicity list that may bring previously "nonhazardous" used oil under Subtitle C regulation.

Currently, hazardous used oil that is recycled by being burned for energy recovery is minimally regulated under RCRA (a variety of administrative requirements must be met). Used oil that is recycled in any other way is currently exempt from Subtitle C regulation. These regulations for recycled oil are not affected by the Toxicity Characteristic rule. The Agency is currently determining how best to regulate used oil, and is working to develop standards to ensure proper management of used oil that may pose a threat to human health or the environment.

CONTACT

EPA is distributing information materials to trade associations representing those industries potentially affected by the Toxicity Characteristic rule. These materials describe constituents of concern specific to each affected industry, and include compliance guidelines for newly regulated generators. To order copies of these materials, a copy of the *Federal Register* notice, or for further information, contact the RCRA Hotline Monday through Friday, 8:30 a.m. to 7:30 p.m. EST. The national toll-free number is (800) 424-9346; for the hearing impaired, the number is TDD (800) 553-7672. In Washington, D.C., the number is (202) 382-3000 or TDD (202) 475-9652.