



ARARs Q's & A's

Compliance With the Toxicity Characteristics Rule: Part I

Office of Emergency and Remedial Response
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Quick Reference Fact Sheet

Section 121(d) of CERCLA, as amended by the 1986 Superfund Amendments and Reauthorization Act (SARA), requires that on-site remedial actions must at least attain (or justify a waiver of) Federal and more stringent State applicable and relevant and appropriate requirements (ARARs) upon completion of the remedial action. The 1990 National Contingency Plan (NCP) requires compliance with ARARs during remedial actions as well as at completion, and compels attainment of ARARs during removal actions, whenever practicable. See NCP, 55 FR 8666, 8843 (March 8, 1990) (to be codified at 40 CFR section 300.415(i)(1990)), and 55 FR 8666, 8852 (March 8, 1990) (to be codified at 40 CFR section 300.435(b)(2)(1990)).

To implement the ARARs provision, EPA has developed guidance, CERCLA Compliance With Other Laws Manual: Parts I and II (Publications 9234.1-01 and 9234.1-02), and has provided training to Regions and States on the identification of and compliance with ARARs. This "ARARs Q's and A's" is part of a series that provide guidance on a number of questions that arose in developing ARAR policies, in ARAR training sessions, and in identifying and complying with ARARs at specific sites. This particular Q's and A's Fact Sheet addresses compliance with the recently promulgated Toxicity Characteristics Rule (55 FR 11798 (March 29, 1990)).

Q1. How are wastes characterized as hazardous under RCRA?

- A. RCRA Subtitle C requirements are applicable to CERCLA response actions if the waste is a RCRA hazardous waste, and either the waste was initially treated, stored, or disposed of after the effective date of the particular RCRA requirement, or the activity at the CERCLA site constitutes treatment, storage, or disposal, as defined by RCRA. RCRA uses the following two procedures to define wastes as hazardous: (1) the listing procedure, which involves identifying specific industrial or process wastes that pose hazards to human health and the environment; and (2) the hazardous characteristics procedure, which involves identifying properties or "characteristics" that, if exhibited by any waste, indicate a potential hazard if the waste is not properly controlled. See 40 CFR section 261.3(a)(2). The new Toxicity Characteristics (TC) rule concerns one of four characteristics that indicate a potential hazard (the others are ignitability, reactivity, and corrosivity). A waste is a TC waste if any of the chemicals listed in Highlights 1 or 2 are found in the leachate at concentrations equal to or greater than their regulatory levels.

Highlight 1: NEW CHEMICALS REGULATED UNDER THE TC RULE AND THEIR LEACHATE 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
Hexachlor-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

* interim regulatory level

Q2. What are the major provisions of the new TC rule?

- A. The final TC rule adds 25 organic chemicals to the list of waste constituents which, if present in waste at or above the regulatory levels set in the rule (see **Highlight 1**), make the waste a hazardous waste. These 25 chemicals have been added to the 8 metals and 6 pesticides on the existing list of TC waste constituents (see **Highlight 2**). The TC rule also announced that 13 additional chemicals may be added to the TC list after EPA establishes their regulatory levels. Finally, the new TC rule replaces the Extraction Procedures (EP) with another test for determining toxicity (for both the new and existing chemicals regulated for the characteristic of toxicity). The new test is called the Toxicity Characteristics Leaching Procedure (TCLP). The impetus behind the development of the TCLP was the need to identify those wastes that are likely to leach hazardous concentrations of organic compounds.

Note: To determine compliance with RCRA land disposal regulations, the EP is still available for wastes that are not considered wastewater (i.e., for soils and sludges that contain more than 1% total suspended solids) and that contain either any amount of lead, or arsenic when it is the primary hazardous constituent, i.e., the highest constituent concentration in the waste (see section 3(e)(8) of the final RCRA Third Third Rule, unpublished at the time of this printing).

**Highlight 2: CHEMICALS ALREADY
REGULATED FOR TOXICITY
CHARACTERISTICS AND THEIR LEACHATE
REGULATORY LEVELS**

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

Q3. How does the new TC rule affect the regulatory levels of the potential TC wastes already regulated?

- A. The regulatory levels of the eight metals and six pesticides remain the same (see **Highlight 2** for their levels). These constituents must now be tested using the TCLP to determine whether they exceed their regulatory levels. It is important to note that the EP and the TCLP may produce different results; wastes not hazardous under the EP may be hazardous under the TCLP.

Q4. How does the TCLP differ in approach from the EP in identifying the toxicity characteristic?

- A. The primary differences between the TCLP and the EP are: (1) the TCLP uses two leaching media where the medium is determined by the pH of the waste (there is no continual pH adjustment); (2) the TCLP requires the waste to be ground or milled (there is no structural integrity procedure); (3) the TCLP requires a shorter extraction time (18 hours for the TCLP versus 24 hours for the EP); and (4) the TCLP is easier to run and the test results are more easily reproduced.

Q5. What is the current status of the TC rule as a potential ARAR for the Superfund program?

- A. The TC rule was promulgated on March 29, 1990. It became a potential ARAR for all decision documents (i.e., RODs and action memoranda) signed after that date. For actions carried out during the interim period prior to the effective date (i.e., between March 29, 1990 and September 25, 1990), the TC rule would not be applicable, but may be relevant and appropriate.

Q6. How will the TC rule affect Superfund Records of Decision (RODs) that have already been signed?

- A. The NCP states that ARARs "freeze" at the time of ROD signature. See 55 FR 8666, 8757, March 8, 1990, (to be codified at 40 CFR 300.430(f)(1)(ii)(B)). TC requirements were promulgated on March 29, 1990, and thus would not be ARARs for RODs signed before that date. For such RODs, the TC requirements are newly promulgated requirements, and thus should be attained only when EPA determines that these requirements must be met for the remedy to be protective. Newly promulgated or modified requirements like the TC rule will be considered during the 5-year review of the remedy, or sooner, if appropriate, to determine whether the remedy is still protective. Regions should review pre-TC rule RODs to ensure that any on-site disposition of wastes still meets the standard of protectiveness. (This issue will be discussed further in the forth-

coming TC implementation Fact Sheet.) If EPA determines during the remedy review that the TC requirements must be attained, a ROD amendment or Explanation of Significant Differences (ESD) should be issued. See 55 FR 8666, 8757 (March 8, 1990) (to be codified at 40 CFR 300.430(f)(1)(ii)(B)).

Q7. What are some potential overall effects of the TC rule on the Superfund program?

- A. Wastes containing any of the newly-regulated chemical constituents in the TC rule may be subject to RCRA regulations based on the toxicity characteristic, regardless of the source of a particular waste or whether the waste is a RCRA listed waste. In addition, because the TC rule expands the list of potential TC wastes, the amount of wastes considered to be RCRA hazardous wastes at a CERCLA site will potentially expand. Once a waste

is considered to be a RCRA hazardous waste, other RCRA requirements may be applicable or relevant and appropriate, such as closure, minimum technology, and the land disposal restrictions. In addition, remedial alternatives involving off-site shipment of TC wastes must involve Subtitle C facilities, rather than Subtitle D facilities.

NOTICE: The policies set out in this memorandum are intended solely as guidance. They are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this memorandum, or to act at variance with the guidance, based on an analysis of specific site circumstances. The Agency also reserves the right to change this guidance at any time without public notice.

In the near future, OERR will issue another Fact Sheet that discusses technical issues that may arise during the implementation of the TC rule at Superfund sites. The TC implementation Fact Sheet will be Part II to this ARARs Q's & A's Fact Sheet on the TC rule.