

2001

Lovendahl v. Jordan School District : Brief of Appellee

Utah Supreme Court

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Recommended Citation

Brief of Appellee, *Lovendahl v. Jordan School District*, No. 20010274.00 (Utah Supreme Court, 2001).
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IN THE SUPREME COURT OF THE STATE OF UTAH

JAMES LOVENDAHL, SUE
LOVENDAHL, and James Lovendahl
and Sue Lovendahl as guardians ad litem
for WESLEY LOVENDAHL, a person
under the age of 18 years,

Plaintiffs-Appellants,

vs.

JORDAN SCHOOL DISTRICT, a body
politic and a political subdivision of the
State of Utah, and JOHN DOES 1
THROUGH 5,

Defendants-Appellees.

BRIEF OF APPELLEE

Appeal No. 20010274SC
(Oral Argument Priority 15)

APPEAL FROM THE THIRD JUDICIAL DISTRICT COURT
IN AND FOR SALT LAKE COUNTY

Honorable Ronald E. Nehring, District Court Judge

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FILED

NOV - 8 2001

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I.

STATEMENT OF JURISDICTION

This is an appeal from a grant of summary judgment in a civil action. Therefore, the Supreme Court has jurisdiction over this matter pursuant to Utah Code Ann. § 78-2-2(j) (court has jurisdiction over “orders, judgments, and decrees of any court of record over which the Court of Appeals does not have original appellate jurisdiction”).

II.

STATEMENT OF ISSUES PRESENTED AND STANDARD OF REVIEW

The “Statement of Issues Presented for Review” contained in the Lovendahls’ Brief does not accurately describe the issues which are in fact before this Court for review. The issues properly before the Court are as follows:

Issue 1. Whether the Jordan School District is immune under Utah’s Governmental Immunity Act when it handles and mitigates hazardous materials and/or hazardous wastes. More specifically, the issue is whether the trial court erred in ruling that because the District in installing the vent to address the presence of hydrogen sulfide was engaged in the activities of mitigating or handling hazardous materials and wastes within the scope of section 63-30-10(18)(c), it is immune from suit from harms arising from those activities and the District is entitled to judgment on the nuisance claims. *See* R. 224-25. Included in this question is whether the exceptions to waiver of immunity found in Utah Code Ann. § 63-30-10 apply to restrict the waiver of immunity for defective or dangerous public improvements found in Utah Code Ann. § 63-30-9.¹

¹This subissue is here identified because the Lovendahls have stated it as a separate issue. *See* Lovendahls’ Brief p. 7. However, given that section 63-30-9 (as well

The standard of review of this issue is correction of error, without deference to the trial court. This Court reviews “the trial court’s summary judgment ruling for correctness. [The Court] consider[s] only whether the trial court correctly applied the law and correctly concluded that no disputed issues of material fact existed.” *Kessler v. Mortenson*, 2000 UT 95, ¶5, 16 P.3d 1225 (citation omitted); *see also, e.g., Price Dev. Co., L.P. v. Orem City*, 2000 UT 26, ¶9, 995 P.2d 1237 (“In reviewing a summary judgment, we accord no deference to the trial court and review its ruling for correctness.”).

Issue 2. Whether the trial court erred in ruling that, in light of the undisputed fact that the Lovendahls’ property had not declined in value, and that any interference with the property was only temporary, the Lovendahls failed to establish an essential element of their inverse condemnation claim and the District is entitled to judgment on that claim. *See* R. 222, 225.

The same correction of error standard of review cited above applies to this issue. In addition, the Court in reviewing the correctness of the determination that no issue of material fact exists will “consider the facts in a light most favorable to the party against whom the motion was made.” *See Peterson v. South Salt Lake City*, 1999 UT 93, ¶2, 987 P.2d 57. However, in this case it should be borne in mind that the facts so construed are those supported in the record.

The Lovendahls’ Brief asserts that there are issues before this Court regarding the existence of material issues of fact, including (1) whether hydrogen sulfide is “actually ‘regulated’ in fact” despite the absence of permits, and (2) whether the Lovendahls’ “property was factually ‘taken’ or ‘damaged’ for public use” by the District. *See* Lovendahls’ Brief p. 6.

as section 63-30-8, also mentioned by the Lovendahls) by its own terms is expressly made subject to the exceptions set forth in section 63-30-10, as discussed below, there is in fact no substantial question on this subissue.

However, there is no citation to the record showing evidence presented to the trial court which would create an issue of fact on (1), and in any case that would not be a material issue, for reasons discussed below. With respect to (2), the Lovendahls conceded that issue, and cannot now raise it before this Court, and cannot identify record evidence showing that a material dispute exists.

The Lovendahls also suggest that this Court needs to decide whether section 63-30-18's exceptions to waiver override the (express) waiver of immunity for condemnation claims found in Utah Code Ann. § 63-30-10.5 and the constitutional right to compensation for the taking of property found in Article I, section 22 of the Utah Constitution. Lovendahls' Brief p. 6-7. This issue is not before the Court because the District did not advance such a proposition, nor did the trial court make such a ruling in entering judgment for the District on the inverse condemnation claim.

Finally, the Lovendahls state as an issue "Whether the state-promulgated administrative regulations pertaining to 'clean air within the classrooms' provide the District from [sic] immunity from Plaintiffs' claims for 'nuisance' and 'inverse condemnation.'" Lovendahls' Brief p. 7. This issue is also not properly before the Court, because no assertion has been made and the trial court did not conclude that these provisions created immunity. Furthermore, these regulations have never been cited to or relied on with respect to the inverse condemnation claim. They have only minor relevance, and are simply a minor aspect of the argument on the issue of the applicability of section 63-30-10(18)(c).

III. DETERMINATIVE OR IMPORTANT STATUTES, RULES AND REGULATIONS

The following statutes and regulations are determinative or important to the resolution of this appeal:

1. Utah Code Ann. § 63-30-9. Waiver of immunity for injury from dangerous or defective public building, structure, or other public improvement—Exception.

Unless the injury arises out of one or more of the exceptions to waiver set forth in Section 63-30-10, immunity from suit of all governmental entities is waived for any injury caused from a dangerous or defective condition of any public building, structure, dam, reservoir, or other public improvement.

2. Utah Code Ann. § 63-30-10. Waiver of immunity for injury caused by negligent act or omission of employee—Exceptions.

[This statute is set out in full in the Addendum.]

3. Utah Code Ann. § 19-6-302(7).

As used in this part,

...

(7) "Hazardous materials" means hazardous waste as defined in the Utah Hazardous Waste Management Regulations, PCBs, dioxin, asbestos, or a substance regulated under 42 U.S.C., Section 6991(2).

[This statute is set out in full in the Addendum.]

4. 42 U.S.C. § 6991.

[This statute is set out in full in the Addendum.]

5. 42 U.S.C. § 9601(14).

[This subsection is set out in full in the Addendum.]

6. 33 U.S.C. § 1321(b)(2)(A).

[This subsection is set out in full in the Addendum.]

7. 40 C.F.R. § 116.4.

[This regulation, with its associated tables, is set out in full in the Addendum.]

8. 42 U.S.C. § 7412(r).

[The cited portions of Subsection (r) of this lengthy statute are set out in the Addendum.]

9. Utah Code Ann. § 19-6-102(9), (17)(a).

As used in this part:

(9) "Hazardous waste" means a solid waste or combination of solid wastes other than household waste which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

....

(17)(a) “Solid waste” means any garbage, refuse, sludge, including sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations and from community activities but does not include solid or dissolved materials in domestic sewage or in irrigation return flows or discharges for which a permit is required under Title 19, Chapter 5, Water Quality Act, or under the Water Pollution Control Act, 33 U.S.C., Section 1251, et seq.

....

[This statute is set out in full in the Addendum.]

10. Utah Administrative Rules R315-1-1(b).

[This regulation is set out in full in the Addendum.]

11. 40 C.F.R. § 260.10 Definitions.

....

Hazardous waste means a hazardous waste as defined in § 261.3 of this chapter.

....

[The relevant portion of this regulation is set out in the Addendum.]

12. 40 C.F.R. § 261.3 Definition of hazardous waste.

(a) A solid waste, as defined in § 261.2, is a hazardous waste if:

- (1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and
- (2) It meets any of the following criteria:

....

(ii) It is listed in subpart D of this part and has not been excluded from the lists in subpart D of this part under §§ 260.20 and 260.22 of this chapter.

[This regulation is set out in full in the Addendum.]

13. 40 C.F.R. § 261.4 Exclusions.

(a) *Materials which are not solid wastes*. The following materials are not solid wastes for the purposes of this part:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. “Domestic sewage” means untreated sanitary wastes that pass through a sewer system.

....

[This regulation is set out in full in the Addendum.]

14. 40 C.F.R. § 261.33.

[This regulation is set out in full in the Addendum.]

15. 40 C.F.R. Part 261, Subpart D, Appendix VIII.

[The relevant portion of this regulation is set out in the Addendum.]

IV.

STATEMENT OF THE CASE

This appeal was brought to challenge the District Court's grant of summary judgment to appellee Jordan School District ("the School District") on the surviving three claims in the action brought by appellants James Lovendahl, Sue Lovendahl, and Wesley Lovendahl ("the Lovendahls") against the School District (common law nuisance, public nuisance, and inverse condemnation).

The controversy arose from the School District's Spring 1996 installation of a vent pipe on a sanitary sewer line near the School District's Riverton Elementary School, located adjacent to the Lovendahls' property and residence at 13100 South 1900 West in Riverton. R. 143. Shortly after this elementary school was constructed and put into use, students and District employees began complaining about persistent odors in the school which were reported to cause illness and other problems for employees and students. R. 202. Air quality monitors disclosed detectable levels of hydrogen sulfide at various locations within the school building on numerous occasions. R. 202-03. This substance has the chemical composition H_2S , and is often described as smelling like rotten eggs. R. 203. The School District reviewed numerous possible causes of the smell, and analysis suggested that the hydrogen sulfide gas and the accompanying smell might be caused by a back-up of gas in the sewage system. R. 203. In an effort to resolve this problem, the School District installed on a sewer drain line a vent pipe with a mechanical blower in an effort to vent the odors outside of the building and to prevent them from accumulating within the building. R. 203.²

²This effort and various other attempted solutions ultimately proved unsuccessful, and the School District subsequently was forced to close the school. See R. 157.

This vent pipe consisted of a vertical pipe about 20 feet in height, rising from the sewer line, with an attached mechanical blower to facilitate the venting process. *See* R. 3, 57-58. The vent pipe was located on the School District's property, immediately adjacent to the boundary with the Lovendahls' property and residence. R. 4. This location minimized the likelihood that schoolchildren would be near the sewer pipe vent area. R. 4. Following the installation of the vent pipe, the Lovendahls began to complain to the School District of offensive odors. Dissatisfied with the School District's response to their complaints, the Lovendahls filed suit against the School District on December 12, 1997. In this complaint, the Lovendahls alleged six causes of action against the School District: (1) common law nuisance, (2) criminal nuisance, (3) public nuisance, (4) negligent infliction of emotional distress, (5) intentional infliction of emotional distress, and (6) inverse condemnation. R. 7-12. The Lovendahls also sought an award of punitive damages. R. 13-14.

The School District moved to dismiss the Lovendahls' claims for negligent and intentional infliction of emotional distress and criminal nuisance, as well as the claim for punitive damages. R. 24. The Lovendahls did not oppose this motion, and these claims were dismissed on March 3, 1998. R. 40. On March 13, 1998, the School District answered the complaint. On the same date, the Lovendahls petitioned the court for a preliminary injunction to require that the School District cease operation of the vent and seal it off. R. 45-47. Recognizing that the School District had already sealed the pipe and discontinued operation of the vent, the court denied the petition for injunction with the provision that the School District must provide notice prior to opening or using the vent again. R. 87-90.

On September 13, 2000, the School District filed a motion for summary judgment on the Lovendahls' remaining three claims. R. 138-39. Following briefing by the parties and oral

argument, the trial court on February 8, 2001 entered its order granting the School District's motion. R. 220-28.³ The Lovendahls thereafter commenced this appeal by notice filed March 9, 2001. R. 226.

The following facts are relevant to the issues presented to this Court for review. The material and determinative facts regarding the Lovendahls' nuisance claims are as follows: The School District is a political subdivision of the State of Utah. R. 2, 57, 221. The School District installed and operated the vent pipe and blower in an attempt to resolve problems and complaints of an odor at Riverton Elementary School. R. 202-03, 221-22. This odor was caused by the presence of hydrogen sulfide gas, and the School District was aware that the smell was associated with the gas. R. 203, 221. The material and determinative fact with respect to the Lovendahls' inverse condemnation claim are that the alleged "taking" was only temporary and the value of the Lovendahls' property has not declined during the period of time from the operation and following closure of the vent until the time of the motion for summary judgment, R. 144, 222, and in fact increased in value, R. 144.

V.

SUMMARY OF ARGUMENTS

The trial court did not err in granting the School District's motion for summary judgment, because the Lovendahls did not show the existence of any dispute of material fact and based upon the undisputed material facts the School District was and is entitled to judgment as a matter of law on the Lovendahls' remaining claims. The School District is entitled to judgment as a matter of law on the inverse condemnation claim because the value of their property has not

³A copy of the trial court's order, which includes findings of fact and conclusions of law, is included in the Addendum hereto.

decreased and because a temporary interference with use of property does not support a claim of inverse condemnation. The School District was entitled to judgment as a matter of law on the nuisance claims because in installing and operating the vent, the School District was “regulating, mitigating, or handling” hydrogen sulfide gas, which is as a matter of law a hazardous material, hazardous waste, or both. The application of the relevant provision of the governmental immunity act does not require “factual regulation” in the sense of restrictions being imposed on the School District’s actions in this instance, nor does it depend upon an explicit statutory mandate to the School District to regulate, mitigate, or handle hazardous materials or wastes.

VI.

ARGUMENT

A.

THE TRIAL COURT CORRECTLY GRANTED JUDGMENT ON THE INVERSE CONDEMNATION CLAIM IN LIGHT OF THE UNDISPUTED FACT THAT THE VALUE OF THE PROPERTY HAS NOT DECLINED.

The trial court did not err in granting summary judgment to the School District on the Lovendahls’ inverse condemnation claim. The trial court found that “The Plaintiffs have admitted in their depositions and did not contest at the hearing that the value of their property has not been affected on a permanent basis as a result of any action by the School District.” R. 222. Based upon this undisputed fact, and the legal authorities cited by the School District, the trial court properly found that “The value of Plaintiff’s property has not been reduced or affected on a long term or permanent basis by any action of the School District. The impact on the value of the Plaintiff’s property must be more than transitory to sustain a claim of taking of property by a governmental entity.” R. 225. Therefore, the trial court concluded that “The School District

installation of the vent pipe does not constitute a taking as a matter of law, with respect to the Sixth claim.”⁴

The trial court committed no error in so finding. The fact that there has been no reduction in the value of plaintiffs’ property requires judgment in favor of the School District on the inverse condemnation claim. “For purposes of that constitutional provision [Article I, Section 22 of the Utah Constitution], an inverse condemnation action requires (1) property, (2) a taking or damages, and (3) a public use.” *Farmers New World Life Ins. Co. v. Bountiful City*, 803 P.2d 1241, 1243-44 (Utah 1990).

The Lovendahls now allege the existence of an issue of fact with regard to the element of damages, quoting selected deposition testimony of Sue Lovendahl and answers to interrogatories as creating an issue of fact. *See* Lovendahls’ Brief p. 39-42. Notably absent in this discussion is any citation to the record on appeal. In fact, the reference and quotation to these materials is inappropriate because the Lovendahls have not made them part of the record and because these materials were not actually placed before the trial court. *See Robinson v. Tripco Investment, Inc.*, 2000 UT App 200, 21 P.3d 219 ¶ 2 n.1 (relying upon *Russell v. Thomson Newspapers, Inc.*, 842 P.2d 896, 899 n. 3 (Utah 1992)). The Lovendahls criticize the School District for not presenting to the trial court any “hard evidence” in the form of sworn affidavits or the actual depositions. Lovendahls’ Brief p. 39. This criticism is meritless, because the Lovendahls’ concession of this issue resulted in limited information being presented to Court by the School District. The School

⁴Contrary to the suggestion in the Lovendahls’ Brief at pages 44 and 45, the trial court did not in any sense rely on an immunity argument in granting judgment on the inverse condemnation claim. *See* R. 222, 225. Therefore, any supposed error in the trial court allegedly finding that the inverse condemnation claim is subject to retained immunity is entirely imaginary.

District's memorandum in support of summary judgment cited to deposition testimony of the Lovendahls that the value of their property had not declined, but had in fact increased. R. 144, 147-48. At the time the School District filed its motion, the transcripts of the Lovendahls' recent depositions had not yet been prepared. The Lovendahls' memorandum in opposition did not dispute the accuracy of this statement, arguing instead only that governmental immunity did not apply to the inverse condemnation claim⁵ and that the existence of a taking was evident from the School District's desire to remove the odor from its property. R. 172-73. Under Rule 4-501(2)(B), Utah Rules of Judicial Administration, the Lovendahls are deemed to have admitted the fact as set forth by the School District. The deposition transcripts were available when the School District submitted its reply, and were certainly available at the time of hearing on the motion. Given that the Lovendahls had conceded this point, there was no need for the School District to provide further evidence to the trial court. Having failed to challenge this statement of fact before the trial court, either in their memorandum or during the hearing, the Lovendahls cannot now be heard to allege that there is an issue of fact regarding damage to the property.⁶

The Lovendahls also now raise another argument not offered to the trial court: that Sue Lovendahls' lungs are the private property which has been damaged for public use. Lovendahls'

⁵In so doing, the Lovendahls failed to respond to the argument actually made by the School District. The School District explicitly noted in its opening memorandum that governmental immunity did not apply to the inverse condemnation claim, R. 147, and again clarified in its Reply Memorandum that it was not relying on immunity with respect to its motion for judgment on the inverse condemnation claim, R. 179. The Lovendahls raise this "waiver of immunity" argument again in their brief, *see* p. 38-39, 44, apparently still having failed to understand the fact that neither the School District nor the trial court is relying on immunity to dispose of the inverse condemnation claim.

⁶In light of the weakness of the statements now (improperly) pointed to by the Lovendahls, the School District certainly would have demonstrated to the trial court that these statements did not raise a material issue of fact.

Brief p. 43. This frivolous argument blithely ignores the principle, well-established at least since the Civil War and the subsequent constitutional amendments, that a person is not and cannot be considered as property. A claim for injury to a person is not cognizable as a claim for inverse condemnation.

The Lovendahls also cannot make a claim for inverse condemnation based on the temporary interference with use of their property alleged to have resulted from the odors. This Court held in *Rocky Mountain Thrift Stores, Inc. v. Salt Lake City Corp.*, 784 P.2d 459, 456 (Utah 1989), that inverse condemnation damages could not be recovered for losses sustained as a result of temporary interference with access to property, as opposed to a permanent, continuous, or inevitably recurring interference. The restriction in that case lasted for a five-month period. Any temporary limitation in the use of the Lovendahls' property caused by the odors as a matter of law does not rise to the level of an inverse condemnation.

Because the undisputed fact is that the value of the Lovendahls' property has not declined, any interference with use was only periodic and temporary, and no other material issue of fact has been identified, the trial court did not err in granting summary judgment to the School District on the Lovendahls' inverse condemnation claim.

B.

THE TRIAL COURT CORRECTLY GRANTED JUDGMENT ON THE NUISANCE CLAIMS BECAUSE THE SCHOOL DISTRICT WAS ENGAGED IN HANDLING OR MITIGATING A HAZARDOUS MATERIAL OR HAZARDOUS SUBSTANCE.

The trial court correctly granted summary judgment to the School District on the Lovendahls' remaining nuisance claims because these claims are barred by the reservation of governmental immunity found in Utah Code Ann. § 63-30-10(18)(c). The trial court found that

there was no material issue with regard to the facts that there were reports of a noxious odor in the Riverton Elementary School, that testing indicated that the odor was caused by hydrogen sulfide (which is sometimes described as smelling like rotten eggs and has the chemical composition H_2S), and that, after considering a number of possible sources of the hydrogen sulfide, the School District installed the vent in an effort to mitigate the problem of hydrogen sulfide odors within the building. R. 221-23. The Lovendahls' Brief provides no substantive argument or citation to the record to challenge the verity of any of these facts.⁷ The only issue before this Court is whether the trial court was correct in its conclusion that because the School District in installing the vent to address the presence of hydrogen sulfide was engaged in the activities of mitigating or handling hazardous materials and wastes under section 63-30-10(18)(c), it is immune from suit from harms arising from those activities. *See* R. 224-25. A rational and fair analysis of the applicable law demonstrates that the trial court reached the correct conclusion.

1. The School District May Properly Rely on the Retention of Immunity in Section 63-30-10(18)(c).

The Utah Governmental Immunity Act extends immunity to “governmental entities” for injuries resulting from “the exercise of a governmental function.” Utah Code Ann. § 63-30-3(1).

⁷The only reference to any of these issues, at page 27 of the Lovendahls' Brief, is the following: “The District’s singular evidence on this specific point is the assertion of Mr. Randal Haslam, an architect—NOT A TRAINED CHEMIST OR ENVIRONMENTAL SCIENTIST, per se—that the odorous gas the District was attempting to ‘dispose of’ was ‘hydrogen sulfide.’” The Lovendahls did not challenge Mr. Haslam’s affidavit before the trial court and are not entitled to do so now. In any case, Mr. Haslam was relying on the results of tests provided by qualified professionals using mechanical air quality monitors which detected hydrogen sulfide gas. There is no issue of fact regarding whether the School District was attempting to deal with hydrogen sulfide.

This Act defines “governmental entity” as “the state and its political subdivisions,” Utah Code Ann. § 63-30-2(3), and further defines “political subdivision” to include school districts, Utah Code Ann. § 63-30-2(7). There is no issue presented regarding whether the School District is a governmental entity for purposes of the Act or whether the School District was involved in a governmental function when, in the course of operating and maintaining the Riverton Elementary School, it engaged in the acts complained of by the Lovendahls. Rather, the Lovendahls begin their argument regarding the nuisance claims by asserting that the School District cannot raise the retention of immunity in Utah Code Ann. § 63-30-10(18)(c) because it “has no statutory responsibility or mandate to handle or regulate ‘hazardous waste,’ as such, and is thus not within the ‘class’ of Utah governmental agencies—such as the Department of Environmental Quality and the Department of Health—which are so statutorily charged and created.” Lovendahls’ Brief p. 13-14 (uppercase emphasis omitted). In support of this assertion, the Lovendahls rely on *Williams v. Carbon County Board of Education*, 780 P.2d 816 (Utah 1989). That reliance is misplaced. The *Williams* case addressed merely whether the immunity provision contained in Utah Code Ann. § 63-30-3(3), which applied to “the management of flood waters and other natural disasters and the construction, repair, and operation of flood and storm water systems.” The *Williams* court’s holding was, in essence, that resurfacing of a parking lot (although it resulted in water running onto and damaging plaintiff’s property) did not fall within this definition. *See Williams*, 780 P.2d 816, at 818. In so concluding, the Court relied heavily on the legislative history and the well-known events which prompted the inclusion of this provision in the governmental immunity act. *Id.* While the Court did mention in passing that the defendant school district “has no such statutory responsibility,” it is apparent from the context that this consideration is specifically directed to the flood waters provision. Nothing in either this

decision or the contemporaneous (and factually similar) case of *Branam v Provo School District*, 780 P.2d 810 (Utah 1989), cited by the *Williams* Court, suggests that this consideration would apply to other portions of the governmental immunity act. It would be unreasonable to apply this “requirement” to all of the more than 19 **exceptions to waivers of immunity** set forth in section 63-30-10. The *Williams* case is neither directly controlling nor is it a persuasive analogy. The Lovendahls offer no argument that (assuming that hydrogen sulfide is a hazardous material or hazardous waste), the School District was not in fact engaged in the activity of handling or mitigating that hazardous material or waste.

However, even if we assume for the sake of argument that the School District had to have some particular mandate in order to be entitled to immunity under section 63-30-10(18)(c), a review of applicable regulations demonstrates that the School District was legally required to take the actions which the Lovendahls complain of as part of its governmental duties. Rule R392-200 of the Utah Administrative Code addresses the “Design, Construction, Operation, Sanitation, and Safety of Schools,” and R392-200-1(C)(3) directs that “Existing schools shall be maintained in accordance to the health and sanitary standards established in this rule.” Subsection B of Rule 392-200-6 sets standards for ventilation, and directs that “Rooms shall be provided with natural or mechanical ventilation that admits fresh air and is sufficient to **remove or prevent the accumulation of obnoxious odors**, smoke, dust, and fumes.” Rule R392-200-6(B)(1)(a) (emphasis added). The rule further states that “In new or extensively remodeled establishments, all rooms from which obnoxious odors, vapors, or fumes originate **shall be mechanically vented to the outside of the building**.” Rule R392-200-6(B)(2)(b) (emphasis added). The Jordan School District was acting within the scope of these regulations when it vented the hydrogen sulfide outside of the Riverton Elementary School.

The Lovendahls' Brief asserts that "While [these] administrative regulations . . . generally require the School District to have odor-free classrooms, those provisions are merely suggestive." Lovendahls' Brief p. 45.⁸ However, the Lovendahls point to no language in the regulations which make compliance with them optional, or which otherwise suggest that these requirements are "merely suggestive." The Lovendahls argue that the School District has ignored the effect of another regulation, which directs that disposal of hazardous wastes must "comply with Utah hazardous waste management rules and applicable local regulations." See Lovendahls' Brief p. 45, quoting R392-200-5(J)(1). However, as noted below, the School District does not believe that it has in fact violated any such regulations. In any case, whether or not the School District has done so does not change the fact that it was required to comply with the other regulations, nor the fact that the School District is entitled to raise in defense of the Lovendahls' private suite the retention of immunity set forth in section 63-30-10(18)(c).

The Lovendahls also cite to *Sanford v. University of Utah*, 488 P.2d 741 (Utah 1971) as showing that immunity has been waived for nuisance injuries to a neighbor, and to *Parrish v. Layton City Corp.*, 542 P.2d 1086 (Utah 1975), for the proposition that immunity has been waived for nuisance claims arising from the negligent operation of a sewer system. See Lovendahls' Brief p. 16-17. However, these cases do not call into question the judgment granted by the trial court. First, the trial court did not grant judgment on the basis that there has been no

⁸The Lovendahls raise the issue of these regulations in Point IV of their Brief, and therein suggest that the School District relied upon these regulations as supporting judgment on both the nuisance claims and the inverse condemnation claim. See Lovendahls' Brief p. 45. In fact, the School District's discussion of these regulations has been at all times limited to the question of governmental immunity as against the nuisance claims. At no time has the School District referred to these regulations in arguing for judgment on the inverse condemnation claim.

waiver of immunity for nuisance claims.⁹ Second, governmental liability in both of these cases is premised upon the applicability of the waivers of immunity found in Utah Code Ann. § 63-30-9 (relating to injury from “a dangerous or defective condition of any public building, structure, dam, reservoir, or other public improvement”) and in Utah Code Ann. § 63-30-8 (relating to “injury caused by a defective, unsafe, or dangerous condition of any highway, road, street, alley, crosswalk, culvert, tunnel, bridge, viaduct, or structure located on them”). The trial court did not find that these waivers of immunity did not apply; rather, the court ruled that the retention of immunity in section 63-30-10(18)(c), which operates as an exception to the waivers of these sections, applied to afford immunity to the School District from these nuisance claims. Both section 63-30-8 and 63-30-9 **explicitly state** that the waiver contained in those sections is **subject to the exceptions to waiver set out in section 63-30-10**. The Lovendahls at pages 17 and 18 argue that the waiver of immunity in section 63-30-9 defeats the School District’s claim of immunity, quoting the version of this statute in effect to the 1991 amendment, which did not contain the language incorporating the section 63-30-10 exceptions to waiver. The School District can see no reason for the Lovendahls to quote this superseded version of the statute, other than to improperly attempt to add weight to their argument: The Lovendahls in the course of the proceedings below relied upon this superseded statute and the School District drew this error to the attention of the Lovendahls. *See* R. 159, 183-84. In any case, the cases cited by the

⁹It should be noted, however, that neither of these cases finds that any such general waiver for nuisance claims has been made. Rather, both found that immunity was waived for a nuisance claim “insofar as the action is predicated upon a dangerous or defective condition of a public improvement that unreasonably interferes with the use and enjoyment of the claimant’s property.” *See Sanford v. University of Utah*, 488 P.2d 741, 745 (Utah 1971); *Parrish v. Layton City Corp.*, 542 P.2d 1086, 1089 (Utah 1975) (*citing Sanford*).

Lovendahls and the prior statute cited by the Lovendahls provide no basis for finding error in the trial court's rulings

2. The Retention of Immunity in Section 63-30-10(18)(c) Applies in this Case Because Hydrogen Sulfide is as a Matter of Law Either a Hazardous Material, a Hazardous Waste, or Both.

The School District will now turn to the merits of the statutory retention of immunity which formed the basis of the trial court's grant of judgment on the nuisance claims. In so doing, it should be borne in mind that, notwithstanding the Lovendahls' rhetoric, the suggestion that the School District's activities would fall within the hazardous materials or hazardous wastes exception is not a far-fetched strained argument of convenience, but rather flows quite naturally from the Lovendahls' claims of injury. The Lovendahls have asserted that the vent pipe emissions caused them to become ill and that those emissions have permanently injured Sue Lovendahl. This argument necessarily includes the assertion that these materials are dangerous and harmful to health. In recognition of this fact, the School District in support of its motion for summary judgment argued, as one of several applications of the governmental immunity act, that the retention of immunity for dealing with hazardous materials or hazardous wastes would logically apply. *See* R. 146, 182-83.¹⁰ Furthermore, it was not the School District which raised the issue of the statutory definition of hazardous materials under Utah Code Ann. § 19-6-302(7). Rather, the Lovendahls criticized the School District for not demonstrating that its actions were

¹⁰Review of these arguments plainly shows that the School District did not, as the Lovendahls suggest at p. 11-12, 17 of their Brief, suddenly change its position to admit that the vented materials in fact posed a significant danger to either the Lovendahls or students and employees in the Riverton Elementary. Rather, the School District merely argued that—accepting, for purposes of argument only, the truth of the claim that the odors and gases had caused injury to Sue Lovendahl—the Lovendahls' claims of injury logically required the conclusion that the retention of immunity for hazardous materials or hazardous wastes would apply to defeat the Lovendahls' claims. R. 177, 182-83, 207.

taken with respect to materials within this statutory definition. *See* R. 170-71. The School District then and now doubts whether the terms in the retention of immunity in section 60-30-10(18)(c) are necessarily limited by the definitions pointed to by the Lovendahls. However, assuming that those definitions must be satisfied to fall within the scope of section 60-30-10(18)(c), they do apply and demonstrate that the retention of immunity defeats the Lovendahls' claims.

The beginning point for analysis is the statutory retention of immunity relied on by the trial court, Utah Code Ann. § 60-30-10(18)(c). That section provides in relevant part for a retention of immunity for

(18) the activities of:

...;

(c) regulating, mitigating, or handling hazardous materials or hazardous wastes;

....

There is no dispute that the School District's actions in installing and operating the vent pipe which created the conditions complained of by the Lovendahls were an effort to mitigate or handle hydrogen sulfide which was being detected in the Riverton Elementary School building. There is also no meaningful dispute regarding whether this subsection would as a general matter apply to activities of the School District which fall within its scope.¹¹ The only question which is before this Court is whether the hydrogen sulfide which the School District sought to alleviate falls within the meaning of "hazardous materials" or "hazardous wastes." As set forth below,

¹¹The School District addresses below the Lovendahls' erroneous argument that the subsection does not apply to the School District because the School District does not have any express or special statutory mandate to engage in hazardous material or hazardous waste activities.

this hydrogen sulfide is within one or both of these terms, and therefore immunity applies and the judgment of the trial court should be affirmed.

a. Hydrogen sulfide is a hazardous material under section 19-6-302(7) as a matter of law.

As noted above, it is the Lovendahls who first suggested that the materials must fall within the scope of the definition of hazardous materials in Utah Code Ann. § 19-6-302(7) in order for the retention of immunity in section 63-30-10(18)(c) to apply. While in the School District's view that is not necessary, it certainly should be sufficient. Furthermore, contrary to the Lovendahls' suggestions, the connection between hydrogen sulfide and this definition is not difficult to understand.¹² Section 19-6-307 provides:

As used in this part [the Hazardous Substances Mitigation Act]:

....

(7) "Hazardous materials" means hazardous waste as defined in the Utah Hazardous Waste Management Regulations, PCBs, dioxin, asbestos, **or a substance regulated under 42 U.S.C., Section 6991(2).**

Utah Code Ann. § 19-6-302 (emphasis added). 42 U.S.C. § 6991 is a definitions section for a federal statute which applies to certain underground storage tanks. Subsection (2) of this section defines "regulated substances" as follows:

(2) The term "regulated substance" means—

¹²The Lovendahls' Brief asserts that the trial court at the summary judgment hearing indicated that he was "unable to follow" the argument regarding statutory definitions, *see* Lovendahls' Brief p. 28 n.2, 38, and suggests that this calls the trial court's ruling into question. Counsel for the School District recalls no such statement. In any event, not only is this assertion an improper commentary on the able judge who sat in the trial court, but it is improper as not within the record before this Court. The Lovendahls submitted a certificate that no transcript of the hearing was required for purposes of the appeal, and therefore cannot now attempt to refer to oral statements during the hearing in support of their appeal. *See* Rule 11(e)(1)-(2), Utah Rules of Appellate Procedure.

- (A) any substance defined in section 9601(14) of this title [title 42] (but not including any substance regulated as a hazardous waste under subchapter III of this chapter), and
- (B) petroleum.

42 U.S.C. § 6991(2).¹³ Note that the definition of “underground storage tank” in subsection (1) of section 6991 explains that the tank “is used to contain an accumulation of regulated substances.” Therefore, it is plain from reading the two sections together that a substance can be “regulated” under the federal underground storage tank statute **without actually being subject to the requirements of that statute because it is not contained in an underground storage tank**. The term “regulated substance” includes “any substance defined in section 9601(14)” of federal Title 42. Turning to 42 U.S.C. § 9601(14), we find the following definition:

(14) The term “hazardous substance” means (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 U.S.C. § 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.) has been suspended by Act of Congress), (D) any toxic pollutant listed under section 1317(a) of Title 33, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. 7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Hydrogen sulfide falls within two of the categories of materials listed in 42 U.S.C. § 9601(14) as within the definition of “hazardous substance”: “(A) any substance designated pursuant to

¹³This exclusion appears to be intended to coordinate section 6991’s regulations on underground storage tanks holding accumulated materials (materials to be used) with the regulation of hazardous **wastes** (i.e., materials being discarded, abandoned, or recycled).

section 1321(b)(2)(A) of Title 33, . . . [and] (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. 7412)”

First, hydrogen sulfide is a substance designated under 33 U.S.C. § 1321(b)(2)(A). This section is codified from the Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, and was within Section 2 of that law, numbered as Section 311(b)(2)(A). This section instructs the Administrator to establish regulations designating hazardous substances in connection with releases of substances into the nation’s waters. Under this authority, the Environmental Protection Agency has promulgated a list of hazardous substances in 40 C.F.R. § 116.4 which includes hydrogen sulfide. Hydrogen sulfide thus being a substance designated as a hazardous substance pursuant to the authority in 33 U.S.C. § 1321(b)(2)(A), it is a “hazardous substance” as defined by 42 U.S.C. § 9601(14), bringing it within the definition of “regulated substance” contained in 42 U.S.C. § 6991(2), and therefore within the definition of “hazardous material” set forth in Utah Code Ann. § 19-6-302(7). This makes hydrogen sulfide a “hazardous material” as a matter of law, and this analysis alone is sufficient to support summary judgment in favor of the School District under the retention of immunity in Utah Code Ann. § 63-30-10(18)(c).

However, hydrogen sulfide also falls within another of the categories of materials listed in 42 U.S.C.A. § 9601(14). It is listed as a hazardous air pollutant in section 112 of the Clean Air Act, codified at 42 U.S.C. § 7412. In subsection (r) of this section, which addresses the prevention of accidental releases of “any substance listed pursuant to paragraph (3) or any other extremely hazardous substance,” paragraph (3) directs the Administrator to promulgate a list of hazardous substances, and **expressly directs** that “[t]he initial list **shall include** . . . hydrogen sulfide . . .” 42 U.S.C. § 7412(r)(1), (r)(3) (emphasis added). Therefore, hydrogen sulfide is

specifically identified as a hazardous air pollutant in this section, and it is therefore a hazardous substance under 42 U.S.C. § 9601(14), and is as a matter of law a hazardous material under Utah Code Ann. § 19-6-302(7).

The Lovendahls' Brief in section I.D. purports to show that "Sewer Line 'Hydrogen Sulfide' is Not a 'Hazardous Material' Under Federal Regulations." However, the Lovendahls fail entirely to support this assertion. They begin with the definition in Utah Code Ann. § 19-6-302(7), recognize that the School District has relied on the portion of the definition referring to 42 U.S.C. § 6991(2), but offer no analysis to rebut the analysis provided by the School District to the trial court and again to this Court. Rather, they merely repeat their argument about why the hydrogen sulfide is not a hazardous **waste**, assert that there is no "factual regulation" of this gas and therefore it cannot be within the meaning of "hazardous material," and assert that the absence of a permit for the activity means it must not be a hazardous substance.

None of these arguments has any merit. Section 63-30-10(18)(c) expressly refers to **either** "hazardous materials" **or** "hazardous waste." Regardless of whether the hydrogen sulfide should be considered a hazardous waste, it still is a hazardous material for the reasons set forth above and this is sufficient to dispose of their claim. (However, the hydrogen sulfide should also be considered a hazardous waste for the reasons set forth below.)

Next, there is no basis for the assertion that the **definition** of hazardous waste is contingent upon this specific hydrogen sulfide being subject to "factual regulation," which appears to the Lovendahls to mean some type of restriction under the hazardous materials or hazardous waste statutes. This argument ignores the plain language of the statute and invites the Court to speculate about the motivation or intent of the Legislature without providing any substantial basis for so doing. Utah Code Ann. § 19-6-302(7) defines hazardous materials as

including any substance regulated by 42 U.S.C. § 6991(2). That section in turn provides a definition of a “regulated substance” which includes hydrogen sulfide as outlined above. There is nowhere any requirement that the specific material in question be subject to restrictions or requirements for the type of substance to be included within the definition of a “hazardous material” as established under Utah law.

The same principle demonstrates the fallacy of the “no permit” argument. The School District is unaware of having violated any requirement of State or Federal law in proceeding as it did, and certainly would not have proceeded with such knowledge. There is no evidence in the record that the amount of hydrogen sulfide or other material emitted through the vent is sufficient to bring the School District under the permit requirements referred to by the Lovendahls, nor is there any indication of how or whether those requirements would apply to the School District as a governmental subdivision. In any case, whether or not the School District might be subject to action by another governmental body for its actions is irrelevant to whether the School District is entitled to immunity from private suit under the Governmental Immunity Act, which is the question before this Court.

The trial court correctly concluded that the School District was engaged in the activities of handling or mitigating a hazardous material in installing and using the vent, and therefore correctly determined that the governmental immunity act bars the Lovendahls’ nuisance claims.

b. Hydrogen sulfide is a hazardous waste under section 19-6-102(9) as a matter of law.

The retention of immunity in section 63-30-10(18)(c) should also be applied because the School District’s actions regarding the hydrogen sulfide were activities of handling or mitigating

a hazardous waste.¹⁴ As noted by the Lovendahls, “hazardous waste” is generally defined by Utah Code Ann. § 19-6-102(9), which describes it as

a solid waste or combination of solid wastes other than household waste which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

The essence of the Lovendahls’ argument against the hydrogen sulfide in this case being within the definition of “hazardous waste” is that because it is contained in domestic sewage, it does not satisfy the definition of “solid waste” contained in section 19-6-102(17)(a). That definition is as follows:

“Solid waste” means any garbage, refuse, sludge, including sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations and from community activities but does not include solid or dissolved materials in domestic sewage or in irrigation return flows or discharges for which a permit is required under Title 19, Chapter 5, Water Quality Act, or under the Water Pollution Control Act, 33 U.S.C., Section 1251, et seq.

The Lovendahls rely on the exclusion of “solid or dissolved materials in domestic sewage” as excluding the hydrogen sulfide in the Riverton Elementary sewage system. In support of this argument, the Lovendahls point to the definition of “domestic sewage” contained in administrative regulation R315-2-4(a)(1), which includes in the materials which “are not solid wastes for purposes of this rule” “(1) Domestic sewage or any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for

¹⁴The Lovendahls also put forward their “no permit” argument in discussing the “hazardous waste” issue. For the reasons set forth above, this argument has no merit.

treatment. ‘Domestic sewage’ means untreated sanitary wastes that pass through a sewer system.”

However, close examination of this argument discloses that it does not apply to the case before this Court. Although a cursory reading of this regulation together with the other cited statutes seems to suggest that the hydrogen sulfide is not a “solid waste” as defined by section 19-6-102(17)(a), a more careful look shows that the hydrogen sulfide in question is not in fact “domestic sewage.” The key problem is that the hydrogen sulfide in question is not passing through the sewer system, and certainly is not “pass[ing] through a sewer system to a publicly-owned treatment works for treatment.” The problem that the School District was attempting to address was odors and hydrogen sulfide gas within the portions of the Riverton Elementary School building which were used by students and employees—as far as the School District was able to determine, the problem was that the hydrogen sulfide gas was **not** passing through the sewer system to the public treatment facility but was rather escaping into the building. The School District’s actions in installing and operating the vent were aimed at remedying the presence of hydrogen sulfide in the rooms of the school building, not materials going through the sewer system to the public treatment facility. R315-2-4(a)(1) does not preclude the hydrogen sulfide in question from being a “solid waste” under the statutory definition.

Re-examining the remainder of the definition of “solid waste” contained in Utah Code Ann. § 19-6-102(17)(a) demonstrates that the hydrogen sulfide falls within the definition. The Lovendahls argue at page 22 that hydrogen sulfide gas cannot be within the definition of a “solid” and therefore the analysis should end there. However, this argument ignores section 19-6-102(17)(a)’s express **inclusion** of “liquid, semi-solid, or contained gaseous material” in the definition of “solid waste.” Obviously, the fact that the hydrogen sulfide is a gas does not

preclude its being within the statutory definition of “solid waste.” After arguing that the school operation (and the gas being produced in the course thereof) does not fall within the mentioned activities of “industrial, commercial, mining or agricultural activities, the Lovendahls acknowledge that the material can be generated from “community activities,” but offer no reason why operation of a public school by a governmental entity would not be included within “community activities.” Similarly, the Lovendahls assume that the hydrogen sulfide gas is a “solid or gaseous material[] dissolved in domestic sewage,” which is excluded from the statutory definition of solid waste, but offer no reason why a gas should be considered a “solid material,” or why it would be considered to be “dissolved material in domestic sewage.” If it were in fact dissolved in, which is to say contained in, the solid or liquid materials in the sewer system, it would not be found separately from those materials. The undisputed facts in this case show otherwise. In fact, the hydrogen sulfide in question fits comfortably within the section 19-6-102(17)(a) definition of “solid waste”: It is a gaseous material resulting from community activities which is not domestic sewage because it is not passing through the public sewer system to a public treatment facility.

Apparently recognizing the fact that the hydrogen sulfide should be included within the definition of “solid waste” set out in Utah Code Ann. § 19-6-102(17)(a), the Lovendahls also cite to the different definition of “solid waste” in Utah Code Ann. § 19-6-502(7). *See* Lovendahls’ Brief p. 24-25. This definition of “solid waste” excludes “sewage and other highly diluted water carried materials or substances and those in gaseous form.” *See* Utah Code Ann. § 19-6-502(7). The Lovendahls assert that his definition shows that the Legislature did not intend to include “sewage” or materials “in gaseous form” within the definition of “solid waste,” and therefore did not intend to include them in the statutory definition of “hazardous waste.” Lovendahls’ Brief p.

25. This argument is entirely misguided. The definition of “hazardous waste” relied upon by the Lovendahls is located in Utah Code Ann. § 19-6-102(9). That same section also contains the other definition of “solid waste” cited by the Lovendahls. *See* Utah Code Ann. § 19-6-102(17)(a). In contrast, the set of definitions in Utah Code Ann. § 19-6-502, which contains the other definition of “solid waste” cited by the Lovendahls, **contains no definition of “hazardous waste.”** Therefore, it is apparent that the definition of “solid waste” in Utah Code Ann. § 19-6-502(7) is only relevant to the general management provisions of the Solid Waste Management Act, which in essence relate to public oversight of garbage collection. There certainly is no legitimate basis for reading this definition of “solid waste” into the definition of “hazardous waste” provided in section 19-6-102(9).

Because the hydrogen sulfide satisfies the requirements to be considered a “solid waste” as that term is defined, it certainly should be considered a “hazardous waste,” as section 19-6-102(9) defines that term, which describes substances which “may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment.” The Lovendahls’ assertion that illness and injury were caused by the vent emissions logically requires inclusion of the hydrogen sulfide gas within the scope of this definition. Furthermore, the Utah Solid and Hazardous Waste Control Board, which has authority under Utah Code Ann. § 19-6-105(1)(b) to “identify[] wastes which are determined to be hazardous,” has, by adoption of federal regulations, defined hydrogen sulfide as a hazardous waste.

The Board’s administrative rule R315-1-1(b) adopts, with revisions not pertinent here, “the terms defined in 40 CFR 260.10 . . . , 2000 ed.” 40 C.F.R. § 260.10 (2000) defines the term

“hazardous waste” as “a hazardous waste as defined in § 261.3 of this chapter.” Section 261.3

(2000), in turn, defines hazardous waste as follows:

- (a) A solid waste, as defined in § 261.2, is a hazardous waste if:
 - (1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and
 - (2) It meets any of the following criteria:
 - (i)
 - (ii) It is listed in subpart D of this part [Part 260] and has not been excluded from the lists in subpart D of this part under §§ 260.20 and 260.22 of this chapter.

. . . .

The Lovendahls criticize the School District as misstating the law and trying to mislead the trial court by asserting that the exclusion in section 261.4 does not apply. Lovendahls’ Brief p. 34. However, it seemed apparent to the School District that this exclusion did not apply, and therefore the School District did not feel it necessary to extend the length of the memorandum submitted to the trial court by detailed analysis. Since the Lovendahls have raised the issue,¹⁵ pointing to the exclusion set out in 40 C.F.R. § 261.4(a)(1), the School District will now provide that analysis. This subsection states:

- (a) *Materials which are not solid wastes.* The following materials are not solid wastes for the purposes of this part:
 - (1)(i) Domestic sewage; and
 - (ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. “Domestic sewage” means untreated sanitary wastes that pass through a sewer system.

As will be readily apparent to the Court, this is the same language in the Utah regulation which has been analyzed above. It does not apply for the same reasons stated above.

The first prong of the “hazardous waste” definition of 40 C.F.R. § 261.3(a), that it not be excluded from the definition of “solid waste” in section 261.4 has been satisfied. We then turn to

¹⁵And, in the apparently preferred style of their counsel, engaged in numerous *ad hominem* attacks in the process of so doing.

section 261.3(a)(2), which lists a number of criteria, any one of which will satisfy the second prong of the definitional requirement. The School District believes that subsection (a)(2)(ii) is met in this case. This subsection says a waste is a hazardous waste if “It is listed in subpart D of this part [Part 260] and has not been excluded from the lists in subpart D of this part under §§ 260.20 and 260.22 of this chapter.” The exclusions refer to case-by-case exemptions, and therefore do not apply here: Section 260.20 permits petitions to modify or revoke hazardous waste provisions, and Section 260.22 permits petitions to exclude from coverage the waste at a specific facility. Hydrogen sulfide is listed in at least two places in subpart D: in § 261.33 (wherein is listed the EPA Hazardous Waste Number assigned to hydrogen sulfide) and in Appendix VIII to Part 261 of subpart D (“Hazardous Constituents”). Therefore, under the applicable Utah administrative rule, waste hydrogen sulfide is as a matter of law a hazardous waste.

The Lovendahls accuse the School District of misleading the trial court in citing to the list in section 261.33, and suggest that reading the surrounding text shows that the listing applies only to certain commercial chemical products. Lovendahls’ Brief p. 35-36. However, this ignores the plain language of the hazardous waste definition in 40 C.F.R. § 261.3(a)(2)(ii), which simply requires that the substance be “listed in subpart D.” There is no requirement that the specific section that the list be contained in also apply to the specific material in question. It is notable that hydrogen sulfide has an EPA hazardous waste number which is not dependent upon it being a commercial chemical product. Furthermore, and more importantly, the Lovendahls offer no reason why the separate listing of hydrogen sulfide as a hazardous constituent in Appendix VIII of Part 261 of subpart D does not itself suffice to meet the requirement. This demonstrates that as a matter of law, waste hydrogen sulfide is a hazardous waste under the

definition 40 C.F.R. § 260.10, which definition has been adopted into Utah law by Rule R315-1-1(b), the administrative regulation issued by the Utah Solid and Hazardous Waste Control Board.

In summary, the hydrogen sulfide in question in this case is a hazardous waste under both Utah Code Ann. § 19-6-102(9) and under administrative rule R315-1-1(b) and the federal regulations incorporated therein. Therefore, the retention of immunity applies and the nuisance claims are barred.

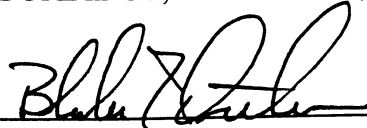
VII.

CONCLUSION

For the reasons set forth above, Jordan School District respectfully requests that the Court affirm the judgment of the trial court.

RESPECTFULLY SUBMITTED this 8TH day of November, 2001.

BURBIDGE, CARNAHAN, OSTLER & WHITE



Blake T. Ostler

Patrick L. Tanner

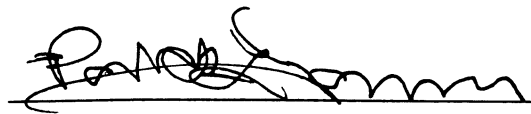
Attorneys for Defendant/Appellee Jordan School
District

CERTIFICATE OF SERVICE

I hereby certify that on the 8TH day of November, 2001, I caused to be served by the method indicated below a true and correct copy of the attached and foregoing **BRIEF OF APPELLEE** to the following:

☐ VIA FACSIMILE
☐ VIA HAND DELIVERY
☒ VIA U.S. MAIL
☐ VIA FEDERAL EXPRESS

Stephen G. Homer
9225 South Redwood Road
West Jordan, Utah 84088
Attorney for the Lovendahls



ADDENDUM

Contents of Addendum

1. Order Granting Summary Judgment, Dated February 8, R220-225.
2. Utah Code Ann. § 63-30-10.
3. Utah Code Ann. § 19-6-302(7)
4. 42 U.S.C. § 6991.
5. 42 U.S.C. § 9601(14).
6. 33 U.S.C. § 1321(b)(2)(A).
7. 40 C.F.R. § 116.4.
8. 42 U.S.C. § 7412(r).
9. Utah Code Ann. § 19-6-102(9), (17)(a).
10. Utah Administrative Rules R315-1-1(b).
11. 40 C.F.R. § 260.10
12. 40 C.F.R. § 261.3
13. 40 C.F.R. § 261.4
14. 40 C.F.R. § 261.33.
15. 40 C.F.R. Part 261, Subpart D, Appendix VIII.

Tab 1

FILED DISTRICT COURT
Third Judicial District

FEB - 2001

SALT LAKE COUNTY

By
Deputy Clerk

Blake T. Ostler (4642)
Patrick L. Tanner (7319)
BURBIDGE, CARNAHAN, OSTLER & WHITE
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Salt Lake City, Utah 84144
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IN THE THIRD JUDICIAL DISTRICT COURT IN AND FOR
SALT LAKE COUNTY, STATE OF UTAH

JAMES LOVENDAHL, SUE LOVENDAHL
et al.,

Plaintiffs,

vs.

JORDAN SCHOOL DISTRICT, a body
politic and a political subdivision of the State
of Utah, *et al.*,

Defendants.

ORDER GRANTING SUMMARY
JUDGEMENT

Civil No. 970909698PI
Judge Ronald E. Nehring

The Defendant's Motion for Summary Judgement came on for hearing before the Court on 21 December 2000. The Plaintiff was represented by Stephen G. Homer and the Defendant was represented by Blake T. Ostler of the firm of Burbidge, Carnahan, Ostler and White. On 3 March 1998, this Court dismissed the Second claim (criminal nuisance), Fourth claim (intentional infliction of emotional distress) and the Fifth claim (negligent infliction of emotional distress). The Defendant now seeks Summary Judgement on the First claim (common law nuisance); Third claim (public nuisance, § 76-10-803) and the Sixth claim (inverse condemnation). The parties have previously fully briefed the arguments and presented relevant

controlling authorities to the Court.

Based upon the undisputed facts admitted by both parties in this case and for good case shown, it is hereby Ordered, Judged and Decreed as follows:

**THERE ARE NO ISSUES OF MATERIAL FACT WITH RESPECT TO THE
FOLLOWING FACTS:**

1. Defendant, Jordan School District is a duly organized school district and a political sub-division of the State of Utah (the “School District”).
2. The Plaintiffs own a parcel of real property and a single family dwelling in Riverton, Utah located at 13126 South 1830 West.
3. The Jordan School District owns and operates the Riverton Elementary School, located at about 13100 South 1900 West in Riverton, Utah.
4. The Riverton Elementary School was constructed and first opened during the school year of 1995-1996.
5. Beginning in the Winter of 1995-96 and continuing into the Spring, several persons, including students, noticed a noxious odor in the Riverton Elementary School.
6. Repeated testing done by the School District at the Riverton Elementary School, including a number of professionals hired by the School District, indicated that the noxious odor were caused by hydrogen sulfide.
7. To mitigate the noxious odor, the School District attempted a number of interventions. In the Spring of 1996, the School District installed a sanitary sewer vent pipe near the sanitary sewer lateral from the Riverton Elementary School immediately adjacent to the

Plaintiff's resident. The vent pipe was constructed on the School District's property. A mechanical fan or blower was installed on this vent pipe to facilitate its operation.

8. The Plaintiff alleges that emissions from the sewer vent pipe caused by the blower constituted a nuisance and has caused them to suffer discomfort and injury, including asthma. The Plaintiffs also allege that the installation operation of the sewer vent pipe constituted a taking of the Plaintiff's real property.

9. The Plaintiffs have admitted in their depositions and did not contest at the hearing that the value of their property has not been affected on a permanent basis as a result of any action by the School District.

10. The Defendant has placed a seal on the vent pipe and has discontinued operation of the blower on the pipe.

11. Mrs. Sue Lovendahl claims that the emissions from the vent pipe either caused or aggravated an asthmatic condition from which she suffers. The other Plaintiffs, Mr. James Lovendahl and Wesley Lovendahl do not claim any personal injuries resulting from the actions of the School District.

12. In attempting to address the problem, the School District had air quality monitors at Riverton Elementary School which were operated by an environmental testing firm retained by the School District which provided periodic reports on levels of carbon monoxide and hydrogen sulfide at specific locations in and around the Riverton Elementary School building. The reports indicated that there were detectable levels of hydrogen sulfide at testing locations on numerous occasions.

13. Hydrogen sulfide has the chemical composition H_2S and is often described as smelling like rotten eggs.

14. The School District reviewed numerous possible causes of the odor, including the ventilation system in the lunch room and sewer lines from the Riverton Elementary School to the sewer main. Analysis performed by the district suggests that the hydrogen sulfide gas and the accompanying smell might be caused by a back up of gas in the sewage system, from one of a number of sources. In an effort to mitigate this problem, the School District installed the vent pipe from the sewer drain line and a mechanical blower in an effort to vent the odors outside of the building and to prevent them from accumulating within the building.

CONCLUSIONS OF LAW

The Court now makes the following Conclusions of Law:

1. The School District is a governmental entity entitled to the general grant of immunity pursuant to Utah's Governmental Immunity Act.
2. The State of Utah has waived governmental immunity from suit for all claims of injury caused by a defective, unsafe or dangerous condition of any highway, road, street, alley, crosswalk, sidewalk, culvert, tunnel, bridge, viaduct or other structures located on them - unless the injury arises out of one or more of the exceptions to waiver set forth in § 63-30-10. (See § 63-30-8 Utah Code Annotated).
3. The State of Utah has also waived immunity from suit of all governmental entities for any injury caused from a dangerous or defective condition of any public building, structure,

dam, reservoir or other public improvement - unless the injury rises out of one or more of the exceptions to waiver set forth in § 63-30-10. (See § 63-30-9 Utah Code Annotated).

4. The State of Utah has retained immunity if the activities of the governmental entity consists of “regulating, mitigating, or handling hazardous materials or hazardous wastes.” (See § 63-30-10 (18), Utah Code Annotated.

5. The School District has an obligation to maintain it’s buildings free of noxious odors or any hazardous materials or waste which could cause injury to students. The Utah Administrative Code, R392-200-6.b.1.a. states:

Rooms shall be provided with natural or mechanical ventilation that admits fresh air and is sufficient to remove or prevent the accumulation of obnoxious odors, smoke, dust, and fumes. In classrooms where combustible vapors may accumulate, such vapors shall be vented either through a fume hood or by other adequate room wide ventilation.

The Utah Administrative Code provides in the same regulation at R392-200. 6.B.2.b: “in newer extensively remodeled establishments, all rooms from which obnoxious odors came of vapors or fumes originate shall be mechanically vented to the outside of the building”.

6. The School District was involved in the activity of mitigating and handling hazardous materials and wastes when it vented the hydrogen sulfide outside of the Riverton Elementary School. Section 19-6-302 (7) defines “hazardous materials” as “hazardous wastes” as defined in the Utah Hazardous Wastes Management Regulations, PCB’s, dioxin, asbestos, or substance regulated under 42 U.S.C.’s, § 6991 (2).

7. Hydrogen sulfide is a hazardous material under this definition because it is a substance regulated under 42 USC § 6991 (2).

8. Hydrogen sulfide is also a hazardous waste under the laws of the State of Utah.

9. Because the School District was mitigating and handling hazardous waste and materials when it vented the hydrogen sulfide near the Plaintiff's property, the School District is immune from suit for any damages arising from such activity as a matter of law under § 63-30-10 (18), Utah Code Annotated, with respect to the First and Third Claims.

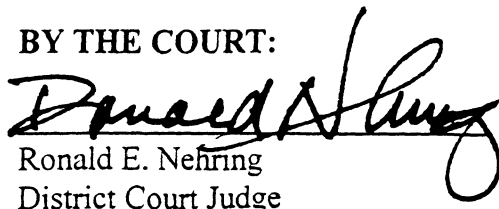
10. The value of the Plaintiff's property has not been reduced or affected on a long term or permanent basis by any action of the School District. The impact on the value of the Plaintiff's property must be more than transitory to sustain a claim of taking of property by a governmental entity.

11. The School District installation of the vent pipe does not constitute a taking as a matter of law, with respect to the Sixth claim.

For the foregoing reasons, the Defendant, Board of Education of the Jordan School District is entitled to judgement as a matter of law pursuant to Rule 56 of the Utah Rules of Civil Procedure and Summary Judgement is hereby granted in favor of the Defendant in this matter. Therefore, the Plaintiffs' remaining claims are dismissed with prejudice.

DATED this 8 ^{February} day of ~~January~~, 2000

BY THE COURT:


Ronald E. Nehring
District Court Judge

Tab 2

63-30-10. Waiver of immunity for injury caused by negligent act or omission of employee — Exceptions.

Immunity from suit of all governmental entities is waived for injury proximately caused by a negligent act or omission of an employee committed within the scope of employment except if the injury arises out of, in connection with, or results from:

- (1) the exercise or performance or the failure to exercise or perform a discretionary function, whether or not the discretion is abused;
- (2) assault, battery, false imprisonment, false arrest, malicious prosecution, intentional trespass, abuse of process, libel, slander, deceit, interference with contract rights, infliction of mental anguish, or violation of civil rights;
- (3) the issuance, denial, suspension, or revocation of or by the failure or refusal to issue, deny, suspend, or revoke any permit, license, certificate, approval, order, or similar authorization;
- (4) a failure to make an inspection or by making an inadequate or negligent inspection;
- (5) the institution or prosecution of any judicial or administrative proceeding, even if malicious or without probable cause;
- (6) a misrepresentation by an employee whether or not it is negligent or intentional;
- (7) riots, unlawful assemblies, public demonstrations, mob violence, and civil disturbances;
- (8) the collection of and assessment of taxes;
- (9) the activities of the Utah National Guard;
- (10) the incarceration of any person in any state prison, county or city jail, or other place of legal confinement;
- (11) any natural condition on publicly owned or controlled lands, any condition existing in connection with an abandoned mine or mining operation, or any activity authorized by the School and Institutional Trust Lands Administration or the Division of Forestry, Fire and State Lands;
- (12) research or implementation of cloud management or seeding for the clearing of fog;
- (13) the management of flood waters, earthquakes, or natural disasters;
- (14) the construction, repair, or operation of flood or storm systems;
- (15) the operation of an emergency vehicle, while being driven in accordance with the requirements of Section 41-6-14;
- (16) a latent dangerous or latent defective condition of any highway, road, street, alley, crosswalk, sidewalk, culvert, tunnel, bridge, viaduct, or other structure located on them;
- (17) a latent dangerous or latent defective condition of any public building, structure, dam, reservoir, or other public improvement;
- (18) the activities of:
 - (a) providing emergency medical assistance;
 - (b) fighting fire;
 - (c) regulating, mitigating, or handling hazardous materials or hazardous wastes;
 - (d) emergency evacuations; or
 - (e) intervening during dam emergencies; or
- (19) the exercise or performance or the failure to exercise or perform any function pursuant to Title 73, Chapter 5a or Title 73, Chapter 10 which immunity is in addition to all other immunities granted by law.

Tab 3

19-6-302. Definitions.

As used in this part

- (1) (a) "Abatement action" means to take steps or contract with someone to take steps to eliminate or mitigate the direct or immediate threat to the public health or the environment caused by a hazardous materials release.
(b) "Abatement action" includes control of the source of the contamination.
- (2) "CERCLA" means 42 U.S.C. 9601 et seq., the Comprehensive Environmental Response, Compensation, and Liability Act.
- (3) "Cleanup action" means action taken according to the procedures established in this part to prevent, eliminate, minimize, mitigate, or clean up the release of a hazardous material from a facility.
- (4) "Enforcement action" means the procedures contained in Section 19-6-306 to enforce orders, rules, and agreements authorized by this part.
- (5) (a) "Facility" means:
 - (i) any building, structure, installation, equipment, pipe, or pipeline, including any pipe into a sewer or publicly owned treatment works, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft;
 - or
 - (ii) any site or area where a hazardous material or substance has been deposited, stored, disposed of, or placed, or otherwise come to be located.
(b) "Facility" does not mean any consumer product in consumer use or any vessel.
- (6) "Fund" means the Hazardous Substances Mitigation Fund created by Section 19-6-307
- (7) "Hazardous materials" means hazardous waste as defined in the Utah Hazardous Waste Management Regulations, PCBs, dioxin, asbestos, or a substance regulated under 42 U.S.C., Section 6991(2).
- (8) "Hazardous substances" means the definition of hazardous substances contained in CERCLA.
- (9) "Hazardous substances priority list" means a list of facilities meeting the criteria established by Section 19-6-311 that may be addressed under the authority of this part.
- (10) "National Contingency Plan" means the National Oil and Hazardous Substance Contingency plan established by CERCLA.
- (11) "National Priority List" means the list established by CERCLA.
- (12) "National priority list site" means a site in Utah that is listed on the National Priority List.
- (13) "Proposed national priority list site" means a site in Utah that has been proposed by the Environmental Protection Agency for listing on the National Priority List.
- (14) (a) "Release" means a spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of substances into the environment that is not authorized under state or federal law, rule, or regulation.
(b) "Release" includes abandoning or discarding barrels, containers, and other closed receptacles containing any hazardous material or substance, unless the discard or abandonment is authorized under state or federal law, rule, or regulation.
- (15) "Remedial action" means action taken consistent with the substantive requirements of CERCLA according to the procedures established by this part to prevent, eliminate, minimize, mitigate, or clean up the release of a hazardous substance from a facility on the hazardous substances priority list.
- (16) "Remedial action plan" means a plan for remedial action consistent with the substantive requirements of CERCLA and approved by the executive director.

(17) "Remedial investigation" means a remedial investigation and feasibility study as defined in the National Contingency Plan established by CERCLA.

(18) (a) "Responsible party" means:

- (i) the owner or operator of a facility;
- (ii) any person who, at the time any hazardous substance or material was disposed of at the facility, owned or operated the facility;
- (iii) any person who arranged for disposal or treatment, or arranged with a transporter for transport, for disposal, or treatment of hazardous materials or substances owned or possessed by the person, at any facility owned or operated by another person and containing the hazardous materials or substances; or
- (iv) any person who accepts or accepted any hazardous materials or substances for transport to a facility selected by that person from which there is a release that causes the incurrence of response costs.

(b) For hazardous materials or substances that were delivered by a motor carrier to any facility, "responsible party" does not include the motor carrier, and the motor carrier may not be considered to have caused or contributed to any release at the facility that results from circumstances or conditions beyond its control.

(c) "Responsible party" under Subsections (18)(a)(i) and (ii) does not include:

- (i) any person who does not participate in the management of a facility and who holds indicia of ownership:
 - (A) primarily to protect a security interest in a facility; or
 - (B) as a fiduciary or custodian under Title 75, Uniform Probate Code, or under an employee benefit plan; or
- (ii) governmental ownership or control of property by involuntary transfers as provided in CERCLA Section 101(20)(D) and 40 CFR 300.1105, National Contingency Plan.

(d) The exemption created by Subsection (c)(i)(B) does not apply to actions taken by the state or its officials or agencies under this part.

(e) The terms and activities "indicia of ownership," "primarily to protect a security interest," "participation in management," and "foreclosure on property and postforeclosure activities," under this part shall be in accordance with 40 CFR 300.1100, National Contingency Plan.

(f) The terms "participation in management" and "indicia of ownership" as defined in 40 CFR 300.1100, National Contingency Plan, include and apply to the fiduciaries listed in Subsection (18)(c)(i)(B).

(19) "Scored site" means a facility in Utah that meets the requirements of scoring established by the National Contingency Plan for placement on the National Priority List.

Tab 4

42 U.S.C. § 6991. Definitions and exemptions

For the purposes of this subchapter -

(1) The term "underground storage tank" means any one or combination of tanks (including underground pipes connected thereto) which is used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is 10 per centum or more beneath the surface of the ground. Such term does not include any -

(A) farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes,

(B) tank used for storing heating oil for consumptive use on the premises where stored,

(C) septic tank,

(D) pipeline facility (including gathering lines) -

(i) which is regulated under chapter 601 of title 49, or

(ii) which is an intrastate pipeline facility regulated under State laws as provided in chapter 601 of title 49, and which is determined by the Secretary to be connected to a pipeline or to be operated or intended to be capable of operating at pipeline pressure or as an integral part of a pipeline,

(E) surface impoundment, pit, pond, or lagoon,

(F) storm water or waste water collection system,

(G) flow-through process tank,

(H) liquid trap or associated gathering lines directly related to oil or gas production and gathering operations, or

(I) storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor. The term "underground storage tank" shall not include any pipes connected to any tank which is described in subparagraphs (A) through (I).

(2) The term "regulated substance" means -

(A) any substance defined in section 9601(14) of this title (but not including any substance regulated as a hazardous waste under subchapter III of this chapter), and

(B) petroleum.

(3) The term "owner" means -

(A) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances [sic in original], and having responsibility for, the daily operation of the underground storage tank.

(5) The term "release" means any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from an underground storage tank into ground water, surface water or subsurface soils.

(6) The term "person" has the same meaning as provided in section 6903(15) of this title, except that such term includes a consortium, a joint venture, and a commercial entity, and the United States Government.

(7) The term "nonoperational storage tank" means any underground storage tank in which regulated substances will not be deposited or from which regulated substances will not be dispensed after November 8, 1984.

(8) The term "petroleum" means petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Tab 5

42 U.S.C. § 9601. Definitions

For purpose of this subchapter -

....

(14) The term "hazardous substance" means (A) any substance designated pursuant to section 1321(b)(2)(A) of title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 U.S.C. 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.) has been suspended by Act of Congress), (D) any toxic pollutant listed under section 1317(a) of title 33, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. 7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 2606 of title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

....

Tab 6

33 U.S.C. § Sec. 1321. Oil and hazardous substance liability

(a) Definitions

....

(b) Congressional declaration of policy against discharges of oil or hazardous substances; designation of hazardous substances; study of higher standard of care incentives and report to Congress; liability; penalties; civil actions: penalty limitations, separate offenses, jurisdiction, mitigation of damages and costs, recovery of removal costs, alternative remedies, and withholding clearance of vessels

(1)

(2) (A) The Administrator shall develop, promulgate, and revise as may be appropriate, regulations designating as hazardous substances, other than oil as defined in this section, such elements and compounds which, when discharged in any quantity into or upon the navigable waters of the United States or adjoining shorelines or the waters of the contiguous zone or in connection with activities under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.) or the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.), or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.)), present an imminent and substantial danger to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches.

....

Tab 7

under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976), means: (1) A discharge into any waters beyond the contiguous zone from any vessel or on-shore or offshore facility, which vessel or facility is subject to or is engaged in activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, and (2) any discharge into any waters beyond the contiguous zone which contain, cover, or support any natural resource belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976).

Public vessel means a vessel owned or bareboat-chartered and operated by the United States, or a State or political subdivision thereof, or by a foreign nation, except when such vessel is engaged in commerce.

Territorial seas means the belt of the seas measured from the line of ordinary low water along that portion of

the seaward limit of inland waters, and extending seaward a distance of 3 miles.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel;

[43 FR 10474, Mar. 13, 1978; 43 FR 27533, June 26, 1978, as amended at 44 FR 10266, Feb. 16, 1979; 58 FR 45039, Aug. 25, 1993]

§116.4 Designation of hazardous substances.

The elements and compounds appearing in Tables 116.4 A and B are designated as hazardous substances in accordance with section 311(b)(2)(A) of the Act. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing these substances. Synonyms and Chemical Abstract System (CAS) numbers have been added for convenience of the user only. In case of any disparity the common names shall be considered the designated substance.

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES

Common name	CAS No.	Synonyms	Isomers	CAS No.
Acetaldehyde	75070	Ethanal, ethyl aldehyde, acetic aldehyde		
Acetic acid	64197	Glacial acetic acid, vinegar acid		
Acetic anhydride	108247	Acetic oxide, acetyl oxide		
Acetone cyanohydrin	75865	2-methylacetonitrile, alpha-hydroxyisobutyronitrile.		
Acetyl bromide	506967			
Acetyl chloride	79367			
Acrolein	107028	2-propenal, acrylic aldehyde, acrylaldehyde, acraldehyde.		
Acrylonitrile	107131	Cyanoethylene, Fumigrain, Ventox, propenenitrile, vinyl cyanide.		
Adipic acid	124049	Hexanedioic acid		
Aldrin	309002	Octalene, HMDN		
Allyl alcohol	107186	2-propen-1-ol, 1-propenol-3, vinyl carbinol		
Allyl chloride	107051	3-chloropropene, 3-chloropropylene, Chlorallylene.		
Aluminum sulfate	10043013	Alum		
Ammonia	7664417			
Ammonium acetate	631618	Acetic acid ammonium, salt		
Ammonium benzoate	1863634			
Ammonium bicarbonate	1066337	Acid ammonium carbonate, ammonium hydrogen carbonate.		
Ammonium bichromate	7789095			
Ammonium difluoride	1341497	Acid ammonium fluoride, ammonium hydrogen fluoride.		
Ammonium bisulfite	10192300			
Ammonium carbamate	1111780	Ammonium aminofornate		
Ammonium carbonate	506876			
Ammonium chloride	12125029	Ammonium munale, sal ammoniac, salmas, Amchlor.		
Ammonium chromate	7788989			
Ammonium citrate dibasic	3012655	Diammonium citrate, citric acid diammonium salt.		

Ammonium fluoroborate	13826830	Ammonium fluoroborate, ammonium borofluoride.		
Ammonium fluoride	12125018	Neutral ammonium fluoride		
Ammonium hydroxide	13362161			
Ammonium oxalate	60097071			
	5972736			
	14258492			
Ammonium silicofluoride	16919190	Ammonium fluosilicate		
Ammonium sulfamate	77730601	Amate, AMS, ammonium amidosulfate		
Ammonium sulfide	121357611			
Ammonium sulfite	101960401			
	101923001			
Ammonium tartrate	31642921	Tartaric acid ammonium salt		
	14307438			
Ammonium thiocyanate	1762954	Ammonium rhodanide, ammonium sulfofocyanide.		
Amly acetate	6286371	Amylacetate ester	iso-	123922
		Pear oil	sec-	626380
		Banana oil	tert-	625161
Aniline	625331	Aniline oil, phenylamine, aminobenzene, aminophen, kyanol.		
Antimony pentachloride	7647189			
Antimony potassium tartrate	28300745	Tartar emetic, tartarated antimony, tartarized antimony, potassium antimonytartrate.		
Antimony tribromide	77896191			
Antimony trichloride	10025919	Butter of antimony		
Antimony trifluoride	77835641	Antimony fluoride		
Antimony trioxide	13096441	Diantimony trioxide, flowers of antimony		
Arsenic disulfide	13033281	Red arsenic sulfide		
Arsenic pentoxide	13032821	Arsenic acid anhydride, arsenic oxide		
Arsenic trichloride	77843411	Arsenic chloride, arsenious chloride, arsenous chloride, butter of arsenic.		
Arsenic trioxide	13275331	Arsenious acid, arsenious oxide, white arsenic		
Arsenic trisulfide	13033391	Arsenious sulfide, yellow arsenic sulfide		
Banum cyanide	5426211			
Benzene	714321	Cyclohexatriene, benzol		
Benzoic acid	658501	Benzenecarboxylic acid, phenylformic acid, dracyle acid.		
Benzonitrile	1004701	Phenyl cyanide, cyanobenzene		
Benzoyl chloride	988841	Benzenecarbonyl chloride		
Benzyl chloride	1004471			
Beryllium chloride	77874751			
Beryllium fluoride	77874971			
Beryllium nitrate	77875551			
	135979941			
Butyl acetate	1238641	Acetic acid butyl ester	iso-	110190
			sec-	105464
			tert-	540885
Butylamine	1097391	1-aminobutane	iso-	78819
			sec-	513495
			tert-	13952846
				75649
n-butyl phthalate	847421	1,2-benzenedicarboxylic acid, dibutyl ester, dibutyl phthalate.		
Butyric acid	1079261	Butanoic acid, ethylacetic acid	iso-	79312
Cadmium acetate	5439081			
Cadmium bromide	77894261			
Cadmium chloride	101086421			
Calcium arsenate	77784411	Tricalcium orthoarsenate		
Calcium arsenite	527401661			
Calcium carbide	752071	Carbide, acetylenogen		
Calcium chromate	137651901	Calcium chrome yellow, geblin, yellow ultramarine.		
Calcium cyanide	5920181			
Calcium dodecylbenzenesulfonate	26264062			
Calcium hypochlorite	77785431			
Caplan	1330621	Orthocde-408, SR-406, Vancide-89		
Carbaryl	632521	Sevin		
Carboturan	15636621	Furadan		
Carbon disulfide	751501	Carbon bisulfide, dithiocarbonic anhydride		
Carbon tetrachloride	562351	Tetrachloromethane Perchloromethane		
Chlordane	577491	Toxichlor, chlordan		

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
ine	750031			
obenzene	1089071	Monochlorobenzene, benzene chloride		
olom	676631	Trichloromethane		
pyllos	2921882	Dursban		
osulfonic acid	77909451	Sulfuric chlorohydrin		
nic acetate	10663041			
nic acid	111157451	Chromic anhydride, chromium trioxide		
nic sulfate	101015381			
nous chloride	100490551			
ilous bromide	77894371	Cobalt bromide		
ilous formate	5441831	Cobalt formate		
ilous sulfamate	140174151	Cobalt sulfamate		
aphos	567241	Co-Ral		
il	13197731	Cresylic acid	m	108394
		Hydroxytoluene	o	95487
			p	106445
naldehyde	41703031	2-butenal propylene aldehyde		
c acetate	1427121	Copper acetate, crystallized verdigris		
c acetoarsenite	120020381	Copper acetoarsenite, copper acetate arsenite, Paris green		
c chloride	74473941	Copper chloride		
c nitrate	32512381	Copper nitrate		
c oxalate	58936631	Copper oxalate		
c sulfate	77589871	Copper sulfate		
c sulfate, ammoniated	103802971	Ammoniated copper sulfate		
c tartrate	8158271	Copper tartrate		
ogen chloride	5067741			
hexane	1108271	Hexahydrobenzene, hexamethylene, hexanaphthene		
acid	947571	2,4-dichlorophenoxyacetic acid		
ester	941111	2,4-dichlorophenoxyacetic acid ester		
	947911			
	948041			
	13201891			
	19283871			
	19286161			
	19297331			
	29713821			
	251682671			
	534671111			
	502931	p,p'-DDT		
on	3334151	Dipofens, Diazitol, Basudin, Spectracide		
nba	19180091	2-methoxy-3,6-dichlorobenzoic acid		
phenil	11946561	2,6-dichlorobenzonitrile, 2,6-DBN		
one	1178061	Phygon, dichloronaphthoquinone		
robenzene	253212261	Di-chloride	Ortho	95501
		Paramoth (Para)	Para	106467
ropropane	266381971	Propylene dichloride	1,1	78999
			1,2	78875
			1,3	142289
			1,3	542756
			2,3	78886
ropropene	269522381			
ropropene-dichloropropane xture).	80031981	D-O mixture Vidden D		
ichloropropionic acid	759901	Dalapon		
ovos	827371	2,2-dichlorovinyl dimethyl phosphate, Vapona		
ol	1153221	Di(p-chlorophenyl)-trichloromethylcarbinol, DTMC, dicofol		
nn	605711	Alvit		
ylamine	1098971			
thylamine	1244031			
obenzene (mixed)	251545451	Dinitrobenzol	m	99650
			o	528290
			p	100254
			(2,9)	329715
			(2,4-)	
			(2,6-)	573588
			24	121142
			2,6	606202
			3,4	610399
phenol	512851	Aldifen		
otoluene	253211461	DNT		
il	850071	Aquacide		
	27647291	Dextrone, Regione, Diquat dibromide		

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
Disulfuron	2980441	Di-syston		
Diuron	3305411	DCMU, DMU		
Dodecylbenzenesulfonic acid	271768701			
Endosulfan	1152971	Thiodan		
Endrin	722081	Mendrin, Compound 269		
Epichlorohydrin	1068981	-chloropropylene oxide		
Ethion	5631221	Nialate, ethyl methylene, phosphorodithioate		
Ethylbenzene	1004141	Phenylethane		
Ethylenediamine	1071531	1,2-diaminoethane		
Ethylenediamine-tetraacetic acid (EDTA)	600041	Edetic acid, Havidole, (ethylenedinitrilo)		
Ethylene dibromide	1069341	tetraacetic acid, 1,2-dibromoethane acetylene dibromide sym-		
		dibromoethylene		
Ethylene dichloride	1070621	1,2-dichloroethane sym-bichloroethane		
Fernc ammonium citrate	11855751	Ammonium fernc citrate		
Fernc ammonium oxalate	29446741	Ammonium fernc oxalate		
	554888741			
Fernc chloride	77050801	Flores maris, iron trichloride		
Fernc fluoride	77835081			
Fernc nitrate	104214841	Iron nitrate		
Fernc sulfate	100282251	Fernc persulfate, fernc sesquisulfate, fernc tersulfate		
Ferrous ammonium sulfate	100458931	MoHa salt, iron ammonium sulfate		
Ferrous chloride	77589431	Iron chloride, iron dichloride, iron protochloride		
Ferrous sulfate	77207871	Green vitriol		
	77826301	Iron vitriol, iron sulfate, iron protosulfate		
Formaldehyde	500001	Methyl aldehyde, methanal, formalin		
Formic acid	641861	Methanoic acid		
Fumanc acid	1101731	Trans-butenedioic acid, trans-1,2 ethylenedicarboxylic acid, boletic acid, allomaleic acid		
Furfural	980111	2-furaldehyde, pyromucic aldehyde		
Guthion	865001	Gusathion, azinphos-methyl		
Heptachlor	764481	Velicol-104, Dnnox, Heptagran		
Hexachlorocyclopentadiene	774741	Perchlorocyclopentadiene		
Hydrochloric acid	76470101	Hydrogen chloride, muretic acid		
Hydrofluoric acid	76643931	Fluohydric acid		
Hydrogen cyanide	749081	Hydrocyanic acid		
Hydrogen sulfide	77830641	Hydrothionic acid sulfur hydride		
Isoprene	787951	2-methyl-1,3-butadiene		
Isopropanolamine	42504461			
dodecylbenzenesulfonate				
Kapone	1435001	Chlordecone 1,1a,3,3a,4,5,5,5a,5b,6- decachlorooctahydro-1,3,4-metheno-2H- cyclobuta(cd)pentalen-2-one		
Lead acetate	3010421	Sugar of lead		
Lead arsenate	77844091			
	76452521			
	101024841			
Lead chloride	77589541			
Lead fluoborate	138149651	Lead fluoborate		
Lead fluoride	77834621	Lead difluoride, plumbous fluoride		
Lead iodide	101016301			
Lead nitrate	100997481			
Lead stearate	74284801	Stearic acid lead salt		
	1072351			
	526525921			
Lead sulfate	74461421			
Lead sulfide	13148701	Galena		
Lead thiocyanate	5928701	Lead sulfo cyanate		
Lindane	588991	Gamma-BHC, gamma-benzene hexachloride		
Lithium chromate	143073581			
Malathion	1217551	Phosphotion		
Maleic acid	1101671	Cis-butenedioic acid, cis-1,2 ethylenedicarboxylic acid, toxalic acid		
Maleic anhydride	1083161	2,5-furandione, cis-butenedioic anhydride, toxic anhydride		
Mercaptodimethylur	2036571	Mesuroi		
Mercure cyanide	5920411	Mercury cyanide		
Mercure nitrate	100459401	Mercury nitrate, mercury pemtrate		
Mercure sulfate	77833591	Mercury sulfate, mercury persulfate		
Mercure thiocyanate	5928581	Mercury thiocyanate, mercure sulfo cyanate, mercure sulfo cyanide		

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
Mercurous nitrate	7782867			
	10415755	Mercury protonitrate		
Methoxychlor	72435	DMDT, methoxy-DDT		
Methyl mercaptan	74931	Methanethiol, mercaptomethane, methyl sulfhydrate, thiomethyl alcohol		
Methyl methacrylate	80626	Methacrylic acid methyl ester, methyl-2-methyl-2-propenoate		
Methyl parathion	298000	Nitro-80		
Mevinphos	7786347	Phosdrin		
Mexacarbate	315184	Zectran		
Monoethylamine	75047	Ethylamine, aminoethane		
Monomethylamine	74895	Methylamine, aminomethane		
Naled	300765	Dibrom		
Naphthalene	91203	White tar, tar camphor, naphthalin		
Naphthene acid	1338245	Cyclohexanecarboxylic acid, hexahydrobenzoic acid		
Nickel ammonium sulfate	15699180	Ammonium nickel sulfate		
Nickel chloride	37211055	Nickelous chloride		
	7718549			
Nickel hydroxide	12054487	Nickelous hydroxide		
Nickel nitrate	14216752			
Nickel sulfate	7786814	Nickelous sulfate		
Nitric acid	7697372	Aqua fortis		
Nitrobenzene	98953	Nitrobenzol, oil of mirbane		
Nitrogen dioxide	10102440	Nitrogen tetroxide		
Nitrophenol (mixed)	25154556	Mononitrophenol	m- o- p- Ortho Meta Para	554847 88755 100027 88722 99081 99990
Nitrotoluene	1321126			
Paraformaldehyde	30525894	Paraform, Formagene, Triformol, polymerized formaldehyde, polyoxymethylene		
Parathion	56382	DNTP, Niran		
Pentachlorophenol	87865	PCP, Penta		
Phenol	108952	Carbolic acid, phenyl hydroxide, hydroxybenzene, oxybenzene		
Phosgene	75445	Diphosgene, carbonyl chloride, chloroformyl chloride		
Phosphoric acid	7664382	Orthophosphoric acid		
Phosphorus	7723140	Black phosphorus, red phosphorus, white phosphorus, yellow phosphorus		
Phosphorus oxychloride	10025873	Phosphoryl chloride, phosphorus chloride		
Phosphorus pentasulfide	1314803	Phosphoric sulfide, thiophosphoric anhydride, phosphorus persulfide		
Phosphorus trichloride	7719122	Phosphorous chloride		
Polychlorinated biphenyls	1336363	PCB, Aroclor, polychlorinated diphenyls		
Potassium arsenate	7784410			
Potassium arsenite	10124502	Potassium metaarsenite		
Potassium bichromate	7778509	Potassium dichromate		
Potassium chromate	7789006			
Potassium cyanide	151508			
Potassium hydroxide	1310583	Potassium hydrate, caustic potash, potassa		
Potassium permanganate	7722647	Chameleon mineral		
Propargite	2312358	Omite		
Propionic acid	79094	Propanoic acid, methylacetic acid, ethylformic acid		
Propionic anhydride	123826	Propanoic anhydride, methylacetic anhydride		
Propylene oxide	75569	Propene oxide		
Pyrethrins	121299	Pyrethrin I		
	121211	Pyrethrin II		
Quinoline	91225	1-benzazine, benzo(b)pyridine, leuocoline, chinoline, leucol		
Resorcinol	108463	Resorcin, 1,3-benzenediol, meta-dihydroxybenzene		
Selenium oxide	7446084	Selenium dioxide		
Silver nitrate	7761888	Nitric acid silver (1+) salt lunar caustic		
Sodium	7440235	Sodium		
Sodium arsenate	7631892	Disodium arsenate		
Sodium arsenite	7784465	Sodium metaarsenite		
Sodium bichromate	10588019	Sodium dichromate		
Sodium bifluoride	1333831			

Common name	CAS No.	Synonyms	Isomers	CAS No.
Sodium bisulfite	7631905	Sodium acid sulfite, sodium hydrogen sulfite		
Sodium chromate	7775113			
Sodium cyanide	143339			
Sodium dodecylbenzene-sulfonate	25155300			
Sodium fluoride	7681494	Villiumite		
Sodium hydrosulfide	16721805	Sodium hydrogen sulfide		
Sodium hydroxide	1310732	Caustic soda, soda lye, sodium hydrate		
Sodium hypochlorite	7681529	Bleach		
	10022705			
Sodium methylate	124414	Sodium methoxide		
Sodium nitrite	7632000			
Sodium phosphate, dibasic	7558794			
	10039324			
	10140655			
Sodium phosphate, tribasic	7785844			
	7601549			
	10101890			
	10361894			
	7758294			
	10124568			
Sodium selenite	10102188			
	7782823			
Strontium chromate	7789062			
Strychnine	57249			
Styrene	100425	Vinylbenzene, phenylethylene, styrol, styrolene, cinnamene, cinnamol		
Sulfuric acid	7664939	Oil of vitrol, oleum		
Sulfur monochloride	12771083	Sulfur chloride		
2,4,5-T acid	93765	2,4,5-trichlorophenoxyacetic acid		
2,4,5-T amines	6369966	Acetic acid (2,4,5-trichlorophenoxy)-compound with N,N-dimethylmethanamine (1:1)		
	6369977	Acetic acid (2,4,5-trichlorophenoxy)-compound with N-methylmethanamine (1:1)		
	1319728	Acetic acid (2,4,5-trichlorophenoxy)-compound with 1-amino-2-propanol (1:1)		
	3813147	Acetic acid (2,4,5-trichlorophenoxy)-compound with 2,2,2-trifluoroethanol (1:1)		
2,4,5-T esters	2545597	2,4,5-trichlorophenoxyacetic esters		
	93798			
	61792072			
	1928478			
2,4,5-T salts	25168154	Acetic acid (2,4,5-trichlorophenoxy)-sodium salt		
	13560991			
TDE	72548	DDD		
2,4,5-TP acid	93721	Propanoic acid 2(2,4,5-trichlorophenoxy)		
2,4,5-TP esters	32534955	Propanoic acid, 2(2,4,5-trichlorophenoxy)-, isooctyl ester		
Tetraethyl lead	78002	Lead tetraethyl, TEL		
Tetraethyl pyrophosphate	107493	TEPP		
Thallium sulfate	10031591			
	7446186			
Toluene	108883	Toluol, methylbenzene, phenylmethane, Methacde		
Toxaphene	8001352	Camphchlor		
Trichlorfon	52686	Dipterex		
Trichlorethylene	79016	Ethylene trichloride		
Trichlorophenol	25167822	Collunosol, Dowicide 2 or 2S, Oma, Phenachlor	(2,3,4-) (2,3,5-) (2,3,6-) (2,4,5-) (2,4,6-) (3,4,5-)	15950660 933788 933755 95954 88062 609198
Triethanolamine	27323417	dodecylbenzenesulfonate		
Triethylamine	121448			
Trimethylamine	75503	TMA		
Uranyl acetate	541093			
Uranyl nitrate	10102064			
	36478769			
Vanadium pentoxide	1314621	Vanadic anhydride, vanadic acid anhydride		

Common name	CAS No.	Synonyms	Isomers	CAS No.
nadyl sulfate	27774136	Vanadic sulfate, vanadium sulfate		
yl acetate	108054	Acetic acid ethylene ether		
ylidene chloride	75354	1,1-dichloroethylene		
		1,1-dichloroethene		
ene (mixed)	1330207	Dimethylbenzene	m-	108383
		Xylo	o-	95476
			p-	106423
enol	1300716	Dimethylphenol, hydroxydimethylbenzene		
c acetate	557346			
c ammonium chloride	14639975			
	14639986			
	52628258			
c borate	1332076			
c bromide	7699458			
c carbonate	3486359			
c chloride	7646857	Butter of zinc		
c cyanide	557211			
c fluoride	7783495			
c formate	557415			
c hydrosulfite	7779864			
c nitrate	7779886			
c phenolsulfonate	127822	Zinc sulfocarbonate		
ic phosphide	1314847			
ic silicofluoride	16871719	Zinc fluosilicate		
ic sulfate	7733020	White vitrol, zinc vitriol, white copperas		
conium nitrate	13746899			
conium potassium fluoride	16923958			
conium sulfate	14644612	Disulfatozirconic acid		
conium tetrachloride	10026116			

TABLE 116.4B—LIST OF HAZARDOUS SUBSTANCES BY CAS NUMBER

CAS No.	Common name
0000	Formaldehyde
3293	DDT
1285	2,4-Dinitrophenol
2688	Trichlorfon
3382	Parathion
5724	Coumaphos
7249	Strychnine
7749	Chloroform
8899	Lindane
0004	Ethylenediaminetetraacetic acid (EDTA)
0571	Dieldrin
2533	Aniline
2737	Dichlorvos
3252	Carbaryl
4186	Formic acid
4197	Acetic acid
5850	Benzoic acid
7663	Chloroform
1432	Benzene
2208	Endrin
2435	Methoxychlor
2548	TDE
4895	Monomethylamine
4908	Hydrogen cyanide
4931	Methyl mercaptan
5047	Monomethylamine
5070	Acetaldehyde
5150	Carbon disulfide
5207	Calcium carbide
5445	Phosgene
5503	Trimethylamine
5649	tert-Butylamine
5865	Acetone cyanohydrin
5990	2,2-Dichloropropionic acid
76448	Heptachlor

TABLE 116.4B—LIST OF HAZARDOUS SUBSTANCES BY CAS NUMBER—Continued

CAS No.	Common name
78002	Tetraethyl lead
78795	Isoprene
78819	iso-Butylamine
79094	Propionic acid
79312	iso-Butylacetic acid
79367	Acetyl chloride
80626	Methyl methacrylate
85007	Diquat
86500	Guthion
87865	Pentachlorophenol
88755	o-Nitrophenol
91203	Naphthalene
91225	Quinoline
93765	2,4,5-T acid
93798	2,4,5-T ester
94111	2,4-D ester
94757	2,4-D acid
94791	2,4-D ester
94804	2,4-D Butyl ester
95476	o-Xylene
95487	o-Cresol
98011	Furfural
98884	Benzoyl chloride
98953	Nitrobenzene
99650	m-Dinitrobenzene
100027	p-Nitrophenol
100254	p-Dinitrobenzene
100414	Ethylbenzene
100425	Styrene
100447	Benzyl chloride
100470	Benzonitrile
105464	sec-Butyl acetate
106423	p-Xylene
106445	p-Cresol
107028	Acrolein
107051	Allyl chloride

CAS No.	Common name	CAS No.	Common name
107131	Acrylonitrile	1066304	Chromic acetate
107153	Ethylenediamine	1066337	Ammonium dicarbonate
107186	Allyl alcohol	1072351	Lead stearate
107493	Tetraethyl pyrophosphate	1111780	Ammonium carbamate
107926	n-Butylacetic acid	1185575	Femic ammonium citrate
108054	Vinyl acetate	1194656	Dichlorobenzene
108247	Acetic anhydride	1300716	Xylenol
108316	Maleic anhydride	1303282	Arsenic pentoxide
108383	m-Xylene	1303328	Arsenic disulfide
108394	m-Cresol	1303339	Arsenic trisulfide
108463	Rosercinol	1309644	Antimony trioxide
108883	Toluene	1310583	Potassium hydroxide
108907	Chlorobenzene	1310732	Sodium hydroxide
108952	Phenol	1314621	Vanadium pentoxide
109739	n-Butylamine	1314803	Phosphorus pentasulfide
109897	Diethylamine	1314847	Zinc phosphide
110167	Maleic acid	1314870	Lead sulfide
110178	Fumalic acid	1319773	Cresol (mixed)
110190	iso-Butyl acetate	1320189	2,4-D ester
110827	Cyclohexane	1327533	Arsenic trioxide
115297	Endosulfan	1330207	Xylene
115322	Dicofol	1332076	Zinc borate
117806	Dichloro	1333831	Sodium bifluoride
121211	Pyrethrin	1336216	Ammonium hydroxide
121299	Pyrethrin	1336363	Polychlorinated biphenyls
121448	Triethylamine	1338245	Naophthalic acid
121755	Malathion	1341497	Ammonium bifluoride
123626	Propionic anhydride	1762954	Ammonium thiocyanate
123864	n-Butyl acetate	1863634	Ammonium benzoate
123922	iso-Amyl acetate	1918009	Dicamba
124403	Dimethylamine	1928387	2,4-D esters
124414	Sodium methylate	1928478	2,4,5-T ester
127822	Zinc phenolsulfonate	1928616	2,4-D ester
133062	Caplan	1929733	2,4-D ester
142712	Cupric acetate	2545597	2,4,5-T ester
143339	Sodium cyanide	2764729	Diquat
151508	Potassium cyanide	2921882	Chlorpyrifos
298000	Methyl parathion	2944674	Femic ammonium oxalate
298044	Disulfoton	2971382	2,4-D ester
300765	Naled	3012655	Ammonium citrate, dibasic
301042	Lead acetate	3164292	Ammonium tartrate
309002	Aldrin	3251238	Cupric nitrate
315184	Mexacarbale	3486359	Zinc carbonate
329715	2,5-Dinitrophenol	5893663	Cupric oxalate
330541	Diuron	5972736	Ammonium oxalate
333415	Diazinon	6009707	Ammonium oxalate
506774	Cyanogen chloride	6369966	2,4,5-T ester
506876	Ammonium carbonate	7428480	Lead stearate
506967	Acetyl bromide	7440235	Sodium
513495	sec-Butylamine	7446084	Selenium oxide
528290	o-Dinitrobenzene	7446142	Lead sulfate
540885	tert-Butyl acetate	7447394	Cupric chloride
541093	Uranium acetate	7558794	Sodium phosphate, dibasic
542621	Banum cyanide	7601549	Sodium phosphate, tribasic
543908	Cadmium acetate	7631892	Sodium arsenate
544183	Cobaltous formate	7631905	Sodium bisulfite
554847	m-Nitrophenol	7632000	Sodium nitrite
557211	Zinc cyanide	7645252	Lead arsenate
557346	Zinc acetate	7646857	Zinc chloride
557415	Zinc formate	7647010	Hydrochloric acid
563122	Ethion	7647189	Antimony pentachloride
573568	2,6-Dinitrophenol	7664382	Phosphoric acid
592018	Calcium cyanide	7664393	Hydrofluoric acid
592041	Mercurocyanide	7664417	Ammonia
592858	Mercurothiocyanate	7664939	Sulfuric acid
592870	Lead thiocyanate	7681494	Sodium fluoride
625161	tert-Amyl acetate	7681529	Sodium hypochlorite
626380	sec-Amyl acetate	7697372	Nitric acid
628637	n-Amyl acetate	7699458	Zinc bromide
631818	Ammonium acetate	7705080	Femic chloride
815827	Cupric tartrate	7718549	Nickel chloride

TABLE 116.4B—LIST OF HAZARDOUS
SUBSTANCES BY CAS NUMBER—Continued

CAS No.	Common name
7719122	Phosphorus trichloride
7720787	Ferrous sulfate
7722647	Potassium permanganate
7723140	Phosphorus
7733020	Zinc sulfate
7758294	Sodium phosphate, tribasic
7758943	Ferrous chloride
7758954	Lead chloride
7758987	Cupric sulfate
7773060	Ammonium sulfamate
7775113	Sodium chromate
7778441	Calcium arsenate
7778509	Potassium bichromate
7778543	Calcium hypochlorite
7779864	Zinc hydrosulfite
7779886	Zinc nitrate
7782505	Chlorine
7782630	Ferrous sulfate
7782823	Sodium selenite
7782867	Mercurous nitrate
7783359	Mercuric sulfate
7783462	Lead fluoride
7783495	Zinc fluoride
7783508	Ferric fluoride
7783564	Antimony trifluoride
7784341	Arsenic trichloride
7784409	Lead arsenate
7784410	Potassium arsenate
7784465	Sodium arsenite
7785844	Sodium phosphate, tribasic
7786347	Mevmonos
7786814	Nickel sulfate
7787475	Beryllium chloride
7787497	Beryllium fluoride
7787555	Beryllium nitrate
7788989	Ammonium chromate
7789006	Potassium chromate
7789062	Strontium chromate
7789095	Ammonium bichromate
7789426	Cadmium bromide
7789437	Cobaltous bromide
7789619	Antimony tribromide
7790945	Chlorosulfonic acid
8001352	Toxaphene
10022705	Sodium hypochlorite
10025873	Phosphorus oxychloride
10025919	Antimony trichloride
10026116	Zirconium tetrachloride
10028225	Ferric sulfate
10028247	Sodium phosphate, dibasic
10039324	Sodium phosphate, dibasic
10043013	Aluminum sulfate
10045893	Ferrous ammonium sulfate
10045940	Mercuric nitrate
10049055	Chromous chloride
10099748	Lead nitrate
10101538	Chromic sulfate
10101630	Lead iodide
10101890	Sodium phosphate, tribasic
10102064	Uranyl nitrate
10102188	Sodium selenite
10102440	Nitrogen dioxide
10102484	Lead arsenate
10108642	Cadmium chloride
10124502	Potassium arsenite
10124568	Sodium phosphate, tribasic
10140655	Sodium phosphate, dibasic
10192300	Ammonium bisulfite
10196040	Ammonium sulfite
10361894	Sodium phosphate, tribasic
10380297	Cupric sulfate, ammoniated

TABLE 116.4B—LIST OF HAZARDOUS
SUBSTANCES BY CAS NUMBER—Continued

CAS No.	Common name
10415755	Mercurous nitrate
10421484	Ferric nitrate
10588019	Sodium bichromate
11115745	Chromic acid
12002038	Cupric acetate
12054487	Nickel hydroxide
12125018	Ammonium fluoride
12125029	Ammonium chloride
12135761	Ammonium sulfide
12771083	Sulfur chloride
13597994	Beryllium nitrate
13746899	Zirconium nitrate
13765190	Calcium chromate
13814965	Lead fluoroborate
13826830	Ammonium fluoroborate
13952846	sec-Butylamine
14017415	Cobaltous sulfamate
14216752	Nickel nitrate
14258492	Ammonium oxalate
14307358	Lithium chromate
14307438	Ammonium tartrate
14639975	Zinc ammonium chloride
14639986	Zinc ammonium chloride
14644612	Zirconium sulfate
15699180	Nickel ammonium sulfate
16721805	Sodium hydrosulfide
16871719	Zinc silicofluoride
16919190	Ammonium silicofluoride
16923958	Zirconium potassium fluoride
25154545	Dinitrobenzene
25154556	Nitrophenol
25155300	Sodium dodecylbenzenesulfonate
25167822	Trichlorophenol
25168154	2,4,5-T ester
25168267	2,4-D ester
26264062	Calcium dodecylbenzenesulfonate
27176870	Dodecylbenzenesulfonic acid
27323417	Triethanolamine
	dodecylbenzenesulfonate
27774136	Vanadyl sulfate
28300745	Antimony potassium tartrate
30525894	Paraformaldehyde
36478769	Uranyl nitrate
37211055	Nickel chloride
42504461	Dodecylbenzenesulfonate
	isopropanolamine
52628258	Zinc ammonium chloride
52740166	Calcium arsenite
53467111	2,4-D ester
55488874	Ferric ammonium oxalate
61792072	2,4,5-T ester

[43 FR 10474, Mar. 13, 1978; 43 FR 27533, June 26, 1978, as amended at 44 FR 10268, Feb. 16, 1979; 44 FR 65400, Nov. 13, 1979; 44 FR 66602, Nov. 20, 1979; 54 FR 33482, Aug. 14, 1989]

PART 117—DETERMINATION OF RE- PORTABLE QUANTITIES FOR HAZ- ARDOUS SUBSTANCES

Subpart A—General Provisions

Sec.

117.1 Definitions.

117.2 Abbreviations.

Tab 8

42 U.S.C. § 7412. Hazardous air pollutants

....

(r) Prevention of accidental releases

(1) Purpose and general duty It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such substances have a general duty in the same manner and to the same extent as section 654 of title 29 to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur. For purposes of this paragraph, the provisions of section 7604 of this title shall not be available to any person or otherwise be construed to be applicable to this paragraph. Nothing in this section shall be interpreted, construed, implied or applied to create any liability or basis for suit for compensation for bodily injury or any other injury or property damages to any person which may result from accidental releases of such substances.

(2) Definitions

(A) The term "accidental release" means an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source.

(B) The term "regulated substance" means a substance listed under paragraph (3).

(C) The term "stationary source" means any buildings, structures, equipment, installations or substance emitting stationary activities (i) which belong to the same industrial group, (ii) which are located on one or more contiguous properties, (iii) which are under the control of the same person (or persons under common control), and (iv) from which an accidental release may occur.

(3) List of substances

The Administrator shall promulgate not later than 24 months after November 15, 1990, an initial list of 100 substances which, in the case of an accidental release, are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment. For purposes of promulgating such list, the Administrator shall use, but is not limited to, the list of extremely hazardous substances published under the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. 11001 et seq.), with such modifications as the Administrator deems appropriate. The initial list shall include chlorine, anhydrous ammonia, methyl chloride, ethylene oxide, vinyl chloride, methyl isocyanate, hydrogen cyanide, ammonia, hydrogen sulfide, toluene diisocyanate, phosgene, bromine, anhydrous hydrogen chloride, hydrogen fluoride, anhydrous sulfur dioxide, and sulfur trioxide. The initial list shall

include at least 100 substances which pose the greatest risk of causing death, injury, or serious adverse effects to human health or the environment from accidental releases. Regulations establishing the list shall include an explanation of the basis for establishing the list. The list may be revised from time to time by the Administrator on the Administrator's own motion or by petition and shall be reviewed at least every 5 years. No air pollutant for which a national primary ambient air quality standard has been established shall be included on any such list. No substance, practice, process, or activity regulated under subchapter VI of this chapter shall be subject to regulations under this subsection. The Administrator shall establish procedures for the addition and deletion of substances from the list established under this paragraph consistent with those applicable to the list in subsection (b) of this section.

....

Tab 9

19-6-102. Definitions.

As used in this part

(1) "Board" means the Solid and Hazardous Waste Control Board created in Section 19-1-106

(2) "Closure plan" means a plan under Section 19-6-108 to close a facility or site at which the owner or operator has disposed of nonhazardous solid waste or has treated, stored, or disposed of hazardous waste including, if applicable, a plan to provide postclosure care at the facility or site

(3) (a) "Commercial nonhazardous solid waste treatment, storage, or disposal facility" means a facility that receives, for profit, nonhazardous solid waste for treatment, storage, or disposal

(b) "Commercial nonhazardous solid waste treatment, storage, or disposal facility" does not include a facility that

(i) receives waste for recycling,

(ii) receives waste to be used as fuel, in compliance with federal and state requirements, or

(iii) is solely under contract with a local government within the state to dispose of nonhazardous solid waste generated within the boundaries of the local government

(4) "Construction waste or demolition waste"

(a) means waste from building materials, packaging, and rubble resulting from construction, demolition, remodeling, and repair of pavements, houses, commercial buildings, and other structures, and from road building and land clearing, and

(b) does not include asbestos, contaminated soils or tanks resulting from remediation or cleanup at any release or spill, waste paints, solvents, sealers, adhesives, or similar hazardous or potentially hazardous materials

(5) "Demolition waste" has the same meaning as the definition of construction waste in this section

(6) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid or hazardous waste into or on any land or water so that the waste or any constituent of the waste may enter the environment, be emitted into the air, or discharged into any waters, including groundwaters

(7) "Executive secretary" means the executive secretary of the board.

(8) "Generation" or "generated" means the act or process of producing nonhazardous solid or hazardous waste

(9) "Hazardous waste" means a solid waste or combination of solid wastes other than household waste which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed

(10) "Health facility" means hospitals, psychiatric hospitals, home health agencies, hospices, skilled nursing facilities, intermediate care facilities, intermediate care facilities for the mentally retarded, residential health care facilities, maternity homes or birthing centers, free standing ambulatory surgical centers, facilities owned or operated by health maintenance organizations, and state renal disease treatment centers including free standing hemodialysis units, the offices of private physicians and dentists whether for individual or private practice, veterinary clinics, and mortuaries

(11) "Household waste" means any waste material, including garbage, trash, and sanitary wastes in septic tanks, derived from households, including single-family and multiple-family residences, hotels and motels, bunk houses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas

(12) "Infectious waste" means a solid waste that contains or may reasonably be expected to contain pathogens of sufficient virulence and quantity that exposure to the waste by a susceptible host could result in an infectious disease.

(13) "Manifest" means the form used for identifying the quantity, composition, origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of disposal, treatment, or storage.

(14) "Mixed waste" means any material that is a hazardous waste as defined in this chapter and is also radioactive as defined in Section 19-3-102.

(15) "Modification plan" means a plan under Section 19-6-108 to modify a facility or site for the purpose of disposing of nonhazardous solid waste or treating, storing, or disposing of hazardous waste.

(16) "Operation plan" or "nonhazardous solid or hazardous waste operation plan" means a plan under Section 19-6-108 to own, construct, or operate a facility or site for the purpose of disposing of nonhazardous solid waste or treating, storing, or disposing of hazardous waste.

(17) (a) "Solid waste" means any garbage, refuse, sludge, including sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations and from community activities but does not include solid or dissolved materials in domestic sewage or in irrigation return flows or discharges for which a permit is required under Title 19, Chapter 5, Water Quality Act, or under the Water Pollution Control Act, 33 U.S.C., Section 1251, et seq.

(b) "Solid waste" does not include any of the following wastes unless the waste causes a public nuisance or public health hazard or is otherwise determined to be a hazardous waste:

(i) certain large volume wastes, such as inert construction debris used as fill material;

(ii) drilling muds, produced waters, and other wastes associated with the exploration, development, or production of oil, gas, or geothermal energy;

(iii) fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels;

(iv) solid wastes from the extraction, beneficiation, and processing of ores and minerals; or

(v) cement kiln dust.

(18) "Storage" means the actual or intended containment of solid or hazardous waste either on a temporary basis or for a period of years in such a manner as not to constitute disposal of the waste.

(19) "Transportation" means the off-site movement of solid or hazardous waste to any intermediate point or to any point of storage, treatment, or disposal.

(20) "Treatment" means a method, technique, or process designed to change the physical, chemical, or biological character or composition of any solid or hazardous waste so as to neutralize the waste or render the waste nonhazardous, safer for transport, amenable for recovery, amenable to storage, or reduced in volume.

(21) "Underground storage tank" means a tank which is regulated under Subtitle I of the Resource Conservation and Recovery Act, 42 U.S.C., Section 6991, et seq.

Tab 10

R315-1. Utah Hazardous Waste Definitions and References.

R315-1-1. Definitions.

(a) Terms used in R315-1 through R315-101 are defined in Sections 19-1-103 and 19-6-102.

(b) For R315-1 through R315-101, the terms defined in > 40 CFR 260.10 and > 279.1, 2000 ed., are adopted and incorporated by reference with the following revisions:

(1) Substitute "Executive Secretary" for "Regional Administrator" or "Administrator," except in the following cases:

(i) In the actual definitions of "Administrator" and "Regional Administrator;" and

(ii) In the definitions of "hazardous waste constituent" and "industrial furnace" where "Board" shall be substituted.

(2) Insert in the definition of "existing tank system" or "existing component" the following additional phrase after "July 14, 1986," "or December 16, 1988 for purposes of implementing the non-HSWA requirements of the tank regulations as promulgated by EPA on July 14, 1986, 51 FR 25470, as they have been incorporated into the corresponding rules of R315. A non-HSWA existing tank system or non-HSWA tank component is one which does not implement any of the requirements of the federal Hazardous and Solid Waste Amendments of 1984 (HSWA) as identified in Table 1 of > 40 CFR 271.1."

(3) Insert in the definition of "new tank system" or "new tank component" the following additional phrase after "July 14, 1986," "or December 16, 1988 for purposes of implementing the non-HSWA requirements of the tank regulations as promulgated by EPA on July 14, 1986, 51 FR 25470, as they have been incorporated into the corresponding rules of R315; except, however, for purposes of > 40 CFR 265.193(g)(2) and > 40 CFR 264.193(g)(2), a new tank system is one which construction commences after July 14, 1986. A non-HSWA new tank system or non-HSWA new tank component is one which does not implement any of the requirements of the federal Hazardous and Solid Waste Amendments of 1984 (HSWA) as identified in Table 1 of > 40 CFR 271.1."

(c) The terms defined in > 40 CFR 261.1(c), 1997 ed., are adopted and incorporated by reference.

(d) For purposes of R315-3 regarding application and permit procedures for hazardous waste facilities, the terms defined in > 40 CFR 270.2, 1999 ed., are adopted and incorporated by reference with the following revisions:

(1) "Permit" means the plan approval as required by subsection 19-6-108(3)(a), or equivalent control document issued by the Executive Secretary to implement the requirements of the Utah Solid and Hazardous Waste Act; and

(2) "Director" or "State Director" means "Executive Secretary."

(e) The definitions of "Polychlorinated biphenyl, PCB," and "Polychlorinated item" as found in 761.3, 40 CFR, 1990 ed., are adopted and incorporated by reference.

(f) In addition, the following terms are defined as follows:

(1) "Approved hazardous waste management facility" or "approved facility" means a hazardous waste treatment, storage, or disposal facility which has received an EPA permit in accordance with federal requirements, has been approved under 19-6-108 and R315-3, or has been permitted or approved under any other EPA authorized

hazardous waste state program.

(2) "Division" means the Division of Solid and Hazardous Waste.

(3) "Hazard class" means:

(i) The DOT hazard class identified in 49 CFR 172; and

(ii) If the DOT hazard class is "OTHER REGULATED MATERIAL," ORM, the EPA hazardous waste characteristic exhibited by the waste and identified in R315-2-9.

(4) "Monitoring" means all procedures used to systematically inspect and collect data on operational parameters of the facility or on the quality of the air, ground water, surface water, or soils.

(5) "POHC's" means principle organic hazardous constituents.

(6) "Permittee" means any person who has received an approval of a hazardous waste operation plan under 19-6-108 and R315-3 or a Federal RCRA permit for a treatment, storage, or disposal facility.

(7) "Precipitation run-off" means water generated from naturally occurring storm events. If the precipitation run-off has been in contact with a waste defined in R315-2-9, it qualifies as "precipitation run-off" if the water does not exhibit any of the characteristics identified in R315-2-9. If the precipitation run-off has been in contact with a waste listed in R315-2-10 or R315-2-11, then it qualifies as "precipitation run-off" when the water has been excluded under R315-2-16. Water containing any leachate does not qualify as "precipitation run-off".

(8) "Spill" means the accidental discharging, spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes, into or on any land or water.

(9) "Waste management area" means the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit. The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit. If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

(g) Terms used in R315-15 are defined in sections 19-6-703 and 19-6-706(2)(b)(ii).

(h) For purposes of R315-101 regarding cleanup action and risk-based closure standards, the following terms are defined as follows:

(1) "The concentration term, C" is calculated as the 95% upper confidence limit, UCL, on the arithmetic average for normally distributed data, or as the 95% upper confidence limit on the arithmetic average for lognormally distributed data. For normally distributed data, $C = \text{Mean} + t \times \text{Standard Deviation}/n^{1/2}$, where n is the number of observations, and t is Student's t distribution (at the 95% one-sided confidence level and n-1 degrees of freedom), tables of which are printed in most introductory statistics textbooks. For lognormally distributed data, $C = \exp(\text{Mean of lognormal-transformed data} + 0.5 \times \text{Variance of lognormal-transformed data} + \text{Standard Deviation of lognormal-transformed data} \times H/(n-1)^{1/2})$, where n is the number of observations, and H is Land's H statistic (at the 95% one-sided confidence level), tables of which are printed in advanced statistics books. For data which are not normally nor lognormally distributed, appropriate statistics, such as nonparametric confidence limits, shall be applied.

(2) "Area of contamination" means a hazardous waste management unit or an area where a release has occurred. The boundary is defined as the furthest extent where contamination from a defined source has migrated in any medium at the time the release is first identified.

(3) "Contaminate" means to render a medium polluted through the introduction of hazardous waste or hazardous constituents as identified in R315-50-10, which incorporates by reference 40 CFR 261, Appendix VIII.

(4) "Hazard index" means the sum of more than one hazard quotient for multiple substances, multiple exposure pathways, or both. The Hazard Index is calculated separately for chronic, subchronic, and shorter duration exposures.

(5) "Hazard quotient" means the ratio of a single substance exposure level over a specified time period, e.g. subchronic, to a reference dose for that substance derived from a similar exposure period.

(6) "Risk-based closure" means closure of a site where hazardous waste was managed or any medium has been contaminated by a release of hazardous waste or hazardous constituents, and where hazardous waste or hazardous constituents remain at the site in any medium at concentrations determined, under this rule, to cause minimal levels of risk to human health and the environment so as to require no further action or monitoring on the part of the responsible party nor any notice of hazardous waste management on the deed to the property.

(7) "Reasonable maximum exposure (RME)" means the highest exposure that is reasonably expected to occur at a site. The goal of RME is to combine upper-bound and mid-range exposure factors so that the result represents an exposure scenario that is both protective and reasonable; not the worst possible case.

(8) "Release" means spill or discharge of hazardous waste, hazardous constituents, or material that becomes hazardous waste when released to the environment.

(9) "Responsible party" means the owner or operator of a facility, or any other person responsible for the release of hazardous waste or hazardous constituents.

(10) "Site" means the area of contamination and any other area that could be impacted by the released contaminants, or could influence the migration of those contaminants, regardless of whether the site is owned by the responsible party.

Tab 11

of the owner or operator seeking a permit under subtitle C of RCRA. This definition also applies to facilities implementing corrective action under RCRA Section 3008(h).

(3) Notwithstanding paragraph (2) of this definition, a remediation waste management site is not a facility that is subject to 40 CFR 264.101, but is subject to corrective action requirements if the site is located within such a facility.

Federal agency means any department, agency, or other instrumentality of the Federal Government, any independent agency, or establishment of the Federal Government, including any Government corporation, and the Government Printing Office.

Federal, State and local approvals or permits necessary to begin physical construction means permits and approvals required under Federal, State, or local hazardous waste control statutes, regulations, or ordinances.

Final closure means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under parts 264 and 265 of this chapter are no longer conducted at the facility, unless subject to the provisions in § 262.34.

Food-chain crops means tobacco crops grown for human consumption and crops grown for feed for animals whose products are consumed by humans.

Free liquids means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

Freeboard means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

Generator means any person, by site whose act or process produces hazardous waste identified or listed in part 261 of this chapter, or whose act first causes a hazardous waste to become subject to regulation.

Ground water means water below the land surface in a zone of saturation.

Hazardous waste means a hazardous waste as defined in § 261.3 of this chapter.

Hazardous waste constituent means a constituent that caused the Administrator to list the hazardous waste in part 261, subpart D, of this chapter, or a constituent listed in table 1 of § 261.24 of this chapter.

Hazardous waste management unit is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank, and its associated piping and underlying containment system, and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

In operation refers to a facility which is treating, storing, or disposing of hazardous waste.

Inactive portion means that portion of a facility which is not operated after the effective date of part 261 of this chapter. (See also "active portion" and "closed portion".)

Incinerator means any enclosed device that:

(1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(2) Meets the definition of infrared incinerator or plasma arc incinerator.

Incompatible waste means a hazardous waste which is unsuitable for:

(1) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

(See part 265, appendix V, of this chapter for examples.)

Individual generation site means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a

§ 260.3

Information Act and section 3007(b) part 2 of this chapter as applicable

(b) Any person who submits information to EPA in accordance with parts 260 through 266 and 268 of this chapter may assert a claim of business confidentiality covering part or all of that information by following the procedures set forth in § 2.203(b) of this chapter. Information covered by such a claim will be disclosed by EPA only to the extent and by means of the procedures, set forth in part 2 subpart B, of this chapter except that information required by § 262.53(a) and § 262.83 that is submitted in a notification of intent to export a hazardous waste will be provided to the U.S. Department of State and the appropriate authorities in the transit and receiving or importing countries regardless of any claims of confidentiality. However, if no such claim accompanies the information when it is received by EPA, it may be made available to the public without further notice to the person submitting it.

[45 FR 33073, May 19, 1980, as amended at 51 FR 23682, Aug. 8, 1986; 51 FR 40636, Nov. 7, 1986; 61 FR 16309, Apr. 12, 1996]

§ 260.3 Use of number and gender.

As used in parts 260 through 265 and 268 of this chapter

(a) Words in the masculine gender also include the feminine and neuter genders, and

(b) Words in the singular include the plural, and

(c) Words in the plural include the singular

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986]

Subpart B—Definitions

§ 260.10 Definitions.

When used in parts 260 through 273 of this chapter, the following terms have the meanings given below:

Above ground tank means a device meeting the definition of "tank" in § 260.10 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (in-

cluding the tank bottom) is able to be visually inspected

Act or RCRA means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 as amended 42 U.S.C. section 6901 et seq.

Active life of a facility means the period from the initial receipt of hazardous waste at the facility until the Regional Administrator receives certification of final closure

Active portion means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of part 261 of this chapter and which is not a closed portion (See also "closed portion" and "inactive portion")

Administrator means the Administrator of the Environmental Protection Agency, or his designee

Ancillary equipment means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site

Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Authorized representative means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility

Battery means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

Tab 12

(2) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in subparts C or D of this part, except for brominated material that meets the following criteria:

(i) The material must contain a bromine concentration of at least 45%; and

(ii) The material must contain less than a total of 1% of toxic organic compounds listed in appendix VIII; and

(iii) The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping).

(3) The Administrator will use the following criteria to add wastes to that list:

(i)(A) The materials are ordinarily disposed of, burned, or incinerated; or

(B) The materials contain toxic constituents listed in appendix VIII of part 261 and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

(ii) The material may pose a substantial hazard to human health and the environment when recycled.

(e) *Materials that are not solid waste when recycled.* (1) Materials are not solid wastes when they can be shown to be recycled by being:

(i) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land. In cases where the materials are generated and reclaimed within the primary mineral processing industry, the conditions of the exclusion found at § 261.4(a)(17) apply rather than this paragraph.

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1)(i) through (iii) of this section):

(i) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(iii) Materials accumulated speculatively; or

(iv) Materials listed in paragraphs (d)(1) and (d)(2) of this section.

(f) *Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation.* Respondents in actions to enforce regulations implementing subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

[50 FR 664, Jan. 4, 1985, as amended at 50 FR 33542, Aug. 20, 1985; 56 FR 7206, Feb. 21, 1991; 56 FR 32688, July 17, 1991; 56 FR 42512, Aug. 27, 1991; 57 FR 38564, Aug. 25, 1992; 59 FR 48042, Sept. 19, 1994; 62 FR 6651, Feb. 12, 1997; 62 FR 26019, May 12, 1997; 63 FR 28636, May 26, 1998; 64 FR 24513, May 11, 1999]

§ 261.3 Definition of hazardous waste.

(a) A solid waste, as defined in § 261.2, is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in subpart C of this part. However, any mixture of a waste from the extraction, beneficiation, and processing of ores

minerals excluded under (b)(7) and any other solid waste having a characteristic of hazardous waste under subpart C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if a mixture had not occurred or if it uses to exhibit any of the characteristics exhibited by the non-excluded waste prior to mixture. Further for purposes of applying the Toxicity characteristic to such mixtures, the waste is also a hazardous waste if it is the maximum concentration of a contaminant listed in table I to that would not have been exhibited by the excluded waste alone if a mixture had not occurred or if it uses to exceed the maximum concentration for any contaminant excluded by the nonexempt waste prior to mixture.

It is listed in subpart D of this part and has not been excluded from subpart D of this part under 260.10 and 260.22 of this chapter.

It is a mixture of a solid waste and a hazardous waste that is listed in subpart D of this part solely because it contains one or more of the characteristics of hazardous waste identified in subpart C of this part, unless the mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part or unless the solid waste is excluded from subpart D of this part under 261.4(b)(7) and the mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part for the hazardous waste listed in subpart D of this part was listed. (How nonwastewater mixtures are still subject to the requirements of part 268 of this chapter even if they no longer are a characteristic at the point of disposal).

It is a mixture of solid waste and more hazardous wastes listed in subpart D of this part and has not been excluded from paragraph (a)(2) of this section under 260.10 and 260.22 of this chapter, however, the following mixture of solid wastes and hazardous wastes is listed in subpart D of this part as hazardous wastes (except by application of paragraph (a)(2)(i) or (ii) of this section) if the generator can

demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and

(A) One or more of the following solvents listed in § 261.31: carbon tetrachloride, tetrachloroethylene, trichloroethylene. *Provided*, That the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million, or

(B) One or more of the following spent solvents listed in § 261.31: methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents, provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million, or

(C) One of the following wastes listed in § 261.32 provided that the wastes are discharged to the refinery oil recovery sewer before primary oil/water/solids separation, heat exchanger, bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050), crude oil storage tank sediment from petroleum refining operations (EPA Hazardous Waste No. K169), clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (EPA Hazardous Waste No. K170), spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and spent hydrotreating catalyst (EPA Hazardous Waste No. K172), or

(D) A discarded commercial chemical product or chemical intermediate listed in § 261.33 arising from *de minimis*

losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this paragraph (a)(2)(iv)(D), *de minimis* losses include those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials), minor leaks of process equipment, storage tanks or containers, leaks from well-maintained pump packings and seals, sample purgings, relief device discharges, discharges from safety showers and rinsing and cleaning of personal safety equipment, and rinseate from empty containers or from containers that are rendered empty by that rinsing, or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subpart D of this part. *Provided*, That the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system or provided the wastes combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation, or

(F) One or more of the following wastes listed in § 261.32: wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157). *Provided*, That the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that can not be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight, or

(G) Wastewaters derived from the treatment of one or more of the fol-

lowing wastes listed in § 261.32: organic waste (including heavy ends still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156). *Provided*, That the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter.

(v) *Rebuttable presumption for used oil*. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subpart D of part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-346 Third Edition to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in appendix VIII of part 261 of this chapter). EPA Publication SW-346 Third Edition is available for the cost of \$110.00 from the Government Printing Office, Superintendent of Documents, PO Box 371954, Pittsburgh, PA 15250-7954, 202-512-1800 (document number 955-001-000001).

(A) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins if they are processed through a tolling agreement to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner or disposed.

(B) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

In the case of a waste listed in part D of this part, when the waste meets the listing description set in subpart D of this part.

In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in part D is first added to the solid waste.

In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subpart C of this part.

Unless and until it meets the criteria of paragraph (d) of this section:

A hazardous waste will remain a hazardous waste.

(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, residue, ash, emission control, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are refined from solid wastes and that are beneficially are not solid wastes hence are not hazardous wastes under this provision unless the refined material is burned for energy recovery or used in a manner constituting disposal.)

The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

Waste from burning any of the materials exempted from regulation by 6(a)(3)(iii) and (iv).

(7) Nonwastewater residues, such as, resulting from high temperature metals recovery (HTMR) process of K061, K062 or F006 waste, in identified as rotary kilns, flame incinerators, electric furnaces, plasma arc incinerators, slag reactors, rotary hearth incinerators, electric furnace combinations industrial furnaces (as defined in paragraphs (6), (7), and (13) of the definition for "Industrial furnace" in 40 CFR 260.10), that are disposed in subpart D units, provided that these residues

meet the generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

Constituent	Maximum for any single composite sample—TCLP (mg/l)
Generic exclusion levels for K061 and K062 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70
Generic exclusion levels for F006 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70

(2) A one-time notification and certification must be placed in the facility's files and sent to the EPA region or authorized state for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to subtitle D units. The notification and certification that is placed in the generators or treaters

files must be updated if the process or operation generating the waste changes and/or if the subtitle D unit receiving the waste changes. However, the generator or treater need only notify the EPA region or an authorized state on an annual basis if such changes occur. Such notification and certification should be sent to the EPA region or authorized state by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the subtitle D unit receiving the waste shipments; the EPA Hazardous Waste Number(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

(D) Biological treatment sludge from the treatment of one of the following wastes listed in § 261.32: organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), and wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).

(E) Catalyst inert support media separated from one of the following wastes listed in § 261.32: Spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and Spent hydrotreating catalyst (EPA Hazardous Waste No. K172).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subpart C of this part. (However, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of part 268,

even if they no longer exhibit a characteristic at the point of land disposal.)

(2) In the case of a waste which is a listed waste under subpart D of this part, contains a waste listed under subpart D of this part or is derived from a waste listed in subpart D of this part, it also has been excluded from paragraph (c) of this section under §§ 260.20 and 260.22 of this chapter.

(e) [Reserved]

(f) Notwithstanding paragraphs (a) through (d) of this section and provided the debris as defined in part 268 of this chapter does not exhibit a characteristic identified at subpart C of this part, the following materials are not subject to regulation under 40 CFR parts 260, 261 to 266, 268, or 270:

(1) Hazardous debris as defined in part 268 of this chapter that has been treated using one of the required extraction or destruction technologies specified in Table 1 of § 268.45 of this chapter; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements; or

(2) Debris as defined in part 268 of this chapter that the Regional Administrator, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

[57 FR 7632, Mar. 3, 1992; 57 FR 23063, June 1, 1992, as amended at 57 FR 37263, Aug. 18, 1992; 57 FR 41611, Sept. 10, 1992; 57 FR 49279, Oct. 30, 1992; 59 FR 38545, July 28, 1994; 60 FR 7848, Feb. 9, 1995; 63 FR 28637, May 26, 1998; 63 FR 42184, Aug. 6, 1998]

EFFECTIVE DATE NOTE: At 66 FR 27297, May 16, 2001, § 261.3 was amended by removing and reserving paragraph (a)(2)(iii); revising paragraph (a)(2)(iv) and the first sentence of paragraph (c)(2)(i); and by adding paragraphs (g) and (h), effective Aug. 14, 2001. For the convenience of the user, the revised and added text is set forth as follows:

§ 261.3 Definition of hazardous waste.

(a) . . .
(2) . . .

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in subpart D of this part and has not been excluded from paragraph (a)(2) of this section under 40 CFR 260.20 and 260.22, paragraph (g) of this section, or paragraph (h) of this section; however, the following mixtures of solid wastes

ardous wastes listed in subpart D of t are not hazardous wastes (except by ion of paragraph (a)(2)(i) or (ii) of ction) if the generator can dem e that the mixture consists of waste he discharge of which is subject to on under either section 102 or section if the Clean Water Act (including ster at facilities which have elimie discharge of wastewater) and,

Except as otherwise provided in para- :)(2)(ii), (g) or (h) of this section any aste generated from the treatment or disposal of a hazardous waste, in- any sludge spill residue, ash emis- ntrol dust or leachate (but not in- precipitation run off) is a hazardous

A hazardous waste that is listed in D of this part solely because it ex- me or more characteristics of ignit as defined under § 261.21, corrosivity ed under § 261.22 or reactivity as de- ider § 261.23 is not a hazardous waste, waste no longer exhibits any char- ic of hazardous waste identified in C of this part

ie exclusion described in paragraph this section also pertains to y mixture of a solid waste and a haz- waste listed in subpart D of this part ecause it exhibits the characteristics ability corrosivity or reactivity as d under paragraph (a)(2)(iv) of this and ny solid waste generated from treat- ring, or disposing of a hazardous sted in subpart D of this part solely it exhibits the characteristics of lity, corrosivity, or reactivity as reg- under paragraph (c)(2)(i) of this sec-

astes excluded under this section are to part 268 of this chapter (as appli- ven if they no longer exhibit a char- ic at the point of land disposal

Hazardous waste containing radio- waste is no longer a hazardous waste meets the eligibility criteria and ns of 40 CFR part 266, Subpart N le radioactive mixed waste ").

ie exemption described in paragraph this section also pertains to: y mixture of a solid waste and an eli- dioactive mixed waste, and y solid waste generated from treat- ring or disposing of an eligible radio- mixed waste aste exempted under this section eet the eligibility criteria and speci-

fied conditions in 40 CFR 266.225 and 40 CFR 266.230 (for storage and treatment) and in 40 CFR 266.310 and 40 CFR 266.315 (for transpor- tation and disposal) Waste that fails to sat- isfy these eligibility criteria and conditions is regulated as hazardous waste

§ 261.4 Exclusions.

(a) *Materials which are not solid wastes* The following materials are not solid wastes for the purpose of this part

(1)(i) Domestic sewage, and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. "Do- mestic sewage means untreated sani- tary wastes that pass through a sewer system

(2) Industrial wastewater discharges that are point source discharges sub- ject to regulation under section 402 of the Clean Water Act, as amended.

[*Comment* This exclusion applies only to the actual point source discharge. It does not ex- clude industrial wastewaters while they are being collected, stored or treated before dis- charge, nor does it exclude sludges that are generated by industrial wastewater treat- ment.]

(3) Irrigation return flows

(4) Source, special nuclear or by- product material as defined by the Atomic Energy Act of 1954, as amend- ed, 42 U.S.C. 2011 *et seq.*

(5) Materials subjected to in-situ mining techniques which are not re- moved from the ground as part of the extraction process.

(6) Pulping liquors (*i.e.*, black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accu- mulated speculatively as defined in § 261.1(c) of this chapter

(7) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in § 261.1(c) of this chapter

(8) Secondary materials that are re- claimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(i) Only tank storage is involved, and the entire process through completion of reclamation is closed by being en- tirely connected with pipes or other comparable enclosed means of convey- ance,

Tab 13

and hazardous wastes listed in subpart D of this part are not hazardous wastes (except by application of paragraph (a)(2)(i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and;

(c) . . .

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii), (g) or (h) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. . . .

(g)(1) A hazardous waste that is listed in subpart D of this part solely because it exhibits one or more characteristics of ignitability as defined under § 261.21, corrosivity as defined under § 261.22, or reactivity as defined under § 261.23 is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in subpart C of this part.

(2) The exclusion described in paragraph (g)(1) of this section also pertains to:

(i) Any mixture of a solid waste and a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) of this section; and

(ii) Any solid waste generated from treating, storing, or disposing of a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (c)(2)(i) of this section.

(3) Wastes excluded under this section are subject to part 268 of this chapter (as applicable), even if they no longer exhibit a characteristic at the point of land disposal.

(h)(1) Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of 40 CFR part 266, Subpart N ("eligible radioactive mixed waste").

(2) The exemption described in paragraph (h)(1) of this section also pertains to:

(i) Any mixture of a solid waste and an eligible radioactive mixed waste; and

(ii) Any solid waste generated from treating, storing, or disposing of an eligible radioactive mixed waste.

(3) Waste exempted under this section must meet the eligibility criteria and speci-

fied conditions in 40 CFR 266.225 and 40 CFR 266.230 (for storage and treatment) and in 40 CFR 266.310 and 40 CFR 266.315 (for transportation and disposal). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

§ 261.4 Exclusions.

(a) *Materials which are not solid wastes.* The following materials are not solid wastes for the purpose of this part:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under section 402 of the Clean Water Act, as amended.

[Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.]

(3) Irrigation return flows.

(4) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 *et seq.*

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(6) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in § 261.1(c) of this chapter.

(7) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in § 261.1(c) of this chapter.

(8) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(i) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(ii) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(iii) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and

(iv) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(9)(i) Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose; and

(ii) Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

(iii) Prior to reuse, the wood preserving wastewaters and spent wood preserving solutions described in paragraphs (a)(9)(i) and (a)(9)(ii) of this section, so long as they meet all of the following conditions:

(A) The wood preserving wastewaters and spent wood preserving solutions are reused on-site at water borne plants in the production process for their original intended purpose;

(B) Prior to reuse, the wastewaters and spent wood preserving solutions are managed to prevent release to either land or groundwater or both;

(C) Any unit used to manage wastewaters and/or spent wood preserving solutions prior to reuse can be visually or otherwise determined to prevent such releases;

(D) Any drip pad used to manage the wastewaters and/or spent wood preserving solutions prior to reuse complies with the standards in part 265, subpart W of this chapter, regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste; and

(E) Prior to operating pursuant to this exclusion, the plant owner or operator submits to the appropriate Regional Administrator or State Director a one-time notification stating that the plant intends to claim the exclusion, giving the date on which the plant intends to begin operating under the exclusion, and containing the following language: "I have read the applicable regulation establishing an exclusion for wood preserving

wastewaters and spent wood preserving solutions and understand it requires me to comply at all times with the conditions set out in the regulation. The plant must maintain a copy of that document in its on-site records for a period of no less than 3 years from the date specified in the notice. The exclusion applies only so long as the plant meets all of the conditions. If the plant goes out of compliance with any condition, it may apply to the appropriate Regional Administrator or State Director for reinstatement. The Regional Administrator or State Director may reinstate the exclusion upon finding that the plant has returned to compliance with all conditions and that violations are not likely to recur.

(10) EPA Hazardous Waste Nos. K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke by-products processes that are hazardous only because they exhibit the Toxicity Characteristic (TC) specified in section 261.24 of this part when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(11) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(12) (i) Oil-bearing hazardous secondary materials (i.e., sludges, byproducts, or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911- including, but not limited to, distillation, catalytic cracking, fractionation, or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this paragraph, provided that the coke product also does not exhibit a characteristic of

hazardous waste. Oil bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated or sent directly to another petroleum refinery and still be excluded under this provision. Except as provided in paragraph (a)(12)(ii) of this section, oil bearing hazardous secondary materials generated elsewhere in the petroleum industry (i.e. from sources other than petroleum refineries) are not excluded under this section. Residuals generated from processing or recycling materials excluded under this paragraph (a)(12)(i) where such materials as generated would have otherwise met a listing under subpart D of this part are designated as F037 listed wastes when disposed of or intended for disposal.

(ii) Recovered oil that is recycled in the same manner and with the same conditions as described in paragraph (a)(12)(i) of this section. Recovered oil is oil that has been reclaimed from secondary materials (including wastewater) generated from normal petroleum industry practices including refining, exploration and production, bulk storage and transportation incident thereto (SIC codes 1311, 1321, 1381, 1382, 1389, 2911, 4612, 4613, 4922, 4923, 4789, 5171, and 5172). Recovered oil does not include oil bearing hazardous wastes listed in subpart D of this part, however, oil recovered from such wastes may be considered recovered oil. Recovered oil does not include used oil as defined in 40 CFR 279.1.

(13) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal) being recycled.

(14) Shredded circuit boards being recycled provided that they are:

(i) Stored in containers sufficient to prevent a release to the environment prior to recovery; and

(ii) Free of mercury switches, mercury relays, and nickel cadmium batteries and lithium batteries.

(15) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e). The exemption applies only to combustion at the mill generating the condensates.

(16) Comparable fuels or comparable syngas fuels (i.e. comparable/syngas

fuels) that meet the requirements of § 261.38.

(17) Secondary materials (i.e. sludges, byproducts and spent materials as defined in § 261.1) (other than hazardous wastes listed in subpart D of this part) generated within the primary mineral processing industry from which minerals, acids, cyanide, water, or other values are recovered by mineral processing or by beneficiation provided that:

(i) The secondary material is legitimately recycled to recover minerals, acids, cyanide, water, or other values.

(ii) The secondary material is not accumulated speculatively.

(iii) Except as provided in paragraph (a)(15)(iv) of this section, the secondary material is stored in tanks, containers, or buildings meeting the following minimum integrity standards: a building must be an engineered structure with a floor, walls, and a roof all of which are made of non earthen materials providing structural support (except smelter buildings may have partially earthen floors provided the secondary material is stored on the non earthen portion) and have a roof suitable for diverting rainwater away from the foundation; a tank must be free standing, not be a surface impoundment (as defined in 40 CFR 260.10) and be manufactured of a material suitable for containment of its contents; a container must be free standing and be manufactured of a material suitable for containment of its contents. If tanks or containers contain any particulate which may be subject to wind dispersal, the owner/operator must operate these units in a manner which controls fugitive dust. Tanks, containers, and buildings must be designed, constructed and operated to prevent significant releases to the environment of these materials.

(iv) The Regional Administrator or the State Director may make a site-specific determination after public review and comment that only solid mineral processing secondary materials may be placed on pads rather than in tanks, containers, or buildings. Solid mineral processing secondary materials do not contain any free liquid. The decision maker must affirm that pads are designed, constructed and

operated to prevent significant releases of the secondary material into the environment. Pads must provide the same degree of containment afforded by the non RCRA tanks, containers, and buildings eligible for exclusion.

(A) The decision maker must also consider if storage on pads poses the potential for significant releases via groundwater, surface water, and air exposure pathways. Factors to be considered for assessing the groundwater, surface water, air exposure pathways are the volume and physical and chemical properties of the secondary material including its potential for migration off the pad, the potential for human or environmental exposure to hazardous constituents migrating from the pad via each exposure pathway, and the possibility and extent of harm to human and environmental receptors via each exposure pathway.

(B) Pads must meet the following minimum standards: be designed of non earthen material that is compatible with the chemical nature of the mineral processing secondary material; capable of withstanding physical stresses associated with placement and removal; have run on/runoff controls; be operated in a manner which controls fugitive dust; and have integrity assurance through inspections and maintenance programs.

(C) Before making a determination under this paragraph, the Regional Administrator or State Director must provide notice and the opportunity for comment to all persons potentially interested in the determination. This can be accomplished by placing notice of this action in major local newspapers or broadcasting notice over local radio stations.

(v) The owner or operator provides a notice to the Regional Administrator or State Director identifying the following information: the types of materials to be recycled; the type and location of the storage units and recycling processes; and the annual quantities expected to be placed in non land based units. This notification must be updated when there is a change in the type of materials recycled or the location of the recycling process.

(vi) For purposes of § 261.4(b)(7), mineral processing secondary materials

must be the result of mineral processing and may not include any listed hazardous wastes. Listed hazardous wastes and characteristic hazardous wastes generated by non mineral processing industries are not eligible for the conditional exclusion from the definition of solid waste.

(18) Petrochemical recovered oil from an associated organic chemical manufacturing facility where the oil is to be inserted into the petroleum refining process (SIC code 2911) along with normal petroleum refinery process streams provided:

(i) The oil is hazardous only because it exhibits the characteristic of ignitability (as defined in § 261.21) and/or toxicity for benzene (§ 261.24, waste code D018) and

(ii) The oil generated by the organic chemical manufacturing facility is not placed on the land or speculatively accumulated before being recycled into the petroleum refining process. An associated organic chemical manufacturing facility is a facility where the primary SIC code is 2869, but where operations may also include SIC codes 2821, 2822, and 2865 and is physically co located with a petroleum refinery and where the petroleum refinery to which the oil being recycled is returned also provides hydrocarbon feedstocks to the organic chemical manufacturing facility. Petrochemical recovered oil is oil that has been reclaimed from secondary materials (i.e. sludges, byproducts or spent materials including wastewater) from normal organic chemical manufacturing operations as well as oil recovered from organic chemical manufacturing processes.

(19) Spent caustic solutions from petroleum refining liquid treating processes used as a feedstock to produce cresylic or naphthenic acid unless the material is placed on the land or accumulated speculatively as defined in § 261.1(c).

(b) *Solid wastes which are not hazardous wastes.* The following solid wastes are not hazardous wastes:

(1) Household waste including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g. refuse derived fuel) or reused. Household waste means any material (including garbage, trash, and

initary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day use recreation areas). A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subtitle, if such facility

- (i) Receives and burns only
 - (A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and
 - (B) Solid waste from commercial or industrial sources that does not contain hazardous waste; and
 - (ii) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.
- (2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers
 - (i) The growing and harvesting of agricultural crops
 - (ii) The raising of animals, including animal manures
- (3) Mining overburden returned to the mine site
- (4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste, generated primarily from the combustion of coal or other fossil fuels, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste
- (5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy
- (6)(i) Wastes which fail the test for the Toxicity Characteristic because chromium is present or are listed in part D due to the presence of chromium, which do not fail the test for the Toxicity Characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is

shown by a waste generator or by waste generators that:

- (A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and
- (B) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and
- (C) The waste is typically and frequently managed in non-oxidizing environments
 - (i) Specific waste which meet the standard in paragraphs (b)(6)(i) (A), (B), and (C) (so long as they do not fail the test for the toxicity characteristic for any other constituent and do not exhibit any other characteristic) are
 - (A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearing
 - (B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearing
 - (C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue
 - (D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearing
 - (E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue, and shearing
 - (F) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet

finish, hair save/chrome tan/retan/wet finish, and through-the-blue

(C) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries

(H) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock, and overburden from the mining of uranium ore) except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste

(i) For purposes of § 261.4(b)(7), beneficiation of ores and minerals is restricted to the following activities: crushing, grinding, washing, dissolution, crystallization, filtration, sorting, sizing, drying, sintering, pelletizing, briquetting, calcining to remove water and/or carbon dioxide, roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing), gravity concentration, magnetic separation, electrostatic separation, flotation, ion exchange, solvent extraction, electrowinning, precipitation, amalgamation, and heap dump, vat, tank, and in situ leaching

(ii) For the purposes of § 261.4(b)(7), solid waste from the processing of ores and minerals includes only the following wastes as generated:

- (A) Slag from primary copper processing,
- (B) Slag from primary lead processing,
- (C) Red and brown muds from bauxite refining,
- (D) Phosphogypsum from phosphoric acid production
- (E) Slag from elemental phosphorus production
- (F) Gasifier ash from coal gasification,
- (G) Process wastewater from coal gasification

(H) Calcium sulfate wastewater treatment plant sludge from primary copper processing

(I) Slag tailings from primary copper processing

(J) Fluorogypsum from hydrofluoric acid production

(K) Process wastewater from hydrofluoric acid production

(L) Air pollution control dust/sludge from iron blast furnaces

(M) Iron blast furnace slag.

(N) Treated residue from roasting/leaching of chrome ore

(O) Process wastewater from primary magnesium processing by the anhydrous process

(P) Process wastewater from phosphoric acid production

(Q) Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production

(R) Basic oxygen furnace and open hearth furnace slag from carbon steel production

(S) Chloride process waste solids from titanium tetrachloride production

(T) Slag from primary zinc processing

(iii) A residue derived from co-processing mineral processing secondary materials with normal beneficiation raw materials or with normal mineral processing raw materials remains excluded under paragraph (b) of this section if the owner or operator:

(A) Processes at least 50 percent by weight normal beneficiation raw materials or normal mineral processing raw materials, and,

(B) Legitimately reclaims the secondary mineral processing materials

(8) Cement kiln dust waste, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste

(9) Solid waste which consists of discarded arsenical-treated wood or wood products which fails the test for the Toxicity Characteristic for Hazardous Waste Codes D004 through D017 and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood product for these materials intended end use

(10) Petroleum contaminated media and debris that fail the test for the toxicity Characteristic of § 261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under part 280 of this chapter

(11) Injected groundwater that is hazardous only because it exhibits the toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) in § 261.24 of this part that is reinjected through an underground injection well pursuant to free phase hydrocarbon recovery operations undertaken at petroleum refineries, petroleum marketing terminals, petroleum bulk plants, petroleum pipelines and petroleum transportation spill sites until January 1, 1993. This extension applies to recovery operations in existence, or for which contracts have been issued, on or before March 25, 1991. For groundwater returned through infiltration galleries from such operations at petroleum refineries, marketing terminals, and bulk plants until [insert date six months after publication]. New operations involving injection wells (beginning after March 25, 1991) will qualify for this compliance date extension until January 25, 1993) only if:

(i) Operations are performed pursuant to a written state agreement that includes a provision to assess the groundwater and the need for further remediation once the free phase recovery is completed and

(ii) A copy of the written agreement has been submitted to Waste Identification Branch (5304), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460

(12) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle provided the refrigerant is reclaimed for further use

(13) Non-terne plated used oil filters that are not mixed with wastes listed in subpart D of this part if these oil filters have been gravity hot-drained using one of the following methods:

(i) Puncturing the filter anti-drain back valve or the filter dome end and hot draining

(ii) Hot draining and crushing,

(iii) Dismantling and hot draining, or

(iv) Any other equivalent hot-draining method that will remove used oil

(14) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products

(15) Leachate or gas condensate collected from landfills where certain solid wastes have been disposed, provided that:

(i) The solid wastes disposed would meet one or more of the listing descriptions for Hazardous Waste Codes K169, K170, K171, and K172 if these wastes had been generated after the effective date of the listing (February 8, 1999),

(ii) The solid wastes described in paragraph (b)(15)(i) of this section were disposed prior to the effective date of the listing,

(iii) The leachate or gas condensate do not exhibit any characteristic of hazardous waste nor are derived from any other listed hazardous waste,

(iv) Discharge of the leachate or gas condensate, including leachate or gas condensate transferred from the landfill to a POTW by truck, rail, or dedicated pipe, is subject to regulation under sections 307(b) or 402 of the Clean Water Act

(v) After February 13, 2001, leachate or gas condensate will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. There is one exception if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (e.g., shutdown of wastewater treatment system) provided the impoundment has a double liner and provided the leachate or gas condensate is removed from the impoundment and continues to be managed in compliance with the conditions of this paragraph after the emergency ends

(16) Sludges resulting from the treatment of wastewaters (not including spent plating solutions) generated by the copper metallization process at the International Business Machines Corporation (IBM) semiconductor manufacturing facility in Essex Junction,

VT are exempt from the F006 listing, provided that:

(i) IBM provides the Agency with semi-annual reports (by January 15 and July 15 of each year) detailing constituent analyses measuring the concentrations of volatiles, semi-volatiles, and metals using methods presented in part 264, appendix IX of this chapter of both the plating solution utilized by, and the rinsewaters generated by, the copper metallization process.

(ii) IBM provides the agency with semi-annual reports (by January 15 and July 15 of each year) through the year 2001 or when IBM has achieved its facility-wide goal of a 40% reduction in greenhouse gas emissions from a 1995 base year (when normalized to production), whichever is first that contain the following:

(A) Estimated greenhouse gas emissions and estimated greenhouse gas emission reductions. Greenhouse gas emissions will be reported in terms of total mass emitted and mass emitted normalized to production, and

(B) The number of chemical vapor deposition chambers used in the semiconductor manufacturing production line that have been converted to either low flow C_2F_6 or NF_3 during the reporting period and the number of such chambers remaining to be converted to achieve the facility goal for global warming gas emission reductions

(iii) No significant changes are made to the copper metallization process such that any of the constituents listed in 40 CFR part 261, appendix VII as the basis for the F006 listing are introduced into the process

(17) [Reserved]

(18) By-products resulting from the production of automobile air bag gas generants at the Autoliv ASP Inc. facility in Promontory, Utah, (Autoliv) are exempt from the D003 listing, for a period of five years from May 9, 2001, provided that:

(i) The by-product gas generants are processed on-site in Autoliv's Metal Recovery Furnace (MRF)

(A) By-product gas generants must only be fed to the MRF when it is operating in conformance with the State of Utah, Division of Air Quality's Approval Order DAQE-549-97

(B) Combustion gas temperature must be maintained below 400 degrees Fahrenheit at the baghouse inlet

(ii) Prior to processing in the MRF, the by-product gas generants are managed in accordance with the requirements specified in 40 CFR 262.34

(iii) The Autoliv facility and the MRF are operated and managed in accordance with the requirements of 40 CFR Part 265 Subparts B, C, D, E, G, H, I, and O

(iv) Residues derived from the processing of by-product gas generants in the MRF are managed in accordance with the requirements specified in 40 CFR Parts 262 and 268

(v) The following testing of the MRF's stack gas emissions is conducted:

(A) An initial test shall be conducted within 30 operating days of starting feed of by-product gas generants to the MRF. EPA may extend this deadline, at the request of Autoliv, when good cause is shown. The initial test shall consist of three duplicate runs sampling for:

(1) Particulate matter using Method 5 as specified in 40 CFR Part 60, Appendix A

(2) The metals Aluminum, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, and Nickel using Method 29 as specified in 40 CFR Part 60, Appendix A

(3) Polychlorinated dibenzo dioxins and furans using Method 23, 0023A as specified in 40 CFR Part 60, Appendix A

(4) Carbon monoxide using Method 10 as specified in 40 CFR Part 60, Appendix A

(B) After the initial test is completed, an annual stack test (12 months from the previous initial stack test) of the MRF shall be conducted. The annual tests shall consist of three duplicate runs using Method 29 and Method 5 as specified in 40 CFR Part 60, Appendix A.

(C) Testing shall be conducted while by-product gas generants are fed to the MRF at no less than 90% of the planned maximum feed rate and with the MRF operating parameters within normal ranges

(D) Initial stack testing results and additional project performance data

and information including the quantity of by-product gas generants processed and the operating parameter values during the test runs will be submitted by Autoliv to the State of Utah and EPA within 60 days of the completion of the initial stack test.

(E) Annual stack test results and additional project performance data and information including the quantity of by-product gas generants processed and the operating parameter values during the test runs will be submitted by Autoliv to EPA and the State of Utah within 60 days of the completion of the annual test.

(vi) Combustion gas discharged to the atmosphere from the MRF meets the following limits:

(A) Dioxin emissions do not exceed 0.4 ng per dry standard cubic meter on a toxicity equivalent quotient (TEQ) basis corrected to 7% Oxygen.

(B) Combined lead and cadmium emissions do not exceed 240 ug per dry standard cubic meter corrected to 7% Oxygen.

(C) Combined arsenic, beryllium and chromium emissions do not exceed 97 ug per dry standard cubic meter corrected to 7% Oxygen.

(D) Particulate matter emissions do not exceed 34 mg per dry standard cubic meter corrected to 7% Oxygen.

(E) If the limits specified in paragraphs (b)(18)(vi)(A) through (D) of this section are exceeded Autoliv shall discontinue feeding gas generants to the MRF until such time as Autoliv can demonstrate to EPA and the state of Utah satisfaction that the MRF combustion gas emissions can meet the limits specified in paragraphs (b)(18)(vi)(A) through (D) of this section.

(vii) No by-product gas generants or other pyrotechnic wastes generated off-site will be received at the Autoliv facility in Promontory, Utah or processed in the MRF unless otherwise allowed by law (permit or regulation).

(viii) Autoliv will provide EPA and the state of Utah with semi-annual reports (by January 30 and July 30 of each year).

(A) The semi-annual reports will document the amounts of by-product gas generants processed during the reporting period.

(B) The semi-annual reports will provide a summary of the MRF Operating Record during the reporting period including information on by-product gas generant composition, average feed rates, upset conditions, and spills or releases.

(ix) No significant changes are made to the operating parameter production values of Autoliv's production of air bag gas generants such that any of the constituents listed in appendix VIII of this part are introduced into the process.

(x) Autoliv reports to the EPA any noncompliance which may endanger health or the environment orally within 24 hours from the time Autoliv becomes aware of the circumstances including:

(A) Any information of a release, discharge, fire or explosion from the MRF which could threaten the environment or human health.

(B) The description of the occurrence and its cause shall include:

(1) Name, address, and telephone number of the facility.

(2) Date, time, and type of incident.

(3) Name and quantity of material(s) involved.

(4) The extent of injuries, if any.

(5) An assessment of actual or potential hazards to the environment and human health.

(6) Estimated quantity and disposition of recovered material that resulted from the incident.

(C) A written notice shall also be provided within five days of the time Autoliv becomes aware of the circumstances. The written notice shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The EPA may waive the five-day written notice requirement in favor of a written report within fifteen days.

(xi) Notifications and submissions made under paragraph (b)(18) of this section shall be sent to the Regional Assistant Administrator for the Office

of Partnerships and Regulatory Assistance, U.S. EPA Region 8 and the Executive Secretary of the Utah Solid and Hazardous Waste Control Board.

(c) Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste treatment manufacturing unit is not subject to regulation under parts 262 through 265, 268, 270, 271, and 124 of this chapter or to the notification requirements of section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(d) *Samples.* (1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air which is collected for the sole purpose of testing to determine its characteristics or composition is not subject to any requirements of this part or parts 262 through 268 or part 270 or part 124 of this chapter or to the notification requirements of section 3010 of RCRA when:

(i) The sample is being transported to a laboratory for the purpose of testing or

(ii) The sample is being transported back to the sample collector after testing or

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing or

(iv) The sample is being stored in a laboratory before testing or

(v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector or

(vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraphs (d)(1)(i) and (ii) of this section, a sample collector ship-

ping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements or

(ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(1) The sample collector's name, mailing address, and telephone number.

(2) The laboratory's name, mailing address, and telephone number.

(3) The quantity of the sample.

(4) The date of shipment and

(5) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

(e) *Treatability Study Samples.* (1) Except as provided in paragraph (e)(2) of this section, persons who generate or collect samples for the purpose of conducting treatability studies as defined in section 260.10 are not subject to any requirement of parts 261 through 263 of this chapter or to the notification requirements of Section 3010 of RCRA, nor are such samples included in the quantity determinations of § 261.5 and § 262.34(d) when:

(i) The sample is being collected and prepared for transportation by the generator or sample collector or

(ii) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility or

(iii) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(2) The exemption in paragraph (e)(1) of this section is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that

The generator or sample collector (in treatability studies) no than 10 000 kg of media contaminated with non acute hazardous waste or 1 kg of acute hazardous waste 2500 kg of waste for each process being treated for each generated waste and

The mass of each sample shipment does not exceed 10 000 kg the kg quantity may be all media contaminated with non-acute hazardous waste or may include 2500 kg of a contaminated with acute hazardous waste 1000 kg of hazardous waste and 1 kg of acute hazardous waste and

The sample must be packaged so it will not leak spill or vaporize its packaging during shipment the requirements of paragraph A or this subparagraph are met

The transportation of each shipment complies with U.S. Department of Transportation (DOT) Postal Service (USPS) or any applicable shipping requirements or

If the DOT USPS or other shipping requirements do not apply to the shipment of the sample the following information must accompany the sample

The name mailing address and phone number of the originator of sample

The name address and telephone number of the facility that will perform the treatability study

The quantity of the sample,

The date of shipment and

A description of the sample including its EPA Hazardous Waste Number

The sample is shipped to a laboratory or testing facility which is exempt under § 261.1(f) or has an approved RCRA permit or interim status

The generator or sample collector maintains the following records for a period ending 3 years after completion of the treatability study

Copies of the shipping documents
A copy of the contract with the facility conducting the treatability study

(C) Documentation showing

(i) The amount of waste shipped under this exemption

(ii) The name address and EPA identification number of the laboratory or testing facility that received the waste

(3) The date the shipment was made, and

(4) Whether or not unused samples and residues were returned to the generator

(vi) The generator reports the information required under paragraph (e)(v)(C) of this section in its biennial report

(3) The Regional Administrator may grant requests on a case by case basis for up to an additional two years for treatability studies involving bioremediation. The Regional Administrator may grant requests on a case-by-case basis for quantity limits in excess of those specified in paragraphs (e)(2)(i) and (ii) and (f)(4) of this section for up to an additional 5000 kg of media contaminated with non acute hazardous waste 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste

(i) In response to requests for authorization to ship store and conduct treatability studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing such requests include the nature of the technology the type of process (e.g. batch versus continuous) size of the unit undergoing testing (particularly in relation to scale-up considerations) the time/quantity of material required to reach steady state operating conditions or test design considerations such as mass balance calculations

(ii) In response to requests for authorization to ship store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when there has been an equipment or mechanical failure during the conduct of a treatability study there is a need to verify the results of a previously conducted treatability study there is a need to study and analyze alternative techniques within a previously evaluated treatment process or there is a

need to do further evaluation of an ongoing treatability study to determine final specifications for treatment

(iii) The additional quantities and timeframes allowed in paragraph (e)(3)(i) and (ii) of this section are subject to all the provisions in paragraphs (e)(1) and (e)(2)(iii) through (vi) of this section. The generator or sample collector must apply to the Regional Administrator in the Region where the sample is collected and provide in writing the following information

(A) The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed

(B) Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped the quantity of each previous shipment the laboratory or testing facility to which it was shipped what treatability study processes were conducted on each sample shipped and the available results on each treatability study

(C) A description of the technical modifications or change in specifications which will be evaluated and the expected results

(D) If such further study is being required due to equipment or mechanical failure the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns and

(E) Such other information that the Regional Administrator considers necessary

(f) *Samples Undergoing Treatability Studies at Laboratories and Testing Facilities* Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to RCRA requirements) are not subject to any requirement of this part part 124 parts 262 266 268 and 270 or to the notification requirements of Section 3010 of RCRA provided that the conditions of paragraphs (f)(1) through (11) of this section are met. A mobile treatment

unit (MTU) may qualify as a testing facility subject to paragraphs (f)(1) through (11) of this section. Where a group of MTUs are located at the same site the limitations specified in (f)(1) through (11) of this section apply to the entire group of MTUs collectively as if the group were one MTU.

(1) No less than 15 days before conducting treatability studies the facility notifies the Regional Administrator or State Director (if located in an authorized State) in writing that it intends to conduct treatability studies under this paragraph

(2) The laboratory or testing facility conducting the treatability study has an EPA identification number

(3) No more than a total of 10 000 kg of as received media contaminated with non acute hazardous waste 2500 kg of media contaminated with acute hazardous waste or 250 kg of other as received hazardous waste is subject to initiation of treatment in all treatability studies in any single day. As received waste refers to the waste as received in the shipment from the generator or sample collector

(4) The quantity of 'as received' hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10 000 kg the total of which can include 10 000 kg of media contaminated with non acute hazardous waste 2500 kg of media contaminated with acute hazardous waste 1000 kg of non acute hazardous wastes other than contaminated media and 1 kg of acute hazardous waste. This quantity limitation does not include treatment materials (including nonhazardous solid waste) added to as received hazardous waste

(5) No more than 90 days have elapsed since the treatability study for the sample was completed or no more than one year (two years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility whichever date first occurs. Up to 300 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to five years from the date of initial receipt. Quantities of materials archived

are counted against the total storage limit for the facility.

(6) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(7) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(i) The name, address, and EPA identification number of the generator or sample collector of each waste sample.

(ii) The date the shipment was received.

(iii) The quantity of waste accepted.

(iv) The quantity of 'as received' waste in storage each day.

(v) The date the treatment study was initiated and the amount of 'as received' waste introduced to treatment each day.

(vi) The date the treatability study was concluded.

(vii) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(8) The facility keeps, on-site, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(9) The facility prepares and submits a report to the Regional Administrator or State Director (if located in an authorized State) by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current year and includes the following information for the previous calendar year:

(i) The name, address, and EPA identification number of the facility conducting the treatability studies.

(ii) The types (by process) of treatability studies conducted.

(iii) The names and addresses of persons for whom studies have been con-

ducted (including their EPA identification numbers).

(iv) The total quantity of waste in storage each day.

(v) The quantity and types of waste subjected to treatability studies.

(vi) When each treatability study was conducted.

(vii) The final disposition of residues and unused sample from each treatability study.

(10) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under § 261.3 and, if so, are subject to parts 261 through 268, and part 270 of this chapter, unless the residues and unused samples are returned to the sample originator under the § 261.4(e) exemption.

(11) The facility notifies the Regional Administrator or State Director (if located in an authorized State) by letter when the facility is no longer planning to conduct any treatability studies at the site.

(g) *Dredged material that is not a hazardous waste.* Dredged material that is subject to the requirements of a permit that has been issued under 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344) or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413) is not a hazardous waste. For this paragraph (g), the following definitions apply:

(1) The term *dredged material* has the same meaning as defined in 40 CFR 232.2.

(2) The term *permit* means:

(i) A permit issued by the U.S. Army Corps of Engineers (Corps) or an approved State under section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344).

(ii) A permit issued by the Corps under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413) or

(iii) In the case of Corps civil works projects, the administrative equivalent of the permits referred to in paragraphs (g)(2)(i) and (ii) of this section, as provided for in Corps regulations (for example, see 33 CFR 336.1, 336.2, and 337.6).

[45 FR 33119, May 19, 1980]

Tab 14

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K171	Spent Hydrotreating catalyst from petroleum refining operations, including guard beds (T) used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	(T)
K172	Spent Hydrotreating catalyst from petroleum refining operations, including guard beds (T) used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	(T)
Iron and steel: K061	Emission control dust/sludge from the primary production of steel in electric furnaces (T)	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(T)
Primary copper: Primary lead: Primary zinc: Primary aluminum: K088	Spent pollinizers from primary aluminum reduction	(T)
Ferroalloys: Secondary lead: K069	Emission control dust/sludge from secondary lead smelting. NOTE: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the Federal Register.	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceuticals: K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink formulation: K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tools and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking: K060	Ammonia still lime sludge from coking operations	(T)
K087	Decanter tank tar sludge from coking operations	(T)
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).	(T)
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	(T)
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.	(T)
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	(T)
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	(T)
K147	Tar storage tank residues from coal tar refining	(T)
K148	Residues from coal tar distillation, including but not limited to, still bottoms	(T)

[46 FR 4618, Jan. 16, 1981]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.32, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded

as described in § 261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained

acts that are applied to the land if their original intended use, or in lieu of their original intended use are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

Any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

Any residue remaining in a container in an inner liner removed from a product that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, unless the container is empty as defined in this chapter.

(b) Unless the residue is being reused or recycled, or being recycled or reclaimed; or being stored, transported or used prior to such use, re-use, recycling or reclamation, EPA considers the residue to be intended for discard. If the residue is a hazardous waste, an example of a legitimate re-use of the residue is where the residue remains in the container and the container is used for the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue is where the drum is sent to a conditioner who reconditions the drum but discards the residue. If the residue is on contaminated soil, or other debris resulting from the cleanup of a spill into or on any water of any commercial chemical product or manufacturing chemical

intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either § 261.31 or § 261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part.]

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to be the small quantity exclusion defined in § 261.5(e).

[Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Chemical abstracts No.	Substance
107-20-3	Acetaldehyde, chloro-
591-08-2	Acetamide, N-(aminothioxomethyl)-
640-19-7	Acetamide, 2-fluoro-
62-74-8	Acetic acid, fluoro-, sodium salt
591-08-2	1-Acetyl-2-thiourea
107-02-3	Acrolein
116-06-3	Alcicarb
646-38-4	Aldicarb sulfone
309-00-2	Alidin

Hazardous waste No.	Chemical abstracts No.	Substance
P005	107-18-8	Allyl alcohol
P006	20859-73-6	Aluminum phosphide (R,T)
P007	2763-96-4	5-Aminomethyl-3-isoxazoliol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-65-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H ₃ AsO ₄
P012	1327-53-3	Arsenic oxide As ₂ O ₃
P011	1303-28-2	Arsenic oxide As ₂ O ₅
P012	1327-53-3	Arsenic pentoxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsinous dichloride, phenyl-
P054	151-56-4	Asndine
P067	75-35-8	Azidine, 2-methyl-
P013	542-62-1	Banum cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-39-8	Benzeneethanamine, alpha, alpha-dimethyl-
P014	108-98-5	Benzenethiol
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-inmethylopyrrolo[2,3-c]indol-5-yl methylcarbamate ester (1:1).
P001	181-31-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-11-7	Beryllium powder
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-(methylamino)carbonyl oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide Ca(CN) ₂
P189	55285-14-3	Carbamic acid, [(4butylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester.
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H-pyrazol-3-yl ester.
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylthio)-1H-pyrazol-5-yl ester.
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester.
P127	1563-66-2	Carbocuran.
P022	75-13-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P189	55285-14-3	Carbosulfan.
P023	107-20-3	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-32-3	Copper cyanide
P029	544-32-3	Copper cyanide Cu(CN) ₂
P202	54-00-6	m-Cumenyl methylcarbamate.
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	50-37-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphonate
P040	297-37-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-31-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4beta,5alpha,8alpha,8beta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4beta,5beta,8beta,8beta)-
P037	50-57-1	2,7,3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-
P051	172-20-8	2,7,3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3alpha,6alpha,6beta,7beta,7aalpha)-, & metabolites

Hazardous waste No	Chemical abstracts No	Substance
P044	60-51-5	Dimethoate
P046	123-09-3	alpha,alpha-Dimethylphenethylamine
P191	644-64-4	Dimethan
P047	534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-23-5	2,4-Dinitrophenol
P020	38-85-7	Dinoseb
P085	152-16-3	Diphenylphosphoramide, octamethyl-
P111	107-49-3	Diphenylphosphonic acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobisurea
P185	26419-73-3	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[[[(methylamino)-carbonyl]oxame.
P050	115-29-7	Endosulfan
P088	145-73-3	Endosulfan
P051	72-20-3	Enon
P051	72-20-3	Enon & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P194	23135-22-0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[[(methylamino)-carbonyl]oxy]-2-oxo-, methyl ester.
P066	16752-77-5	Ethanimidothioic acid, N-[[[(methylamino)-carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-1	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluonine
P057	640-19-7	Fluoroacetamide
P058	62-74-3	Fluoroacetic acid, sodium salt
P198	23423-53-3	Formetanate hydrochloride.
P197	17702-67-7	Fomparanate.
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-3	Heptachlor
P062	757-58-1	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-3	Hydrocyanic acid
P063	74-90-3	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P192	119-38-0	Isolan.
P202	64-00-6	1-Isopropylphenyl N-methylcarbamate.
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S).
P196	15339-36-3	Manganese dimethyldithiocarbamate.
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-3	Methanamine, N-methyl-N-nitroso-
P064	624-83-3	Methane, isocyanato-
P016	542-38-1	Methane, oxybis(chloro-
P112	509-14-8	Methane, tetranitro- (R)
P118	75-70-7	Methanethiol, trichloro-
P198	23423-53-3	Methanimidamide, N,N-dimethyl-N[3-[[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride.
P197	17702-67-7	Methanimidamide, N,N-dimethyl-N[2-methyl-4-[[[(methylamino)-carbonyl]oxy]phenyl]-
P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76-44-3	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-2a,4,7,7a-tetrahydro-
P199	2032-65-7	Methocarb.
P066	16752-77-5	Methomyl
P088	60-34-4	Methyl hydrazine
P084	624-83-3	Methyl isocyanate
P069	75-36-5	2-Methylacetone
P071	298-00-0	Methyl parathion
P190	1129-41-5	Methocarb.
P128	315-8-1	Mexacarb.
P072	86-28-1	alpha-Naonithiurea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl Ni(CO), (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide Ni(CN)
P075	54-11-5	Nicotine, & salts
P076	10102-43-3	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide

Hazardous waste No	Chemical abstracts No	Substance
P076	10102-43-3	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO ₂
P081	55-63-0	Nitroglycerine (R)
P082	62-75-3	N-Nitrosodimethylamine
P084	4549-10-1	N-Nitrosomethylvinylamine
P085	152-16-3	Octamethylpyrophosphoramide
P087	20816-42-0	Osmium oxide OsO ₄ , (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxaheptacyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	23135-22-0	Oxamyl.
P089	56-38-2	Parathion
P034	131-39-3	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	38-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-3	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P128	315-19-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate.
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-3	Phosgene
P096	7803-61-2	Phosphine
P041	311-45-5	Phosphonic acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)methyl] ester
P044	60-31-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorothioic acid, bis(1-methylethyl) ester
P089	58-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-37-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester
P204	57-47-6	Physostigmine.
P188	57-64-7	Physostigmine salicylate.
P110	78-00-2	Plumbane, tetraethyl-
P098	151-60-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P201	2631-37-0	Promecarb
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[[[(methylamino)-carbonyl]oxame
P203	1646-38-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[[[(methylamino)-carbonyl] oxame.
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	2,3-Propanedinitrile, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propanal
P005	107-18-6	2-Propan-1-ol
P067	75-55-8	1,2-Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P204	57-47-6	Pyrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-3	Silver cyanide
P104	506-64-3	Silver cyanide Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P108	57-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	57-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt

Chemical abstracts No	Substance
3689-24-5	Tetraethyldithiopyrophosphate
78-00-2	Tetraethyl lead
107-19-3	Tetraethyl pyrophosphate
509-14-8	Tetrafluoromethane (R)
757-58-4	Tetrahydrophonic acid, hexaethyl ester
1314-32-5	Thallous oxide
1314-32-5	Thallium oxide Tl ₂ O ₃
12039-32-0	Thallium(I) selenite
7446-18-6	Thallium(I) sulfate
3689-24-5	Thiodiorthophonic acid, tetraethyl ester
39196-18-4	Thioanox
541-53-7	Thiomethyldicarbonyl diamide [(H ₂ N)C(S)] ₂ NH
108-98-5	Thiophenol
79-19-6	Thiosemicarbazide
5344-82-1	Thiourea, (2-chlorophenyl)-
86-88-4	Thiourea, 1-naphthalenyl-
103-85-5	Thiourea, phenyl-
26419-73-3	Tinazate
8001-35-2	Toxaphene
75-70-7	Trichloromethanethiol
7803-55-6	Vanadic acid, ammonium salt
1314-62-1	Vanadium oxide V ₂ O ₅
1314-62-1	Vanadium pentoxide
4549-10-0	Vinylamine, N-methyl-N-nitroso-
181-31-2	Warann, & salts, when present at concentrations greater than 0.3%
137-30-4	Zinc bis(dimethylcarbamodithioato-S,S')
557-21-1	Zinc cyanide
557-21-1	Zinc cyanide Zn(CN) ₂
1314-84-7	Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10% (R,T)
137-30-4	Ziram

(S) Number given for parent compound only.

The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in § 261.5 (a) and (g).

[Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Chemical abstracts No	Substance
30558-43-1	A22*3
75-07-0	Acetaldehyde (I)
75-07-6	Acetaldehyde, trichloro-
62-44-2	Acetamide, N-(4-ethoxyphenyl)-
53-96-3	Acetamide, N-9H-fluoren-2-yl-
194-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
141-78-6	Acetic acid ethyl ester (I)
301-04-2	Acetic acid, lead(2+) salt
563-68-3	Acetic acid, thallium(1+) salt
93-78-5	Acetic acid, (2,4,5-trichlorophenoxy)-
67-64-1	Acetone (I)
75-05-8	Acetonitrile (I,T)
98-86-2	Acetonone
53-96-3	2-Acetylaminofluorene
75-36-3	Acetyl chloride (C,R,T)
79-06-1	Acrylamide
79-10-7	Acrylic acid (I)
107-13-1	Acrylonitrile
61-82-5	Amlicure

Hazardous waste No	Chemical abstracts No	Substance
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-3	Auramine
U015	115-02-6	Azaserone
U010	50-07-7	Azono[2,3',3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[[aminocarbonyloxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U280	101-27-9	Barban
U278	22791-23-3	Bendiocarb
U364	22961-82-6	Bendiocarb phenol
U271	17804-35-2	Benomyl
U157	56-49-5	Benzylaceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	38-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propenyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-3	Benzenamine, 4,4-carbonimidoylbis(N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4-methylenebis(2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-3	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)
U038	510-15-5	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenebutanoic acid, 4-bis(2-chloroethyl)amino-
U037	108-90-7	Benzene, chloro-
U221	25376-45-d	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	34-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	34-36-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1-(2,2-dichloroethylidene)bis(4-chloro-
U017	38-87-3	Benzene, (dichloromethyl)-
U223	26471-82-5	Benzene, 1,3-disocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (I,T)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-88-3	Benzene, methyl-
U105	121-44-2	Benzene, 1-methyl-2,4-dinitro-
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	32-58-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1-(2,2,2-trichloroethylidene)bis(4-chloro-
U247	73-43-5	Benzene, 1,1-(2,2,2-trichloroethylidene)bis(4-methoxy-
U023	38-37-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	32-87-5	Benzidine
U202	91-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
22791-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate,	
22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,	
U203	34-39-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[rs]lphenanthrene
U248	91-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene

rdous vaste No.	Chemical ab- stracts No	Substance
197	106-51-4	p-Benzoquinone
223	98-07-7	Benzo[1,2-b:4,5-b']dichloro (C,R,T)
185	1464-53-5	2,2-Dioxirane
121	92-37-5	[1,1'-Biphenyl]-4,4'-diamine
173	91-34-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
191	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
195	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
25	75-25-2	Bromolorm
30	101-35-3	4-Bromophenyl phenyl ether
28	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
72	924-16-3	1-Butanamine, N-butyl-N-nitroso-
31	71-36-3	1-Butanol (I)
59	78-33-3	2-Butanone (I,T)
60	1338-23-4	2-Butanone, peroxide (R,T)
53	4170-30-3	2-Butenal
74	764-41-0	2-Butene, 1,4-dichloro- (I,T)
43	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrazolizin-1-yl ester, [1S-(1alpha(Z),7(2S),3R),7aalpha]]-
11	71-36-3	n-Butyl alcohol (I)
16	75-60-5	Cacodylic acid
12	13765-19-0	Calcium chromate
2	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester.
1	17804-35-2	Carbamic acid, [1-(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester.
0	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester.
8	51-79-6	Carbamic acid, ethyl ester
8	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
3	122-12-9	Carbamic acid, phenyl-, 1-methylethyl ester.
9	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester.
7	79-44-7	Carbamic chloride, dimethyl-
9	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.
7	52888-80-9	Carbamothioic acid, isopropyl-, S-(phenylmethyl) ester.
4	111-54-6	Carbamodithioic acid, 1,2-ethanedithylbis-, salts & esters
2	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
1	53-25-2	Carbaryl
1	10605-21-7	Carbazodim.
1	1563-38-8	Carboluran phenol.
1	6533-73-9	Carbonic acid, diethanol(1+) salt
1	353-50-4	Carbonic difluoride
1	79-22-1	Carbonochloridic acid, methyl ester (I,T)
1	353-50-4	Carbon oxyfluoride (R,T)
1	56-23-5	Carbon tetrachloride
1	75-37-6	Chloral
1	305-03-3	Chlorambucil
1	57-74-9	Chlorodane, alpha & gamma isomers
1	494-03-1	Chloromaphazin
1	108-30-7	Chloroacetylene
1	510-15-6	Chloroacetylene
1	59-30-7	p-Chloro-m-cresol
1	110-75-8	2-Chloroethyl vinyl ether
1	67-66-3	Chlorolorm
1	107-30-2	Chloromethyl methyl ether
1	91-58-7	beta-Chloronaphthalene
1	95-57-8	o-Chlorophenol
1	3165-93-3	4-Chloro-o-toluidine, hydrochloride
1	13765-19-0	Chromic acid H ₂ CrO ₄ , calcium salt
1	218-01-9	Chrysene
1	Cresosote
1	1319-77-3	Cresol (Cresylic acid)
1	4170-30-3	Crotonaldehyde
1	98-32-8	Cumene (I)
1	508-68-3	Cyanogen bromide (CN)Br
1	106-51-4	2,5-Cyclonexadiene-1,4-dione
1	110-82-7	Cyclonexane (I)
1	58-39-9	Cyclonexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
1	108-34-1	Cyclonexanone (I)
1	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
1	50-18-0	Cyclopropanamide
1	194-75-7	2,4-D, salts & esters

Haz- ardous waste No	Chemical ab- stracts No	Substance
U059	20830-31-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Dibenz[a,i]pyrene
U066	96-12-4	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	1,2-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	31-34-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-41-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	37-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropane
U085	1464-53-5	2,3,4-Diepoxybutane (I,T)
U108	123-91-1	1,4-Diethyleneoxide
U028	117-31-7	Diethylhexyl phthalate
U395	5952-26-1	Diethylene glycol, dicarbamate.
U086	1615-80-1	N,N-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbestrol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-8	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha, alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U099	540-73-3	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanol (I)
U404	121-44-8	Ethanamine, N,N-diethyl-
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U155	91-40-5	1,2-Ethanediamine, N,N-dimethyl-N2-pyridinyl-N-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1,1-trifluoro-
U117	60-29-7	Ethane, 1,1,1-trifluoro-
U025	111-44-4	Ethane, 1,1,1-trifluoro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U410	59669-26-0	Ethanimidiothioic acid, N,N-bis[(methylimino)carbonyloxy]bis-, dimethyl ester
U394	30558-13-1	Ethanimidiothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester.
U359	110-30-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2-(nitrosoimino)bis-

Chemical abstracts No	Substance
5952-26-1	Ethanol, 2,2-oxybis-, dicarbamate.
98-36-2	Ethanone, 1-phenyl-
75-01-4	Ethene, chloro-
110-75-3	Ethene (2-chloroethoxy)-
75-35-4	Ethene, 1,1-dichloro-
156-50-5	Ethene, 1,2-dichloro-, (E)-
127-18-4	Ethene, tetrachloro-
79-01-6	Ethene, trichloro-
141-78-6	Ethyl acetate (I)
140-88-5	Ethyl acrylate (I)
51-79-5	Ethyl carbamate (urethane)
60-29-7	Ethyl ether (I)
111-34-6	Ethylenebis(dithiocarbamic acid, salts & esters)
106-93-4	Ethylene dibromide
107-06-2	Ethylene dichloride
110-80-5	Ethylene glycol monoethyl ether
75-21-3	Ethylene oxide (I,T)
96-45-7	Ethyleneurea
75-34-3	Ethylidene dichloride
97-63-2	Ethyl methacrylate
62-50-0	Ethyl methanesulfonate
206-14-0	Fluoranthene
50-00-3	Formaldehyde
64-18-6	Formic acid (C,T)
110-00-9	Furan (I)
98-01-1	2-Furancarboxaldehyde (I)
108-31-6	2,5-Furandione
109-39-3	Furan tetrahydro-(I)
98-01-1	Furfural (I)
110-00-9	Furfuran (I)
8883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoamido)-, D-
8883-66-4	D-Glucose, 2-deoxy-2-[(methylnitrosoamino)-carbonylamino]-
765-34-4	Glycidylaldehyde
70-25-7	Guanidine, N-methyl-N-nitro-N-nitroso-
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
77-47-4	Hexachlorocyclopentadiene
67-72-1	Hexachloroethane
70-30-4	Hexachlorophene
1888-71-7	Hexachloropropene
302-01-2	Hydrazine (R,T)
1615-80-1	Hydrazine, 1,2-diethyl-
57-14-7	Hydrazine, 1,1-dimethyl-
340-73-8	Hydrazine, 1,2-dimethyl-
123-66-7	Hydrazine, 1,2-diphenyl-
7664-39-3	Hydrofluoric acid (C,T)
7664-39-3	Hydrogen fluoride (C,T)
7783-06-4	Hydrogen sulfide
7783-06-4	Hydrogen sulfide H ₂ S
80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl-, (R)
96-45-7	2-Imidazolidinethione
193-39-5	Indeno[1,2,3-cd]pyrene
85-44-9	1,3-Isobenzofurandione
78-83-1	Isobutyl alcohol (I,T)
120-58-1	Isosarole
143-50-3	Keapone
303-34-4	Lasiocarpine
301-04-2	Lead acetate
1335-32-6	Lead bis(acetato-O)tetrahydroxytri-
746-27-7	Lead phosphate
1335-32-6	Lead subacetate
58-89-9	Leadane
70-25-7	MNNG
108-31-6	Maleic anhydride
123-33-1	Maleic hydrazide
109-77-3	Malononitrile
148-82-3	Malonitrile
7439-97-6	Mercury
126-38-7	Methacrylonitrile (I, T)
124-40-3	Methanamine, N-methyl-, (I)
74-83-9	Methane bromo-

Hazardous waste No	Chemical abstracts No	Substance
U045	74-87-3	Methane, chloro- (I, T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-38-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane tetrachloro-
U153	74-93-1	Methanethiol (I, T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-30-5	Methacrylonitrile
U142	143-50-0	* 3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	* Methylbutadiene (I)
U045	74-37-3	Methyl chloride (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U226	71-35-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4-Methylenbis(2-chloroaniline)
U068	74-35-3	Methylen bromide
U080	75-09-2	Methylen chloride
U159	78-33-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-38-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiourea
U010	50-07-7	Mitomycin C
U059	20830-31-3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-indeoxy)-alpha-L-xylo-hexopyranosyl]oxy]-, (8S-cis)-
U167	134-32-7	* Naphthalenamine
U168	91-59-3	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-(3,3'-dimethyl(1,1'-biphenyl)-4,4'-diyl)bis(azo)bis(5-amino-4-hydroxy)-, tetrasodium salt
U279	63-25-2	1-Naphthalenol, methylcarbamate.
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-3	beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-35-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphon-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-3	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
2	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-88-8	Pentachloronitrobenzene (PCNB)

Hazardous waste No	Chemical abstracts No	Substance
See F027	87-86-5	Pentachlorophenol
U161	108-10-1	Phenol 4-methyl-
U186	504-50-3	3-Pentachlorophenol (I)
U187	62-14-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol 2-chloro-
U039	59-50-7	Phenol 4-chloro-3-methyl-
U081	120-83-2	Phenol 2,4-dichloro-
U082	87-65-0	Phenol 2,6-dichloro-
U089	56-53-1	Phenol 4-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol 2,4-dimethyl-
U052	1319-77-3	Phenol methyl-
U132	70-30-4	Phenol 2,2-methylenebis[3,4,6-trichloro-
U411	114-26-1	Phenol 2-(1-methylethoxy)- methylcarbamate
U170	100-02-7	Phenol 4-nitro-
See F027	87-86-5	Phenol pentachloro-
See F027	58-90-2	Phenol 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol 2,4,5-trichloro-
See F027	88-06-2	Phenol 2,4,6-trichloro-
U150	148-82-3	1-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphonic acid, lead(2+) salt (2:3)
J087	3288-68-2	Phosphorodithioic acid O,O-diethyl S-methyl ester
J189	1314-30-3	Phosphorus sulfide (R)
J190	85-14-9	Phthalic anhydride
J191	109-06-8	1-Picoline
J179	100-75-4	1-Picoline 1-nitroso-
J192	23950-58-5	Propanamide
J194	107-10-8	Propanamine (I,T)
J111	621-64-7	Propanamine, N-nitroso-N-propyl-
J110	142-84-7	1-Propanamine, N-propyl-, (I)
J066	96-12-8	Propane 1,2-dibromo-3-chloro-
J083	78-87-5	Propane 1,2-dichloro-
J149	109-77-3	Propanedinitrile
J171	79-16-9	Propane 2-nitro-, (I,T)
J027	108-60-1	Propane 2,2-oxybis[2-chloro-
J193	1120-71-4	1-Propane sulfone
See F027	93-72-2	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
J235	126-72-7	1-Propanol 2,3-dibromo- phosphate (3:1)
J140	78-83-1	1-Propanol 2-methyl-, (I,T)
J002	67-64-1	2-Propanone (I)
J007	79-06-1	2-Propanamide
J084	542-75-6	Propene, 1,3-dichloro-
J243	1888-71-7	1-Propene 1,1,2,3,3,3-hexachloro-
J009	107-13-1	2-Propanenitrile
J152	126-98-7	2-Propanenitrile, 2-methyl-, (I,T)
J008	79-10-7	2-Propanoic acid (I)
J113	140-88-5	2-Propanoic acid, ethyl ester (I)
J118	97-63-2	2-Propanoic acid, 2-methyl-, ethyl ester
J162	80-62-6	2-Propanoic acid, 2-methyl-, methyl ester (I,T)
J373	122-42-9	Propanol
J411	114-26-1	Propanol
J387	52888-80-9	Propanol
J194	107-10-8	1-Propanamine (I,T)
J083	78-87-5	Propanoic acid
J148	123-33-1	3-Pyridazinedione, 1,2-dihydro-
J196	110-86-1	Pyridine
J191	109-06-8	Pyridine 2-methyl-
J237	66-75-1	2,4,4,11,11,11-Pyrimidinedione, 5-bis(2-chloroethyl)amino]-
J164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
J180	930-55-2	Pyridine 1-nitroso-
J200	50-55-5	Reserpine
J201	108-46-3	Resorcinol
J202	181-07-2	Saccharin & salts
J203	94-39-7	Saltol
J204	7783-00-8	Selenious acid

Hazardous waste No	Chemical abstracts No	Substance
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS (R,T)
U015	115-02-6	L-Serine diazoacetate (ester)
See F027	93-72-1	Silvex (2,4,5-TP)
U206	18883-66-4	Sirofloxacin
U103	77-88-1	Sulfuric acid dimethyl ester
U189	1314-30-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetranvdofuran (I)
U214	563-68-3	Thallium(I) acetate
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride Tld
U217	10102-45-1	Thallium(I) nitrate
U218	52-55-3	Thioacetamide
U410	59669-26-0	Thiodicarb
U153	74-33-1	Thiomethanol (I,T)
U244	137-26-3	Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl-
U409	23564-05-8	Thiophanate-methyl
U219	62-56-6	Thiourea
U244	137-26-3	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U389	2303-17-5	Tributyltin
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-0	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U404	121-44-3	Triethylamine
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-3	Urea N-ethyl-N-nitroso-
U177	684-93-5	Urea N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	181-31-2	Warfamin & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-3	Yonimban-16-carboxylic acid 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]- methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-34-7	Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less

* CAS Number given for parent compound only

[45 FR 78529 78541 Nov 25 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.33 see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access

§ 261.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement.

(a) Wastes from wood preserving processes at plants that do not resume

Tab 15

the List of CFR Sections Affected in the
Finding Aids section of this volume.

APPENDIX VIII TO PART 261—HAZARDOUS CONSTITUENTS

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
A2213	Ethanimidothioic acid, 2- (dimethylamino) -N-hydroxy-2-oxo-, methyl ester.	30558-43-1	U394
Acetonitrile	Same	75-05-3	U003
Acetophenone	Ethanone, 1-phenyl-	98-36-2	U004
2-Acetylaminofluorene	Acetamide, N-9H-fluoren-2-yl-	53-96-3	U005
Acetyl chloride	Same	75-36-5	U006
1-Acetyl-2-thiourea	Acetamide, N-(aminothioxomethyl)-	591-08-2	P002
Acrolein	2-Propenal	107-02-3	P003
Acrylamide	2-Propenamide	79-06-1	U007
Acrylonitrile	2-Propenenitrile	107-13-1	U009
Aflatoxins	Same	1402-68-2	
Aldicarb	Propanal, 2-methyl-2-(methylthio)-, O-[(methylaminocarbonyl)oxime]	116-06-3	P070
Aldicarb sulfone	Propanal, 2-methyl-2-[(methylsulfonyl)-(methylamino) carbonyl] oxime	1646-88-4	P203
Aldrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-	309-00-2	P004
Allyl alcohol	2-Propen-1-ol	107-18-6	P005
Allyl chloride	1-Propane, 3-chloro	107-18-6	
Aluminum phosphide	Same	20859-73-8	P006
4-Aminobiphenyl	[1,1'-Biphenyl]-4-amine	92-57-1	
5-(Aminomethyl)-3-isoxazolid	3(2H)-isoxazoline, 5-(aminomethyl)-	2763-36-4	P007
4-Aminopyridine	4-Pyridinamine	504-24-5	P008
Amitrole	1H-1,2,4-Triazol-3-amine	51-82-5	U011
Ammonium vanadate	Vanadic acid, ammonium salt	7803-55-6	P119
Aniline	Benzenamine	62-53-3	U012
Antimony	Same	7440-36-0	
Antimony compounds, N.O.S.¹			
Aramite	Sulfurous acid, 2-chloroethyl 2-(4-(1,1-dimethylethyl)phenoxy)-1-methylethyl ester.	140-57-8	
Arsenic	Same	7440-38-2	
Arsenic compounds, N.O.S.¹			
Arsenic acid	Arsenic acid H ₃ AsO ₄	7778-39-4	P010
Arsenic pentoxide	Arsenic oxide As ₂ O ₅	1303-28-2	P011
Arsenic trioxide	Arsenic oxide As ₂ O ₃	1327-53-3	P012
Auramine	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-	492-80-8	U014
Azaserine	L-Serine, diazoacetate (ester)	115-02-6	U015
Barban	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butyryl ester.	101-27-9	U280
Barum	Same	7440-39-3	
Barum compounds, N.O.S.¹			
Barum cyanide	Same	542-62-1	P013
Bendiocarb	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.	22781-23-3	U278
Bendiocarb phenol	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,	22981-82-8	U364
Benomyl	Carbamic acid, [1-[(butylamino) carbonyl]-1H-benzimidazol-2-yl]-, methyl ester.	17804-35-2	U271
Benz(c)acridine	Same	225-51-4	U016
Benz(a)anthracene	Same	56-55-3	U018
Benzal chloride	Benzene, (dichloromethyl)-	98-37-3	U017
Benzene	Same	71-43-2	U019
Benzenearsonic acid	Arsenic acid, phenyl-	98-05-5	
Benzidine	[1,1'-Biphenyl]-4,4'-diamine	92-87-5	U021
Benzo(b)fluoranthene	Benz(e)acephenanthrylene	205-99-2	
Benzo(j)fluoranthene	Same	205-82-3	
Benzo(k)fluoranthene	Same	207-08-3	
Benzo(a)pyrene	Same	50-32-8	U022
o-Benzodioxanone	2,5-Cyclohexadiene-1,4-dione	106-51-4	U197
Benzotrichloride	Benzene, (trichloromethyl)-	98-07-7	U023
Benzyl chloride	Benzene, (chloromethyl)-	100-44-7	P028
Beryllium powder	Same	7440-41-7	P015
Beryllium compounds, N.O.S.¹			
Bis(pentamethylene)-thiuram tetrasulfide	P-bendine, 1,1'-(tetrathiodicarbonyl)-bis-	120-54-7	
Bromoacetone	2-Propanone, 1-bromo-	598-31-2	P017

Common name	Chemical abstracts name	Chemical abstracts No	Hazardous waste No
Toluene-3,4-diamine	1,2-Benzenediamine, 4-methyl-	496-72-0	
Toluene diisocyanate	Benzene 1,3-diisocyanatomethyl-	26471-62-5	U223
o-Toluidine	Benzenamine, 2-methyl-	95-53-4	U328
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	636-21-5	U222
p-Toluidine	Benzenamine, 4-methyl-	106-49-0	U353
Toxaphene	Same	8001-35-2	P123
Trallate	Carbamothioic acid bis(1-methylethyl)-S-(2,3,3-trichloro-2-propenyl) ester	2303-17-5	U389
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120-82-1	--
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79-00-5	U227
Trichloroethylene	Ethene, trichloro-	79-01-6	U228
Trichloromethanethiol	Methanethiol, trichloro-	75-70-7	P118
Trichloromono-fluoromethane	Methane, trichlorofluoro-	75-69-4	U121
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95-95-4	See F027
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88-06-2	See F027
2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5	See F027
Trichloropropane, N.O.S. ¹	Same	25735-29-9	--
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96-18-4	--
Triethylamine	Ethanamine, N,N-diethyl-	121-44-8	U404
O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126-68-1	--
1,3,5-Trinitrobenzene	Benzene, 1,3,5-trinitro-	99-35-4	U234
Tns(1-aziridinyl)phosphine sulfide	Aziridine, 1,1,1'-phosphinothioylidynetris-	52-24-4	--
Tns(2,3-dibromopropyl) phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7	U235
Trypan blue	2,7-Naphthalenedisulfonic acid, 3,3'-bis(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)-bis[5-amino-4-hydroxy-, tetrasodium salt	72-57-1	U236
Uracil mustard	2,4-(1H,3H)-Pyrimidinedione, 5-bis(2-chloroethyl)amino-	66-75-1	U237
Vanadium pentoxide	Vanadium oxide, V ₂ O ₅	1314-62-1	P120
Vernolate	Carbamothioic acid, dipropyl-S-propyl ester	1929-77-7	--
Vinyl chloride	Ethene, chloro-	75-01-4	U043
Warfann	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2	U248
Warfann	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%	81-81-2	P001
Warfann salts, when present at concentrations less than 0.3%	--	--	U248
Warfann salts, when present at concentrations greater than 0.3%	--	--	P001
Zinc cyanide	Zinc cyanide, Zn(CN) ₂	557-21-1	P121
Zinc phosphide	Zinc phosphide, Zn ₃ P ₂ , when present at concentrations greater than 10%	1314-84-7	P122
Zinc phosphide	Zinc phosphide, Zn ₃ P ₂ , when present at concentrations of 10% or less	1314-84-7	U249
Ziram	Zinc bis(dimethylcarbamodithioato-S)-S-(T-4)-	137-30-4	P205

¹ The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

[53 FR 13388, Apr. 22, 1988, as amended at 53 FR 43881, Oct. 31, 1988, 54 FR 50978, Dec. 11, 1989; 55 FR 50483, Dec. 6, 1990; 56 FR 7568, Feb. 25, 1991; 59 FR 468, Jan. 4, 1994; 59 FR 31551, June 20, 1994; 60 FR 7853, Feb. 9, 1995; 60 FR 19165, Apr. 17, 1995; 62 FR 32977, June 17, 1997; 63 FR 24625, May 4, 1998]

EFFECTIVE DATE NOTE: At 63 FR 24625, May 4, 1998, appendix VIII to part 261 was amended by adding the entry for hazardous constituent 2,4,6-Tribromophenol, in alphabetical order effective Nov. 4, 1998.