

TABLE 1—ALTERNATIVE TREATMENT STANDARDS FOR HAZARDOUS DEBRIS¹—Continued

| Technology description | Performance and/or design and operating standard | Contaminant restrictions ² |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <p>3. <i>Sealing:</i> Application of an appropriate material which adheres tightly to the debris surface to avoid exposure of the surface to potential leaching media. When necessary to effectively seal the surface, sealing entails pretreatment of the debris surface to remove foreign matter and to clean and roughen the surface. Sealing materials include epoxy, silicone, and urethane compounds, but paint may not be used as a sealant.</p> | <p>Sealing must avoid exposure of the debris surface to potential leaching media and sealant must be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).</p> | <p>None.</p> |

¹ Hazardous debris must be treated by either these standards or the waste-specific treatment standards for the waste contaminating the debris. The treatment standards must be met for each type of debris contained in a mixture of debris types, unless the debris is converted into treatment residue as a result of the treatment process. Debris treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.

² Contaminant restriction means that the technology is not BDAT for that contaminant. If debris containing a restricted contaminant is treated by the technology, the contaminant must be subsequently treated by a technology for which it is not restricted in order to be land disposed (and excluded from Subtitle C regulation).

³ "Clean debris surface" means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than 5% of each square inch of surface area.

⁴ Acids, solvents, and chemical reagents may react with some debris and contaminants to form hazardous compounds. For example, acid washing of cyanide-contaminated debris could result in the formation of hydrogen cyanide. Some acids may also react violently with some debris and contaminants, depending on the concentration of the acid and the type of debris and contaminants. Debris treaters should refer to the safety precautions specified in Material Safety Data Sheets for various acids to avoid applying an incompatible acid to a particular debris/contaminant combination. For example, concentrated sulfuric acid may react violently with certain organic compounds, such as acrylonitrile.

⁵ If reducing the particle size of debris to meet the treatment standards results in material that no longer meets the 60 mm minimum particle size limit for debris, such material is subject to the waste-specific treatment standards for the waste contaminating the material, unless the debris has been cleaned and separated from contaminated soil and waste prior to size reduction. At a minimum, simple physical or mechanical means must be used to provide such cleaning and separation of nondebris materials to ensure that the debris surface is free of caked soil, waste, or other nondebris material.

⁶ Dioxin-listed wastes are EPA Hazardous Waste numbers FO20, FO21, FO22, FO23, FO26, and FO27.

⁷ Thermal desorption is distinguished from Thermal Destruction in that the primary purpose of Thermal Desorption is to volatilize contaminants and to remove them from the treatment chamber for subsequent destruction or other treatment.

⁸ The demonstration "Equivalent Technology" under §268.42(b) must document that the technology treats contaminants subject to treatment to a level equivalent to that required by the performance and design and operating standards for other technologies in this table such that residual levels of hazardous contaminants will not pose a hazard to human health and the environment absent management controls.

⁹ Any soil, waste, and other nondebris material that remains on the debris surface (or remains mixed with the debris) after treatment is considered a treatment residual that must be separated from the debris using, at a minimum, simple physical or mechanical means. Examples of simple physical or mechanical means are vibratory or trommel screening or water washing. The debris surface need not be cleaned to a "clean debris surface" as defined in note 3 when separating treated debris from residue; rather, the surface must be free of caked soil, waste, or other nondebris material. Treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.

[57 FR 37277, Aug. 18, 1992, as amended at 59 FR 48103, Sept. 19, 1994; 63 FR 28738, May 26, 1998; 71 FR 40279, July 14, 2006]

§ 268.46 Alternative treatment standards based on HTMR.

For the treatment standards previously found in this section, refer to §268.40.

[59 FR 48103, Sept. 19, 1994]

§ 268.48 Universal treatment standards.

(a) Table UTS identifies the hazardous constituents, along with the

nonwastewater and wastewater treatment standard levels, that are used to regulate most prohibited hazardous wastes with numerical limits. For determining compliance with treatment standards for underlying hazardous constituents as defined in §268.2(i), these treatment standards may not be exceeded. Compliance with these treatment standards is measured by an analysis of grab samples, unless otherwise noted in the following Table UTS.

UNIVERSAL TREATMENT STANDARDS

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|---------------------------------------------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| <i>Organic Constituents</i> | | | |
| Acenaphthylene | 208–96–8 | 0.059 | 3.4 |
| Acenaphthene | 83–32–9 | 0.059 | 3.4 |
| Acetone | 67–64–1 | 0.28 | 160 |
| Acetonitrile | 75–05–8 | 5.6 | 38 |
| Acetophenone | 96–86–2 | 0.010 | 9.7 |
| 2-Acetylaminofluorene | 53–96–3 | 0.059 | 140 |
| Acrolein | 107–02–8 | 0.29 | NA |
| Acrylamide | 79–06–1 | 19 | 23 |
| Acrylonitrile | 107–13–1 | 0.24 | 84 |
| Aldicarb sulfone ⁶ | 1646–88–4 | 0.056 | 0.28 |
| Aldrin | 309–00–2 | 0.021 | 0.066 |
| 4-Aminobiphenyl | 92–67–1 | 0.13 | NA |
| Aniline | 62–53–3 | 0.81 | 14 |
| o-Anisidine (2-methoxyaniline) | 90–04–0 | 0.010 | 0.66 |
| Anthracene | 120–12–7 | 0.059 | 3.4 |
| Aramite | 140–57–8 | 0.36 | NA |
| alpha-BHC | 319–84–6 | 0.00014 | 0.066 |
| beta-BHC | 319–85–7 | 0.00014 | 0.066 |
| delta-BHC | 319–86–8 | 0.023 | 0.066 |
| gamma-BHC | 58–89–9 | 0.0017 | 0.066 |
| Barban ⁶ | 101–27–9 | 0.056 | 1.4 |
| Bendiocarb ⁶ | 22781–23–3 | 0.056 | 1.4 |
| Benomyl ⁶ | 17804–35–2 | 0.056 | 1.4 |
| Benzene | 71–43–2 | 0.14 | 10 |
| Benz(a)anthracene | 56–55–3 | 0.059 | 3.4 |
| Benzal chloride | 98–87–3 | 0.055 | 6.0 |
| Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205–99–2 | 0.11 | 6.8 |
| Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207–08–9 | 0.11 | 6.8 |
| Benzo(g,h,i)perylene | 191–24–2 | 0.0055 | 1.8 |
| Benzo(a)pyrene | 50–32–8 | 0.061 | 3.4 |
| Bromodichloromethane | 75–27–4 | 0.35 | 15 |
| Bromomethane/Methyl bromide | 74–83–9 | 0.11 | 15 |
| 4-Bromophenyl phenyl ether | 101–55–3 | 0.055 | 15 |

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UNIVERSAL TREATMENT STANDARDS—Continued

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|---------------------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| n-Butyl alcohol | 71-36-3 | 5.6 | 2.6 |
| Butylate ⁶ | 2008-41-5 | 0.042 | 1.4 |
| Butyl benzyl phthalate | 85-68-7 | 0.017 | 28 |
| 2-sec-Butyl-4,6-dinitrophenol/Dinoseb | 88-85-7 | 0.066 | 2.5 |
| Carbaryl ⁶ | 63-25-2 | 0.006 | 0.14 |
| Carbenzadim ⁶ | 10605-21-7 | 0.056 | 1.4 |
| Carbofuran ⁶ | 1563-66-2 | 0.006 | 0.14 |
| Carbofuran phenol ⁶ | 1563-38-8 | 0.056 | 1.4 |
| Carbon disulfide | 75-15-0 | 3.8 | 4.8 mg/l TCLP |
| Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| Carbosulfan ⁶ | 55285-14-8 | 0.028 | 1.4 |
| Chlordane (alpha and gamma isomers) | 57-74-9 | 0.0033 | 0.26 |
| p-Chloroaniline | 106-47-8 | 0.46 | 16 |
| Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| Chlorobenzilate | 510-15-6 | 0.10 | NA |
| 2-Chloro-1,3-butadiene | 126-99-8 | 0.057 | 0.28 |
| Chlorodibromomethane | 124-48-1 | 0.057 | 15 |
| Chloroethane | 75-00-3 | 0.27 | 6.0 |
| bis(2-Chloroethoxy)methane | 111-91-1 | 0.036 | 7.2 |
| bis(2-Chloroethyl)ether | 111-44-4 | 0.033 | 6.0 |
| Chloroform | 67-66-3 | 0.046 | 6.0 |
| bis(2-Chloroisopropyl)ether | 39638-32-9 | 0.055 | 7.2 |
| p-Chloro-m-cresol | 59-50-7 | 0.018 | 14 |
| 2-Chloroethyl vinyl ether | 110-75-8 | 0.062 | NA |
| Chloromethane/Methyl chloride | 74-87-3 | 0.19 | 30 |
| 2-Chloronaphthalene | 91-58-7 | 0.055 | 5.6 |
| 2-Chloropchenol | 95-57-8 | 0.044 | 5.7 |
| 3-Chloropropylene | 107-05-1 | 0.036 | 30 |
| Chrysene | 218-01-9 | 0.059 | 3.4 |
| p-Cresidine | 120-71-8 | 0.010 | 0.66 |
| o-Cresol | 95-48-7 | 0.11 | 5.6 |
| m-Cresol (difficult to distinguish from p-cresol) | 108-39-4 | 0.77 | 5.6 |
| p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 | 5.6 |
| m-Cumenyl methylcarbamate ⁶ | 64-00-6 | 0.056 | 1.4 |

UNIVERSAL TREATMENT STANDARDS—Continued

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|--------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| Cyclohexanone | 108–94–1 | 0.36 | 0.75 mg/l TCLP |
| o,p'-DDD | 53–19–0 | 0.023 | 0.087 |
| p,p'-DDD | 72–54–8 | 0.023 | 0.087 |
| o,p'-DDE | 3424–82–6 | 0.031 | 0.087 |
| p,p'-DDE | 72–55–9 | 0.031 | 0.087 |
| o,p'-DDT | 789–02–6 | 0.0039 | 0.087 |
| p,p'-DDT | 50–29–3 | 0.0039 | 0.087 |
| Dibenz(a,h)anthracene | 53–70–3 | 0.055 | 8.2 |
| Dibenz(a,e)pyrene | 192–65–4 | 0.061 | NA |
| 1,2-Dibromo-3-chloropropane | 96–12–8 | 0.11 | 15 |
| 1,2-Dibromoethane/Ethylene dibromide | 106–93–4 | 0.028 | 15 |
| Dibromomethane | 74–95–3 | 0.11 | 15 |
| m-Dichlorobenzene | 541–73–1 | 0.036 | 6.0 |
| o-Dichlorobenzene | 95–50–1 | 0.088 | 6.0 |
| p-Dichlorobenzene | 106–46–7 | 0.090 | 6.0 |
| Dichlorodifluoromethane | 75–71–8 | 0.23 | 7.2 |
| 1,1-Dichloroethane | 75–34–3 | 0.059 | 6.0 |
| 1,2-Dichloroethane | 107–06–2 | 0.21 | 6.0 |
| 1,1-Dichloroethylene | 75–35–4 | 0.025 | 6.0 |
| trans-1,2-Dichloroethylene | 156–60–5 | 0.054 | 30 |
| 2,4-Dichlorophenol | 120–83–2 | 0.044 | 14 |
| 2,6-Dichlorophenol | 87–65–0 | 0.044 | 14 |
| 2,4-Dichlorophenoxyacetic acid/2,4-D | 94–75–7 | 0.72 | 10 |
| 1,2-Dichloropropane | 78–87–5 | 0.85 | 18 |
| cis-1,3-Dichloropropylene | 10061–01–5 | 0.036 | 18 |
| trans-1,3-Dichloropropylene | 10061–02–6 | 0.036 | 18 |
| Dieldrin | 60–57–1 | 0.017 | 0.13 |
| Diethyl phthalate | 84–66–2 | 0.20 | 28 |
| p-Dimethylaminoazobenzene | 60–11–7 | 0.13 | NA |
| 2,4-Dimethylaniline (2,4-xylidine) | 95–68–1 | 0.010 | 0.66 |
| 2,4-Dimethyl phenol | 105–67–9 | 0.036 | 14 |
| Dimethyl phthalate | 131–11–3 | 0.047 | 28 |
| Di-n-butyl phthalate | 84–74–2 | 0.057 | 28 |
| 1,4-Dinitrobenzene | 100–25–4 | 0.32 | 2.3 |

UNIVERSAL TREATMENT STANDARDS—Continued

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|-------------------------------------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| 4,6-Dinitro-o-cresol | 534-52-1 | 0.28 | 160 |
| 2,4-Dinitrophenol | 51-28-5 | 0.12 | 160 |
| 2,4-Dinitrotoluene | 121-14-2 | 0.32 | 140 |
| 2,6-Dinitrotoluene | 606-20-2 | 0.55 | 28 |
| Di-n-octyl phthalate | 117-84-0 | 0.017 | 28 |
| Di-n-propylnitrosamine | 621-64-7 | 0.40 | 14 |
| 1,4-Dioxane | 123-91-1 | 12.0 | 170 |
| Diphenylamine (difficult to distinguish from diphenylnitrosamine) | 122-39-4 | 0.92 | 13 |
| Diphenylnitrosamine (difficult to distinguish from diphenylamine) | 86-30-6 | 0.92 | 13 |
| 1,2-Diphenylhydrazine | 122-66-7 | 0.087 | NA |
| Disulfoton | 298-04-4 | 0.017 | 6.2 |
| Dithiocarbamates (total) ⁶ | NA | 0.028 | 28 |
| Endosulfan I | 959-98-8 | 0.023 | 0.066 |
| Endosulfan II | 33213-65-9 | 0.029 | 0.13 |
| Endosulfan sulfate | 1031-07-8 | 0.029 | 0.13 |
| Endrin | 72-20-8 | 0.0028 | 0.13 |
| Endrin aldehyde | 7421-93-4 | 0.025 | 0.13 |
| EPTC ⁶ | 759-94-4 | 0.042 | 1.4 |
| Ethyl acetate | 141-78-6 | 0.34 | 33 |
| Ethyl benzene | 100-41-4 | 0.057 | 10 |
| Ethyl cyanide/Propanenitrile | 107-12-0 | 0.24 | 360 |
| Ethyl ether | 60-29-7 | 0.12 | 160 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 0.28 | 28 |
| Ethyl methacrylate | 97-63-2 | 0.14 | 160 |
| Ethylene oxide | 75-21-8 | 0.12 | NA |
| Famphur | 52-85-7 | 0.017 | 15 |
| Fluoranthene | 206-44-0 | 0.068 | 3.4 |
| Fluorene | 86-73-7 | 0.059 | 3.4 |
| Formetanate hydrochloride ⁶ | 23422-53-9 | 0.056 | 1.4 |
| Heptachlor | 76-44-8 | 0.0012 | 0.066 |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD) | 35822-46-9 | 0.000035 | .0025 |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF) | 67562-39-4 | 0.000035 | .0025 |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF) | 55673-89-7 | 0.000035 | .0025 |
| Heptachlor epoxide | 1024-57-3 | 0.016 | 0.066 |

UNIVERSAL TREATMENT STANDARDS—Continued

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|------------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| Hexachlorobenzene | 118–74–1 | 0.055 | 10 |
| Hexachlorobutadiene | 87–68–3 | 0.055 | 5.6 |
| Hexachlorocyclopentadiene | 77–47–4 | 0.057 | 2.4 |
| HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| Hexachloroethane | 67–72–1 | 0.055 | 30 |
| Hexachloropropylene | 1888–71–7 | 0.035 | 30 |
| Indeno(1,2,3-c,d) pyrene | 193–39–5 | 0.0055 | 3.4 |
| Iodomethane | 74–88–4 | 0.19 | 65 |
| Isobutyl alcohol | 78–83–1 | 5.6 | 170 |
| Isodrin | 465–73–6 | 0.021 | 0.066 |
| Isosafrole | 120–58–1 | 0.081 | 2.6 |
| Kepone | 143–50–0 | 0.0011 | 0.13 |
| Methacrylonitrile | 126–98–7 | 0.24 | 84 |
| Methanol | 67–56–1 | 5.6 | 0.75 mg/l TCLP |
| Methapyrilene | 91–80–5 | 0.081 | 1.5 |
| Methiocarb ⁶ | 2032–65–7 | 0.056 | 1.4 |
| Methomyl ⁶ | 16752–77–5 | 0.028 | 0.14 |
| Methoxychlor | 72–43–5 | 0.25 | 0.18 |
| 3-Methylcholanthrene | 56–49–5 | 0.0055 | 15 |
| 4,4-Methylene bis(2-chloroaniline) | 101–14–4 | 0.50 | 30 |
| Methylene chloride | 75–09–2 | 0.089 | 30 |
| Methyl ethyl ketone | 78–93–3 | 0.28 | 36 |
| Methyl isobutyl ketone | 108–10–1 | 0.14 | 33 |
| Methyl methacrylate | 80–62–6 | 0.14 | 160 |
| Methyl methanesulfonate | 66–27–3 | 0.018 | NA |
| Methyl parathion | 298–00–0 | 0.014 | 4.6 |
| Metolcarb ⁶ | 1129–41–5 | 0.056 | 1.4 |
| Mexacarbate ⁶ | 315–18–4 | 0.056 | 1.4 |
| Molinate ⁶ | 2212–67–1 | 0.042 | 1.4 |
| Naphthalene | 91–20–3 | 0.059 | 5.6 |
| 2-Naphthylamine | 91–59–8 | 0.52 | NA |
| o-Nitroaniline | 88–74–4 | 0.27 | 14 |
| p-Nitroaniline | 100–01–6 | 0.028 | 28 |

UNIVERSAL TREATMENT STANDARDS—Continued

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|-------------------------------------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| Nitrobenzene | 98-95-3 | 0.068 | 14 |
| 5-Nitro-o-toluidine | 99-55-8 | 0.32 | 28 |
| o-Nitrophenol | 88-75-5 | 0.028 | 13 |
| p-Nitrophenol | 100-02-7 | 0.12 | 29 |
| N-Nitrosodiethylamine | 55-18-5 | 0.40 | 28 |
| N-Nitrosodimethylamine | 62-75-9 | 0.40 | 2.3 |
| N-Nitroso-di-n-butylamine | 924-16-3 | 0.40 | 17 |
| N-Nitrosomethylethylamine | 10595-95-6 | 0.40 | 2.3 |
| N-Nitrosomorpholine | 59-89-2 | 0.40 | 2.3 |
| N-Nitrosopiperidine | 100-75-4 | 0.013 | 35 |
| N-Nitrosopyrrolidine | 930-55-2 | 0.013 | 35 |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 3268-87-9 | 0.000063 | 0.005 |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 39001-02-0 | 0.000063 | 0.005 |
| Oxamyl ⁶ | 23135-22-0 | 0.056 | 0.28 |
| Parathion | 56-38-2 | 0.014 | 4.6 |
| Total PCBs (sum of all PCB isomers, or all Aroclors) ⁸ | 1336-36-3 | 0.10 | 10 |
| Pebulate ⁶ | 1114-71-2 | 0.042 | 1.4 |
| Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| Pentachloroethane | 76-01-7 | 0.055 | 6.0 |
| Pentachloronitrobenzene | 82-68-8 | 0.055 | 4.8 |
| Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| Phenacetin | 62-44-2 | 0.081 | 16 |
| Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| Phenol | 108-95-2 | 0.039 | 6.2 |
| 1,3-Phenylenediamine | 108-45-2 | 0.010 | 0.66 |
| Phorate | 298-02-2 | 0.021 | 4.6 |
| Phthalic acid | 100-21-0 | 0.055 | 28 |
| Phthalic anhydride | 85-44-9 | 0.055 | 28 |
| Physostigmine ⁶ | 57-47-6 | 0.056 | 1.4 |
| Physostigmine salicylate ⁶ | 57-64-7 | 0.056 | 1.4 |
| Promecarb ⁶ | 2631-37-0 | 0.056 | 1.4 |
| Pronamide | 23950-58-5 | 0.093 | 1.5 |

UNIVERSAL TREATMENT STANDARDS—Continued

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|-------------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| Propham ⁶ | 122-42-9 | 0.056 | 1.4 |
| Propoxur ⁶ | 114-26-1 | 0.056 | 1.4 |
| Prosulfocarb ⁶ | 52888-80-9 | 0.042 | 1.4 |
| Pyrene | 129-00-0 | 0.067 | 8.2 |
| Pyridine | 110-86-1 | 0.014 | 16 |
| Safrole | 94-59-7 | 0.081 | 22 |
| Silvex/2,4,5-TP | 93-72-1 | 0.72 | 7.9 |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| TCDDs (All Tetrachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 0.057 | 6.0 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.057 | 6.0 |
| Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |
| Thiodicarb ⁶ | 59669-26-0 | 0.019 | 1.4 |
| Thiophanate-methyl ⁶ | 23564-05-8 | 0.056 | 1.4 |
| Toluene | 108-88-3 | 0.080 | 10 |
| Toxaphene | 8001-35-2 | 0.0095 | 2.6 |
| Triallate ⁶ | 2303-17-5 | 0.042 | 1.4 |
| Tribromomethane/Bromoform | 75-25-2 | 0.63 | 15 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| Trichlorofluoromethane | 75-69-4 | 0.020 | 30 |
| 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| 2,4,5-Trichlorophenoxyacetic acid/2,4,5-T | 93-76-5 | 0.72 | 7.9 |
| 1,2,3-Trichloropropane | 96-18-4 | 0.85 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.057 | 30 |
| Triethylamine ⁶ | 121-44-8 | 0.081 | 1.5 |
| tris-(2,3-Dibromopropyl) phosphate | 126-72-7 | 0.11 | 0.10 |
| Vernolate ⁶ | 1929-77-7 | 0.042 | 1.4 |
| Vinyl chloride | 75-01-4 | 0.27 | 6.0 |

UNIVERSAL TREATMENT STANDARDS—Continued

[Note: NA means not applicable]

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|--------------------------------------------------------------------|----------------------------|---------------------------------------|--------------------------------------------------------------------------|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as "mg/l TCLP" |
| Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| <i>Inorganic Constituents</i> | | | |
| Antimony | 7440-36-0 | 1.9 | 1.15 mg/l TCLP |
| Arsenic | 7440-38-2 | 1.4 | 5.0 mg/l TCLP |
| Barium | 7440-39-3 | 1.2 | 21 mg/l TCLP |
| Beryllium | 7440-41-7 | 0.82 | 1.22 mg/l TCLP |
| Cadmium | 7440-43-9 | 0.69 | 0.11 mg/l TCLP |
| Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/l TCLP |
| Cyanides (Total) ⁴ | 57-12-5 | 1.2 | 590 |
| Cyanides (Amenable) ⁴ | 57-12-5 | 0.86 | 30 |
| Fluoride ⁵ | 16984-48-8 | 35 | NA |
| Lead | 7439-92-1 | 0.69 | 0.75 mg/l TCLP |
| Mercury—Nonwastewater from Retort | 7439-97-6 | NA | 0.20 mg/l TCLP |
| Mercury—All Others | 7439-97-6 | 0.15 | 0.025 mg/l TCLP |
| Nickel | 7440-02-0 | 3.98 | 11 mg/l TCLP |
| Selenium ⁷ | 7782-49-2 | 0.82 | 5.7 mg/l TCLP |
| Silver | 7440-22-4 | 0.43 | 0.14 mg/l TCLP |
| Sulfide ⁵ | 18496-25-8 | 14 | NA |
| Thallium | 7440-28-0 | 1.4 | 0.20 mg/l TCLP |
| Vanadium ⁵ | 7440-62-2 | 4.3 | 1.6 mg/l TCLP |
| Zinc ⁵ | 7440-66-6 | 2.61 | 4.3 mg/l TCLP |

FOOTNOTES TO TABLE UTS

- 1 CAS means Chemical Abstract Services. When the waste code and/or regulated constituents are described as a combination of a chemical with its salts and/or esters, the CAS number is given for the parent compound only.
- 2 Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.
- 3 Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of 40 CFR part 264, subpart O or 40 CFR part 265, subpart O, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to provisions in 40 CFR 268.40(d). All concentration standards for nonwastewaters are based on analysis of grab samples.
- 4 Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010C or 9012B, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 40 CFR 260.11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.
- 5 These constituents are not "underlying hazardous constituents" in characteristic wastes, according to the definition at § 268.2(i).

FOOTNOTES TO TABLE UTS—Continued

- 6 Between August 26, 1996, and March 4, 1998, these constituents are not “underlying hazardous constituents” as defined at § 268.2(i) of this Part.
- 7 This constituent is not an underlying hazardous constituent as defined at § 268.2(i) of this Part because its UTS level is greater than its TC level, thus a treatment selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level.
- 8 This standard is temporarily deferred for soil exhibiting a hazardous characteristic due to D004–D011 only.

[59 FR 48103, Sept. 19, 1994, as amended by 60 FR 302, Jan. 3, 1995; 61 FR 15654, Apr. 8 1996; 61 FR 33690, June 28, 1996; 62 FR 7596, Feb. 19, 1997; 63 FR 24626, May 4, 1998; 63 FR 28739, May 26, 1998; 63 FR 47417, Sept. 4, 1998; 64 FR 25417, May 11, 1999; 65 FR 14475, Mar. 17, 2000; 70 FR 34590, June 14, 2005; 70 FR 9178, Feb. 24, 2005; 71 FR 40279, July 14, 2006; 75 FR 13008, Mar. 18, 2010]

§ 268.49 Alternative LDR treatment standards for contaminated soil.

(a) *Applicability.* You must comply with LDRs prior to placing soil that exhibits a characteristic of hazardous waste, or exhibited a characteristic of

hazardous waste at the time it was generated, into a land disposal unit. The following chart describes whether you must comply with LDRs prior to placing soil contaminated by listed hazardous waste into a land disposal unit:

| If LDRs | And if LDRs | And if | Then you |
|------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------|---------------------------|
| Applied to the listed waste when it contaminated the soil*. | Apply to the listed waste now. | | Must comply with LDRs |
| Didn't apply to the listed waste when it contaminated the soil*. | Apply to the listed waste now. | The soil is determined to contain the listed waste when the soil is first generated. | Must comply with LDRs. |
| Didn't apply to the listed waste when it contaminated the soil*. | Apply to the listed waste now. | The soil is determined not to contain the listed waste when the soil is first generated. | Needn't comply with LDRs. |
| Didn't apply to the listed waste when it contaminated the soil*. | Don't apply to the listed waste now. | | Needn't comply with LDRs. |

* For dates of LDR applicability, see 40 CFR Part 268 Appendix VII. To determine the date any given listed hazardous waste contaminated any given volume of soil, use the last date any given listed hazardous waste was placed into any given land disposal unit or, in the case of an accidental spill, the date of the spill.

(b) Prior to land disposal, contaminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be treated according to the applicable treatment standards specified in paragraph (c) of this section or according to the Universal Treatment Standards specified in 40 CFR 268.48 applicable to the contaminating listed hazardous waste and/or the applicable characteristic of hazardous waste if the soil is characteristic. The treatment standards specified in paragraph (c) of this section and the Universal Treatment Standards may be modified through a treatment variance approved in accordance with 40 CFR 268.44.

(c) *Treatment standards for contaminated soils.* Prior to land disposal, con-

taminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be treated according to all the standards specified in this paragraph or according to the Universal Treatment Standards specified in 40 CFR 268.48.

(1) *All soils.* Prior to land disposal, all constituents subject to treatment must be treated as follows:

(A) For non-metals except carbon disulfide, cyclohexanone, and methanol, treatment must achieve 90 percent reduction in total constituent concentrations, except as provided by paragraph (c)(1)(C) of this section.