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21-003 September, 2024

**Guidance for Conducting Reapplication Sampling for Facilities Discharging Process Wastewater**

**(Formerly Known as Process Wastewater Pollutant Scan)**

Except for stormwater discharges, all manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits which discharge process wastewater shall provide the information in Section A through C to the Department once per permit term.

1. General Required Sampling and Analysis

Every applicant must report quantitative data for every outfall directly discharging process wastewater for the following pollutants:

* 1. Biochemical Oxygen Demand (BOD5)
	2. Chemical Oxygen Demand
	3. Total Organic Carbon
	4. Total Suspended Solids
	5. Ammonia (as N)
	6. Temperature (both winter and summer)
	7. pH

The Director may waive the reporting requirements for individual point sources or for a particular industry category for one or more of the pollutants listed above in Section A if the applicant has demonstrated that such a waiver is appropriate because information adequate to support issuance of a permit can be obtained with less stringent requirements.

1. **Sampling and Analysis for Pollutants Expected to Be Present**
	1. Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in Table IV (certain conventional and nonconventional pollutants) is discharged from each outfall. If an applicable effluent limitations guideline either directly limits the pollutant or, by its express terms, indirectly limits the pollutant through limitations on an indicator, the applicant must report quantitative data. For every pollutant discharged which is not so limited in an effluent limitations guideline, the applicant must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.
	2. Each applicant must indicate whether it knows or has reason to believe that any of the pollutants listed in Table II or Table III (the toxic pollutants and total phenols) for which quantitative data are not otherwise required under Section C are discharged from each outfall. For every pollutant expected to be discharged in concentrations of 10 ppb or greater the applicant must report quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, where any of these four pollutants are expected to be discharged in concentrations of 100 ppb or greater the applicant must report quantitative data. For every pollutant expected to be discharged in concentrations less than 10 ppb, or in the case of acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, in concentrations less than 100 ppb, the applicant must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged. An applicant qualifying as a small business under paragraph (g)(8) of 40 CFR 122.21 is not required to analyze for pollutants listed in Table III (the organic toxic pollutants).
	3. Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in Table V (certain hazardous substances and asbestos) are discharged from each outfall. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any quantitative data it has for any pollutant.
	4. Each applicant must report qualitative data, generated using a screening procedure not calibrated with analytical standards, for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) if it:
		1. Uses or manufactures 2,4,5-trichlorophenoxy acetic acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); or
		2. Knows or has reason to believe that TCDD is or may be present in an effluent.
2. Industry Specific Sampling and Analysis

Each applicant with processes in one or more primary industry category (see Section D) contributing to a discharge must report quantitative data for the following pollutants in each outfall containing process wastewater:

* 1. The organic toxic pollutants in the fractions designated in Table I and Section E for the applicant's industrial category or categories unless the applicant qualifies as a small business under paragraph (g)(8) of 40 CFR 122.21. Table III lists the organic toxic pollutants in each fraction. The fractions result from the sample preparation required by the analytical procedure which uses gas chromatography/mass spectrometry. A determination that an applicant falls within a particular industrial category for the purposes of selecting fractions for testing is not conclusive as to the applicant's inclusion in that category for any other purposes.
	2. The pollutants listed in Table II (the toxic metals, cyanide, and total phenols).
1. Applicable Primary Industry Categories

|  |  |
| --- | --- |
| Adhesives and sealants | Ore mining |
| Aluminum forming | Organic chemicals manufacturing |
| Aluminum forming | Paint and ink formulation |
| Auto and other laundries | Pesticides |
| Battery manufacturing | Petroleum refining |
| Coal mining | Pharmaceutical preparations |
| Coil coating | Photographic equipment and supplies |
| Copper forming | Plastics processing |
| Electrical and electronic components | Plastic and synthetic materials manufacturing |
| Electroplating | Porcelain enameling |
| Explosives manufacturing | Printing and publishing |
| Foundries | Pulp and paper mills |
| Gum and wood chemicals | Rubber processing |
| Inorganic chemicals manufacturing | Soap and detergent manufacturing |
| Iron and steel manufacturing | Steam electric power plants |
| Leather tanning and finishing | Textile mills |
| Mechanical products manufacturing | Timber products processing |
| Nonferrous metals manufacturing |  |

**Table I – Testing Requirements for Organic Toxic Pollutants by Industrial Category for Existing Dischargers**

|  |  |
| --- | --- |
| **Industrial category** | **GC/MS Fraction1** |
| **Volatile** | **Acid** | **Base/neutral** | **Pesticide** |
| Adhesives and Sealants | 2 | 2 | 2 |  |
| Aluminum Forming | 2 | 2 | 2 |  |
| Auto and Other Laundries | 2 | 2 | 2 | 2 |
| Battery Manufacturing | 2 |  | 2 |  |
| Coal Mining | 2 | 2 | 2 | 2 |
| Coil Coating | 2 | 2 | 2 |  |
| Copper Forming | 2 | 2 | 2 |  |
| Electric and Electronic Components | 2 | 2 | 2 | 2 |
| Electroplating | 2 | 2 | 2 |  |
| Explosives Manufacturing |  | 2 | 2 |  |
| Foundries | 2 | 2 | 2 |  |
| Gum and Wood Chemicals | 2 | 2 | 2 | 2 |
| Inorganic Chemicals Manufacturing | 2 | 2 | 2 |  |
| Iron and Steel Manufacturing | 2 | 2 | 2 |  |
| Leather Tanning and Finishing | 2 | 2 | 2 | 2 |
| Mechanical Products Manufacturing | 2 | 2 | 2 |  |
| Nonferrous Metals Manufacturing | 2 | 2 | 2 | 2 |
| Ore Mining | 2 | 2 | 2 | 2 |
| Organic Chemicals Manufacturing | 2 | 2 | 2 | 2 |
| Paint and Ink Formulation | 2 | 2 | 2 | 2 |
| Pesticides | 2 | 2 | 2 | 2 |
| Petroleum Refining | 2 | 2 | 2 | 2 |
| Pharmaceutical Preparations | 2 | 2 | 2 |  |
| Photographic Equipment and Supplies | 2 | 2 | 2 | 2 |
| Plastic and Synthetic Materials Manufacturing | 2 | 2 | 2 | 2 |
| Plastic Processing | 2 |  |  |  |
| Porcelain Enameling | 2 |  | 2 | 2 |
| Printing and Publishing | 2 | 2 | 2 | 2 |
| Pulp and Paper Mills | 2 | 2 | 2 | 2 |
| Rubber Processing | 2 | 2 | 2 |  |
| Soap and Detergent Manufacturing | 2 | 2 | 2 |  |
| Steam Electric Power Plants | 2 | 2 | 2 |  |
| Textile Mills | 2 | 2 | 2 | 2 |
| Timber Products Processing | 2 | 2 | 2 | 2 |

1The toxic pollutants in each fraction are listed in Table II.

2Testing required.

**Table II – Other Toxic Pollutants (Metals, Cyanide) and Total Phenols**

|  |
| --- |
| **Other Toxic Metals, Cyanide, and Total Phenols** |
| Antimony, Total | Copper, Total | Silver, Total |
| Arsenic, Total | Lead, Total | Thallium, Total |
| Beryllium, Total | Mercury, Total | Zinc, Total |
| Cadmium, Total | Nickel, Total | Cyanide, Total |
| Chromium, Total | Selenium, Total | Phenols, Total |

**Table III – Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS)**

|  |
| --- |
| **Volatiles** |
| Acrolein | Chloroform | Methylene chloride |
| Acrylonitrile | Dichlorobromomethane | 1,1,2,2-tetrachloroethane |
| Benzene | 1,1-dichloroethane | Tetrachloroethylene |
| Bromoform | 1,2-dichloroethane | Toluene |
| Carbon tetrachloride | 1,1-dichloroethylene | 1,2-trans-dichloroethylene |
| Carbon tetrachloride | 1,2-dichloropropane | 1,1,1-trichloroethane |
| Chlorobenzene | 1,3-dichloropropylene | 1,1,2-trichloroethane |
| Chlorodibromomethane | Ethylbenzene | Trichloroethylene |
| Chloroethane | Methyl bromide | Vinyl chloride |
| 2-chloroethylvinyl ether | Methyl chloride |  |
| **Acid Compounds** |
| 2-chlorophenol | 2,4-dinitrophenol | Pentachlorophenol |
| 2,4-dichlorophenol | 2-nitrophenol | Phenol |
| 2,4-dimethylphenol | 4-nitrophenol | 2,4,6-trichlorophenol |
| 4,6-dinitro-o-cresol | p-chloro-m-cresol |  |
| **Base/Neutral** |
| Acenaphthene | 4-chlorophenyl phenyl ether | Fluorene |
| Acenaphthylene | Chrysene | Hexachlorobenzene |
| Anthracene | Dibenzo(a,h)anthracene | Hexachlorobutadiene |
| Benzidine | 1,2-dichlorobenzene | Hexachlorocyclopentadiene |
| Benzo(a)anthracene | 1,3-dichlorobenzene | Hexachloroethane |
| Benzo(a)pyrene | 1,4-dichlorobenzene | Indeno(1,2,3-cd)pyrene |
| 3,4-benzofluoranthene | 3,3′-dichlorobenzidine | Isophorone |
| Benzo(ghi)perylene | Diethyl phthalate | Napthalene |
| Benzo(k)fluoranthene | Dimethyl phthalate | Nitrobenzene |
| Bis(2-chloroethoxy)methane | Di-n-butyl phthalate | N-nitrosodimethylamine |
| Bis(2-chloroethyl)ether | 2,4-dinitrotoluene | N-nitrosodi-n-propylamine |
| Bis(2-chloroisopropyl)ether | 2,6-dinitrotoluene | N-nitrosodiphenylamine |
| Bis (2-ethylhexyl)phthalate | Di-n-octyl phthalate | Phenanthrene |
| 4-bromophenyl phenyl ether | 1,2-diphenylhydrazine (as azobenzene) | Pyrene |
| Butylbenzyl phthalate | 1,2,4-trichlorobenzene |
| 2-chloronaphthalene | Fluroranthene |  |

**Table III Continued – Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS)**

|  |
| --- |
| **Pesticides** |
| Aldrin | Dieldrin | PCB-1254 |
| Alpha-BHC | Alpha-endosulfan | PCB-1221 |
| Beta-BHC | Beta-endosulfan | PCB-1232 |
| Gamma-BHC | Endosulfan sulfate | PCB-1248 |
| Delta-BHC | Endrin | PCB-1260 |
| Chlordane | Endrin aldehyde | PCB-1016 |
| 4,4′-DDT | Heptachlor | Toxaphene |
| 4,4′-DDE | Heptachlor epoxide |  |
| 4,4′-DDD | PCB-1242 |  |

**Table IV – Conventional and Nonconventional Pollutants Required to Be Tested by Existing Dischargers if Expected to be Present**

|  |  |  |
| --- | --- | --- |
| Bromide | Phosphorus, Total | Boron, Total |
| Chlorine, Total Residual | Radioactivity | Cobalt, Total |
| Color | Sulfate | Iron, Total |
| Fecal Coliform | Sulfide | Magnesium, Total |
| Fluoride | Sulfite | Molybdenum, Total |
| Nitrate-Nitrite | Surfactants | Manganese, Total |
| Nitrogen, Total Organic | Aluminum, Total | Tin, Total |
| Oil and Grease | Barium, Total | Titanium, Total |

**Table V – Toxic Pollutants and Hazardous Substances Required to be Identified by Existing Dischargers if Expected to be Present**

|  |
| --- |
| **Toxic Pollutants** |
| Asbestos |  |  |
| **Hazardous Substances** |
| Acetaldehyde | Dintrobenzene | Nitrotoluene |
| Allyl alcohol | Diquat | Parathion |
| Allyl chloride | Disulfoton | Phenolsulfanate |
| Amyl acetate | Diuron | Phosgene |
| Aniline | Epichlorohydrin | Propargite |
| Benzonitrile | Ethion | Propylene oxide |
| Benzyl chloride | Ethylene diamine | Pyrethrins |
| Butyl acetate | Ethylene dibromide | Quinoline |
| Butylamine | Formaldehyde | Resorcinol |
| Captan | Furfural | Strontium |
| Carbaryl | Guthion | Strychnine |
| Carbofuran | Isoprene | Styrene |
| Carbon disulfide | Isopropanolamine Dodecylbenzenesulfonate | 2,4,5-T (2,4,5-Trichlorophenoxy acetic acid) |
| Chlorpyrifos |
| Coumaphos | Kelthane | TDE (Tetrachlorodiphenylethane) |
| Cresol | Kepone | 2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid] |
| Crotonaldehyde | Malathion |
| Cyclohexane | Mercaptodimethur | Trichlorofan |
| 2,4-D (2,4-Dichlorophenoxy acetic acid) | Methoxychlor | Triethanolamine dodecylbenzenesulfonate |
| Methyl mercaptan |
| Diazinon | Methyl methacrylate | Triethylamine |
| Dicamba | Methyl parathion | Trimethylamine |
| Dichlobenil | Mevinphos | Uranium |
| Dichlone | Mexacarbate | Vanadium |
| 2,2-Dichloropropionic acid | Monoethyl amine | Vinyl acetate |
| Dichlorvos | Monomethyl amine | Xylene |
| Diethyl amine | Naled | Xylenol |
| Dimethyl amine | Napthenic acid | Zircon |

1. Suspensions

The Environmental Protection Agency has suspended the requirements of 40 CFR 122.21(g)(7)(ii)(A) and Table I as they apply to certain industrial categories. The suspensions are as follows:

* 1. At 46 FR 2046, Jan. 8, 1981, the Environmental Protection Agency suspended until further notice §122.21(g)(7)(ii)(A) as it applies to coal mines.
	2. At 46 FR 22585, Apr. 20, 1981, the Environmental Protection Agency suspended until further notice §122.21(g)(7)(ii)(A) and the corresponding portions of Item V-C of the NPDES application Form 2c as they apply to:
		1. Testing and reporting for all four organic fractions in the Greige Mills Subcategory of the Textile Mills industry (Subpart C—Low water use processing of 40 CFR part 410), and testing and reporting for the pesticide fraction in all other subcategories of this industrial category.
		2. Testing and reporting for the volatile, base/neutral and pesticide fractions in the Base and Precious Metals Subcategory of the Ore Mining and Dressing industry (subpart B of 40 CFR part 440), and testing and reporting for all four fractions in all other subcategories of this industrial category.
		3. Testing and reporting for all four GC/MS fractions in the Porcelain Enameling industry.
	3. At 46 FR 35090, July 1, 1981, the Environmental Protection Agency suspended until further notice §122.21(g)(7)(ii)(A) and the corresponding portions of Item V-C of the NPDES application Form 2c as they apply to:
		1. Testing and reporting for the pesticide fraction in the Tall Oil Rosin Subcategory (subpart D) and Rosin-Based Derivatives Subcategory (subpart F) of the Gum and Wood Chemicals industry (40 CFR part 454), and testing and reporting for the pesticide and base/neutral fractions in all other subcategories of this industrial category.
		2. Testing and reporting for the pesticide fraction in the Leather Tanning and Finishing, Paint and Ink Formulation, and Photographic Supplies industrial categories.
		3. Testing and reporting for the acid, base/neutral and pesticide fractions in the Petroleum Refining industrial category.
		4. Testing and reporting for the pesticide fraction in the Papergrade Sulfite subcategories (subparts J and U) of the Pulp and Paper industry (40 CFR part 430); testing and reporting for the base/neutral and pesticide fractions in the following subcategories: Deink (subpart Q), Dissolving Kraft (subpart F), and Paperboard from Waste Paper (subpart E); testing and reporting for the volatile, base/neutral and pesticide fractions in the following subcategories: BCT Bleached Kraft (subpart H), Semi-Chemical (subparts B and C), and Nonintegrated-Fine Papers (subpart R); and testing and reporting for the acid, base/neutral, and pesticide fractions in the following subcategories: Fine Bleached Kraft (subpart I), Dissolving Sulfite Pulp (subpart K), Groundwood-Fine Papers (subpart O), Market Bleached Kraft (subpart G), Tissue from Wastepaper (subpart T), and Nonintegrated-Tissue Papers (subpart S).
		5. Testing and reporting for the base/neutral fraction in the Once-Through Cooling Water, Fly Ash and Bottom Ash Transport Water process wastestreams of the Steam Electric Power Plant industrial category.
	4. For the duration of the suspensions, therefore, Table I effectively reads:

**Table VI – Testing Requirements for Organic Toxic Pollutants by Industry Category**

|  |  |
| --- | --- |
| **Industry category** | **GC/MS fraction2** |
| **Volatile** | **Acid** | **Neutral** | **Pesticide** |
| Adhesives and sealants | 1 | 1 | 1 |  |
| Aluminum forming | 1 | 1 | 1 |  |
| Auto and other laundries | 1 | 1 | 1 | 1 |
| Battery manufacturing | 1 |  | 1 |  |
| Coal mining |  |  |  |  |
| Coil coating | 1 | 1 | 1 |  |
| Copper forming | 1 | 1 | 1 |  |
| Electric and electronic compounds | 1 | 1 | 1 | 1 |
| Electroplating | 1 | 1 | 1 |  |
| Explosives manufacturing |  | 1 | 1 |  |
| Foundries | 1 | 1 | 1 |  |
| Gum and wood (all subparts except D and F) | 1 | 1 |  |  |
| Subpart D—tall oil rosin | 1 | 1 | 1 |  |
| Subpart F—rosin-based derivatives | 1 | 1 | 1 |  |
| Inorganic chemicals manufacturing | 1 | 1 | 1 |  |
| Iron and steel manufacturing | 1 | 1 | 1 |  |
| Leather tanning and finishing | 1 | 1 | 1 |  |
| Mechanical products manufacturing | 1 | 1 | 1 |  |
| Nonferrous metals manufacturing | 1 | 1 | 1 | 1 |
| Ore mining (applies to the base and precious metals/Subpart B) |  | 1 |  |  |
| Organic chemicals manufacturing | 1 | 1 | 1 | 1 |
| Paint and ink formulation | 1 | 1 | 1 |  |
| Pesticides | 1 | 1 | 1 | 1 |
| Petroleum refining | 1 |  |  |  |
| Pharmaceutical preparations | 1 | 1 | 1 |  |
| Photographic equipment and supplies | 1 | 1 | 1 |  |
| Plastic and synthetic materials manufacturing | 1 | 1 | 1 | 1 |
| Plastic processing | 1 |  |  |  |
| Porcelain enameling |  |  |  |  |
| Printing and publishing | 1 | 1 | 1 | 1 |
| Pulp and paperboard mills—see Table VII |  |  |  |  |
| Rubber processing | 1 | 1 | 1 |  |
| Soap and detergent manufacturing | 1 | 1 | 1 |  |
| Steam electric power plants | 1 | 1 |  |  |
| Textile mills (Subpart C—Greige Mills are exempt from this table) | 1 | 1 | 1 |  |
| Timber products processing | 1 | 1 | 1 | 1 |

1Testing required.

2The pollutants in each fraction are listed in Table II.

**Table VII – Pulp and Paperboard Mills:**

|  |  |
| --- | --- |
| **Subpart3** | **GS/MS fractions** |
| **VOA** | **Acid** | **Base/neutral** | **Pesticides** |
| A | 2 | 1 | 2 | 1 |
| B | 2 | 1 | 2 | 2 |
| C | 2 | 1 | 2 | 2 |
| D | 2 | 1 | 2 | 2 |
| E | 1 | 1 | 2 | 1 |
| F | 1 | 1 | 2 | 2 |
| G | 1 | 1 | 2 | 2 |
| H | 1 | 1 | 2 | 2 |
| I | 1 | 1 | 2 | 2 |
| J | 1 | 1 | 1 | 2 |
| K | 1 | 1 | 2 | 2 |
| L | 1 | 1 | 2 | 2 |
| M | 1 | 1 | 2 | 2 |
| N | 1 | 1 | 2 | 2 |
| O | 1 | 1 | 2 | 2 |
| P | 1 | 1 | 2 | 2 |
| Q | 1 | 1 | 2 | 1 |
| R | 2 | 1 | 2 | 2 |
| S | 1 | 1 | 2 | 1 |
| T | 1 | 1 | 2 | 1 |
| U | 1 | 1 | 1 | 2 |

1Must test.

2Do not test unless “reason to believe” it is discharged.

3Subparts are defined in 40 CFR Part 430.

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