

**UNIFIED PROGRAM (UP) FORM
ONSITE HAZARDOUS WASTE TREATMENT
PERMIT BY RULE (PBR) PAGE**

WASTE AND TREATMENT PROCESS COMBINATIONS (one page per treatment unit – check all that apply)

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1. **Aqueous waste containing hexavalent chromium may be treated by the following process:**
 - a. Reduction of hexavalent chromium to trivalent chromium with sodium bisulfite, sodium metabisulfite, sodium thiosulfate, ferrous sulfate, ferrous sulfide or sulfur dioxide provided both pH and addition of the reducing agent are automatically controlled.

2. **Aqueous wastes containing metals listed in Title 22, CCR, Section 66261.24 (a)(2) and/or fluoride salts may be treated by the following technologies:**
 - a. pH adjustment or neutralization
 - b. Precipitation or crystallization
 - c. Phase separation by filtration, centrifugation, or gravity settling
 - d. Ion exchange
 - e. Reverse osmosis
 - f. Metallic replacement
 - g. Plating the metal onto an electrode.
 - h. Electrodialysis.
 - i. Electrowinning or electrolytic recovery.
 - j. Chemical stabilization using silicates and/or cementitious types of reactions.
 - k. Evaporation.
 - l. Adsorption.

3. **Aqueous wastes with total organic carbon less than 10% as measured by EPA Method 9060 and less than 1% total volatile organic compounds as measured by EPA Method 8240 may be treated by the following technologies:**
 - a. Phase separation by filtration, centrifugation or gravity settling, but excluding super critical fluid extraction.
 - b. Adsorption.
 - c. Distillation.
 - d. Biological processes conducted in tanks or containers and utilizing naturally occurring microorganisms.
 - e. Photodegradation using ultraviolet light, with or without the addition of hydrogen peroxide or ozone, provided the treatment is conducted in an enclosed system.
 - f. Air stripping or steam stripping.

4. **Sludges, dusts, solid metal objects and metal workings which contain or are contaminated with metals listed in Title 22, CCR, Section 66261.24(a)(2) and/or fluoride salts may be treated by the following technologies:**
 - a. Chemical stabilization using silicates and/or cementitious types of reactions.
 - b. Physical processes which change only the physical properties of the waste such as grinding, shredding, crushing, or compacting.
 - c. Drying to remove water.
 - d. Separation based on differences in physical properties such as size, magnetism or density.

5. **Alum, gypsum, lime, sulfur or phosphate sludges may be treated by the following technologies:**
 - a. Chemical stabilization using silicates and/or cementitious types of reactions.
 - b. Drying to remove water
 - c. Phase separation by filtration, centrifugation or gravity settling.

6. **Wastes identified in Title 22, CCR, Section 66261.120, that meet the criteria and requirements for special waste classification in Section 66261.122 may be treated by the following technologies:**
 - a. Chemical stabilization using silicates and/or cementitious types of reactions.
 - b. Drying to remove water.
 - c. Phase separation by filtration, centrifugation or gravity settling.
 - d. Screening to separate components based on size.
 - e. Separation based on differences in physical properties such as size, magnetism or density.

7. **Wastes, except asbestos, which have been classified by the Department as special wastes pursuant to Title 22, CCR, Section 66261.124, may be treated by the following technologies:**
 - a. Chemical stabilization using silicates and/or cementitious types of reactions.
 - b. Drying to remove water.
 - c. Phase separation by filtration, centrifugation or gravity settling.
 - d. Magnetic separation.

8. **Inorganic acid or alkaline wastes may be treated by the following technology:**
 - a. pH adjustment or neutralization.

9. **Soils contaminated with metals listed in Title 22, CCR, Section 66261.24(a)(2), (Persistent and Bioaccumulative Toxic Substances) may be treated by the following technologies:**
 - a. Chemical stabilization using silicates and/or cementitious types of reactions.
 - b. Screening to separate components based on size.
 - c. Magnetic separation.

10. **Used oil, unrefined oil waste, mixed oil, oil mixed with water and oil/water separation sludges may be treated by the following technologies:**
 - a. Phase separation by filtration, centrifugation or gravity settling, but excluding super critical fluid extraction.
 - b. Distillation.
 - c. Neutralization
 - d. Separation based on differences in physical properties such as size, magnetism or density.
 - e. Reverse osmosis.
 - f. Biological processes conducted in tanks or containers and utilizing naturally occurring microorganisms.

11. **Containers of 110 gallons or less capacity which are not constructed of wood, paper, cardboard, fabric or any other similar absorptive material, which have been emptied as specified in Title 40 of the Code of Federal Regulations, Section 261.7 or inner liners removed from empty containers that once held hazardous waste or hazardous material and which are not excluded from regulation may be treated by the following technologies provided the treated containers and rinseate are managed in compliance with applicable requirements.**
 - a. Rinsing with a suitable liquid capable of dissolving or removing the hazardous constituents which the container held.
 - b. Physical processes such as crushing, shredding, grinding or puncturing, that change only the physical properties of the container or inner liner, provided the container or inner liner is first rinsed and the rinseate is removed from the container or inner liner.

12. **Multi-component resins may be treated by the following process:**
 - a. Mixing the resin components in accordance with the manufacturer's instructions.

13. A waste stream technology combination certified by the Department pursuant to Section 25200.1.5 of the Health and Safety Code as appropriate for authorization under Permit by Rule.

_____ Certified Technology Number

14. Aqueous wastes generated by rinsing products and fixtures holding products that were processed in cyanide containing solutions may be treated by the following technologies:

- Oxidation by addition of hypochlorite
- Oxidation by addition of peroxide or ozone, with or without the use of ultraviolet light
- Alkaline chlorination
- Electrochemical oxidation
- Ion exchange
- Reverse osmosis

15. Aqueous wastes generated by reverse osmosis or the regeneration of demineralizer (ion exchange) columns that were used for recycling of wastewaters at facilities that maintain zero discharge of wastewaters derived from the treatment of cyanide-containing aqueous waste

- Oxidation by addition of hypochlorite
- Oxidation by addition of peroxide or ozone, with or without the use of ultraviolet light
- Alkaline chlorination
- Electrochemical oxidation
- Ion exchange
- Reverse osmosis

16. Rinsate from rinsing equipment used to transfer aqueous solutions containing cyanides such as containers, pumps, and hoses may be treated by the following technologies:

- Oxidation by addition of hypochlorite
- Oxidation by addition of peroxide or ozone, with or without the use of ultraviolet light
- Alkaline chlorination
- Electrochemical oxidation
- Ion exchange
- Reverse osmosis

17. Aqueous wastes generated by the following onsite recycling activities 1) Rinsing spent anode bags prior to onsite reuse; or 2) Rinsing empty containers prior to onsite reuse may be treated by the following technologies:

- Oxidation by addition of hypochlorite
- Oxidation by addition of peroxide or ozone, with or without the use of ultraviolet light
- Alkaline chlorination
- Electrochemical oxidation
- Ion exchange
- Reverse osmosis

18. Aqueous wastes generated by onsite laboratories conducting analyses and testing may be treated by the following technologies:

- Oxidation by addition of hypochlorite
- Oxidation by addition of peroxide or ozone, with or without the use of ultraviolet light
- Alkaline chlorination
- Electrochemical oxidation
- Ion exchange
- Reverse osmosis

19. Process solutions containing cyanides with recoverable amounts of metal may be treated by the following technology:

- Electrowinning to recover metals prior to further treatment, including destruction of incidental amounts of cyanide by electrochemical oxidation resulting from the electrowinning process

20. Process solutions containing cyanides added slowly to a rinse tank at a level that never exceeds 5000 milligrams per liter cyanide in the rinse tank may be treated by the following technologies:

- Oxidation by addition of hypochlorite
- Oxidation by addition of peroxide or ozone, with or without the use of ultraviolet light
- Alkaline chlorination
- Electrochemical oxidation
- Ion exchange
- Reverse osmosis

Waste and Treatment Process Combinations

The Waste and Treatment Process Combinations pages list those waste and treatment combinations certified by DTSC pursuant to HSC § 25200.1.5 for authorization under CE, CA, and PBR tiers. Each page is specific to a tier, with each tier specific page listing the wastes and treatment processes eligible under that tier. Note that some of the categories have volume or concentration restrictions that must be met in order to qualify for that tier. Additionally, some of the wastes refer to 22 CCR and others to the Health and Safety Code.

Complete one Waste and Treatment Process Combinations page for each unit, except CE-CL units.

(Note: the numbering of the instructions follows the data element numbers that are on the UP FORM pages. These data element numbers are used for electronic submission and are the same as the numbering used in 27 CCR, division 3, subdivision 1, chapter 1-5.)

Please number all pages of your submittal. This helps your CUPA or PA identify whether the submittal is complete and if any pages are separated.

606. UNIT ID NUMBER - Enter the unit ID number (same as item 606 from the Onsite Hazardous Waste Treatment Notification - Unit page).

1. FACILITY ID NUMBER - Leave this blank. This number is assigned by the CUPA. This is the unique number which identifies your facility.

627. WASTE AND TREATMENT PROCESS COMBINATIONS - CESQT	Use the correct page for the unit. Check the waste and treatment process(es) that pertain to the unit. If the process is a technology certified by DTSC, please enter the Certified Technology Number (Cert. #). Certified technologies appropriate for authorization, and the eligible tiers, are listed below.
628. WASTE AND TREATMENT PROCESS COMBINATIONS - CESW	
629. WASTE AND TREATMENT PROCESS COMBINATIONS - CA	
630. WASTE AND TREATMENT PROCESS COMBINATIONS - PBR	
631. WASTE AND TREATMENT PROCESS COMBINATIONS - CEL	

Note that reactive and extremely hazardous wastes are not allowed to be treated under any of the onsite treatment tiers, except for certain wastes under Conditionally Exempt - Specified Wastestreams.

CERTIFIED TECHNOLOGIES

DTSC is authorized to certify hazardous waste technologies. Appropriate certified technologies may be eligible for CE, CA or PBR onsite treatment tiers. As of April 1, 1999, there is one certified technology for these tiers. The certification is for aldehyde treatment processes and is eligible for the CESW tier. The approved technology is:

Neutralex	SCIGEN
Cert. #: 97-01-0024	333 East Gardena Blvd. Gardena, CA 90248
Effective Date:	June 29, 1997 (expires June 29, 2000)
Description:	Batch treatment for 10 percent Formalin generated by medical, educational, and laboratory facilities. Chemically treats in a provided 8 liter vessel. After testing, allows for disposal to sanitary sewer.
Tier:	Authorized for the CESW tier.

A copy of published Certification Statements and additional updates may be obtained by contacting DTSC at (916) 322-3670 or from the Cal/EPA on-line Bulletin Board via modem at (916) 322-5041 or at www.dtsc.ca.gov.