

SUPPLEMENTAL INFORMATION – M B1 MARCH 20, 2023
Tiered Permitting Overview – Michael Dudasko, Yorke Engineering, LLC

Waste Stream	Allowable Treatment Methods
1. Aqueous wastes with Chromium-VI	<ul style="list-style-type: none"> ▪ Reduction to Chromium-III
2a. Aqueous wastes with metals [listed in Section 66261.24(a)(2)] [CAM 17 List]	<ul style="list-style-type: none"> ▪ Evaporation ▪ pH adjustment ▪ Precipitation or crystallization ▪ Ion exchange ▪ Reverse osmosis ▪ Metallic replacement ▪ Plating onto an electrode ▪ Electrodialysis ▪ Electrowinning or electrolytic recovery ▪ Chemical stabilization ▪ Adsorption ▪ Phase separation
2b. Aqueous wastes with metals (listed in Section 66261.24) [RCRA and CAM 17 lists]	<ul style="list-style-type: none"> ▪ Ion exchange ▪ Reverse osmosis ▪ Adsorption ▪ pH adjustment ▪ Electrowinning or electrolytic recovery (no hydrochloric acid) ▪ Phase separation
3a. Aqueous waste with organic compounds not listed and containing <10% total organic carbon and <1% volatile organic compound	<ul style="list-style-type: none"> ▪ Adsorption ▪ Distillation ▪ Biological processes ▪ Photodegradation (with or without ozone or hydrogen peroxide) ▪ Air stripping ▪ Phase separation excluding super critical fluid extraction
3b. Aqueous waste with organic compounds listed in Section 66261.24(a)(1)(B) or Section 66261.24(a)(2)(B) [TCLP and CA Persistent and Bioaccumulative Toxics]	<ul style="list-style-type: none"> ▪ Adsorption ▪ Phase separation excluding super critical fluid extraction
4a. Sludges, dusts, solid metal objects, workings (containing or contaminated with metals listed in Section 66261.24(a)(2) and/or fluoride salts) [CAM 17]	<ul style="list-style-type: none"> ▪ Drying (to remove water) ▪ Grinding ▪ Shredding ▪ Crushing ▪ Compact ▪ Separation (based on size, magnetism, or density) ▪ Chemical stabilization

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4b. Wastewater treatment sludges, solid metal objects, metal workings containing or contaminated with metals and dusts containing <750 ppm metal (except asbestos) [TCLP and CAM17]	<ul style="list-style-type: none"> ▪ Drying (to remove water) ▪ Centrifuge ▪ Gravity settling ▪ Grinding ▪ Shredding ▪ Crushing ▪ Compaction ▪ Separation (based on size, magnetism, or density) ▪ Filtration (refer to HSC 25123.5)
5. Alum, gypsum, lime, sulfur, or phosphate sludges	<ul style="list-style-type: none"> ▪ Phase separation ▪ Drying (to remove water) ▪ Chemical stabilization
6. Waste listed in Section 66261.120, which meets the criteria and requirements for classification as special wastes in Section 66261.122 and Section 66261.124	<ul style="list-style-type: none"> ▪ Phase separation ▪ Screening to separate components (based on size) ▪ Separation (based on size, magnetism, or density) ▪ Drying (to remove water) ▪ Chemical stabilization
7a. Special Wastes (except asbestos) Section 66261.124	<ul style="list-style-type: none"> ▪ Phase separation by filtration, centrifuge, or gravity separation ▪ Chemical stabilization ▪ Drying (to remove water) ▪ Magnetic separation ▪ Drying (by pressing or passive evaporation)
7b. Special Wastes Section 66261.124	<ul style="list-style-type: none"> ▪ Phase separation ▪ Screening to separate components based on size ▪ Magnetic separation ▪ Drying (by pressing or passive evaporation)
8a. Inorganic acid or alkaline wastes	<ul style="list-style-type: none"> ▪ pH Adjustment ▪ Neutralization
8b. Corrosive waste from regeneration of ion exchange residues (used to demineralize water)	<ul style="list-style-type: none"> ▪ Neutralization (no authorization may be needed)
8c. Acid/alkaline wastes corrosive due to presence of food products AND generated by SIC group 20	<ul style="list-style-type: none"> ▪ Neutralization (no authorization may be needed)
8d. Acid/alkaline wastes by laboratory conducting treatment pursuant to HSC Section 25200.3.1	<ul style="list-style-type: none"> ▪ Neutralization (no authorization may be needed if complies with HSC 25200.3.1)

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8e. Acid/alkaline wastes from bio-technology manufacturing or process development by SIC Code subgroups 283, 2833, 2834, 2836, 8731, 8732, 8733	<ul style="list-style-type: none"> ▪ Neutralization (no authorization may be needed if complies with HSC 25201.15)
8f. Acid/alkaline wastes from pharmaceutical manufacturing or process development by NAICS Code subgroups 325411 and 325412	<ul style="list-style-type: none"> ▪ Neutralization (no authorization may be needed if complies with HSC 25201.17)
9. Soils contaminated with metals Section 66261.24(a)(2) [CAM 17]	<ul style="list-style-type: none"> ▪ Screening ▪ Magnetic separation ▪ Chemical stabilization
10a. Used oil, unrefined oil waste, mixed oil, oil mixed with water or oil/water separator	<ul style="list-style-type: none"> ▪ Distillation ▪ Neutralization ▪ Separation (based on size, magnetism, or density) ▪ Reverse osmosis ▪ Biological processes ▪ Phase separation (excluding supercritical fluid extraction)
10b. Oil mixed with water OR oil-water separation sludge	<ul style="list-style-type: none"> ▪ Separation (based on size, magnetism, or density) ▪ Reverse osmosis ▪ Phase separation
10c. Used oil mixed with water hazardous ONLY because of oil content, EXCLUDING contaminated groundwater, water containing gasoline, or >2% diesel	<ul style="list-style-type: none"> ▪ Gravity separation (where aqueous waste is non-hazardous) ▪ Centrifugation ▪ Membrane technology (such as reverse osmosis) ▪ Heating $\leq 20^{\circ}\text{F}$ below flashpoint of the used oil component of the mixture ▪ Addition of demulsifiers (to water containing used oil)
11a. Containers ≤ 110 -gallon capacity (no wood, paper, cardboard, fabric, or other absorptive material)	<ul style="list-style-type: none"> ▪ Rinsing ▪ Crushing ▪ Shredding ▪ Grinding ▪ Puncturing <p>No authorization needed if container exempt per 66261.7</p>

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11b. Aerosol cans	<ul style="list-style-type: none"> ▪ Puncturing ▪ Draining ▪ Crushing <p>No authorization needed if under HSC 25201.16</p>
12. Resins	<ul style="list-style-type: none"> ▪ Treatment of resins including multicomponent and pre-impregnated resins (mixed or cured in accordance with manufacturer’s instructions) ▪ Treatment of multi-component resins, mixed in accordance with manufacturer’s instructions
13. Photographic Wastes (silver-only RCRA-exempt waste-streams or photoimaging solution)	<ul style="list-style-type: none"> ▪ Silver recovery (no authorization required HSC 25143.13)
14. Dry Cleaning wastes	<ul style="list-style-type: none"> ▪ No authorization OR refer to 3a
15. Commercial Laundry Facility	<ul style="list-style-type: none"> ▪ Reusable textile materials (uniforms, gloves, linens, and towels)
16a. Laboratory Waste	<ul style="list-style-type: none"> ▪ No authorization or CESW (HSC 25200.3.1)
16b. Quality Control or Quality Assurance Laboratory	<ul style="list-style-type: none"> ▪ No authorization or CESW (HSC 25200.3.1)
17. Waste Stream/Technology Combination Certified by DTSC	<ul style="list-style-type: none"> ▪ None specified (as certified by DTSC)
18. Technology Certified by DTSC	<ul style="list-style-type: none"> ▪ Healthcare facilities treating formaldehyde ▪ Healthcare facilities treating glutaraldehyde or orthophthalaldehyde with glycine per HSC Section 25123.5(c)
19. Consolidation from remote sites	<ul style="list-style-type: none"> ▪ Not treatment but special authorization (notification required)

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Cyanide Treatment	
<p>A. Aqueous wastes from rinsing workpieces and fixtures</p> <p>B. Aqueous wastes from reverse osmosis or regeneration of demineralizer (ion exchange) columns at facilities with zero discharge</p> <p>C. Aqueous wastes from rinsing containers, pumps, hoses, and other equipment used to transfer cyanide solutions on-site</p> <p>D. Aqueous wastes from the following on-site recycling activities:</p> <ul style="list-style-type: none"> ▪ Rinsing spent anode bags prior to on-site reuse ▪ Rinsing empty containers prior to on-site reuse <p>E. Aqueous wastes from on-site laboratories</p>	<ul style="list-style-type: none"> ▪ Oxidation by addition of hypochlorite (bleach) ▪ Oxidation by addition of peroxide or ozone, with or without the use of ultraviolet light ▪ Alkaline chlorination ▪ Electrochemical oxidation ▪ Ion exchange ▪ Reverse osmosis
F. Spent Solutions managed in accordance with the requirements of Section 67450.11(d)(6)	<ul style="list-style-type: none"> ▪ Electrowinning (only for metal recovery) (to the aqueous solution in waste streams A, B, C, D, or E)
G. Spent Solutions managed in accordance with the requirements of Section 67450.11(d)(7)	<ul style="list-style-type: none"> ▪ Slow bleeding to the aqueous solution in waste streams (A) and (C) ▪ Resulting solution must be treated by: <ul style="list-style-type: none"> ➤ Oxidation ➤ Alkaline chlorination ➤ Electrochemical oxidation ➤ Ion exchange ➤ Reverse osmosis