

TABLE 4.12-1A (BASED UPON TABLE 5.5-2 OF THE AFC, BOLDED TEXT DENOTES ADDITIONAL HAZARDOUS MATERIALS ASSOCIATED WITH THE OCEAN WATER PURIFICATION PLANT)  
 Combined List of Use and Location of Hazardous Materials for CECP – July 2008

Chemical	Use	Quantity (gallons/lbs)	Storage Location	State	Type of Storage
<b>Ion Exchange Resin (Proprietary Mixture)</b>	<b>Deminerlization of boiler feedwater</b>	<b>2 trailer units - operating weight of 55,000 lbs each</b>	<b>Portable/removable trailer to be located at the northeast corner of CECP site</b>	<b>2 units in 10-70% solution</b>	<b>Continuously Onsite</b>
Aqueous Ammonia (19% NH3 by weight)	Control oxides of nitrogen (NO <sub>x</sub> ) emissions through selective catalytic reduction	17,000 gallons	Onsite storage tanks (2). (10,000 gallons per tank – tanks filled to a maximum of 85% of volume or 8,500 gallons)	Liquid	Continuously Onsite
Citric Acid	Cleaning reverse osmosis units	Varies as need (approx 100 lbs)	Pallet supported chemical storage bags in protected temporary storage location onsite.	Solid Powder	Initial Startup and Periodically Onsite
Cleaning chemicals/detergents	Periodic cleaning of combustion turbine	Varies as needed (approx 100 gal)	Chemical storage tote or drums at a protected temporary storage location onsite.	Liquid	Continuously Onsite
Diesel No. 2	Fuel for fire pump engine/vehicles	200 gal	Permanent onsite storage in above ground storage tank with secondary containment.	Liquid	Continuously Onsite
General Dispersant – Cyanamer P-70	Antiscalant Dispersant	55 gal	Water Treatment Building	Liquid	Continuously Onsite (?)
Hydraulic Oil	High-pressure combustion turbine starting system, turbine control valve actuators	500 gal	Onsite 55 Gallon Drums	Liquid	Continuously Onsite
Hydrochloric Acid	Reverse Osmosis cleaning	Varies as needed (approx 100 gal)	Water treatment building	Liquid	Continuously Onsite
Laboratory reagents	Water/wastewater laboratory analysis	10 gal liquids 100 lbs solids	Laboratory chemical storage cabinets (stored in original chemical storage containers/bags)	Liquid and Granular Solid	Continuously Onsite

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Lubrication Oil	Lubricate rotating equipment (e.g., gas turbine and steam turbine bearings)	40,000 gal	Contained within equipment	Liquid	Continuously Onsite
Mineral Insulating Oil	Transformers/switchyard	80,000 gal	Contained within equipment	Liquid	Continuously Onsite
Oxygen	Welding Gas	880 cubic feet	Maintenance/Warehouse bldg	Gas	Continuously Onsite
Permatreat PC-191	Scale inhibitor for reverse osmosis	400 gal	Water treatment building	Liquid	Continuously Onsite
Sodium Hydroxide (NaOH) (50% solution)	Convert CO <sub>2</sub> to alkalinity for removal by reverse osmosis	500 gal	Water treatment building	Liquid	Continuously Onsite
Sodium Nitrate	Cleaning of HRSG	Varies as needed (approx 500 lbs)	Outside near each HRSG	Solid	Initial startup and periodically onsite
Sulfur hexafluoride	Switchyard/ switchgear devices	200 lbs	Contained within equipment	Gas	Continuously Onsite
Trisodium Phosphate (Na <sub>3</sub> PO <sub>4</sub> ) (e.g., NALCO 7208)	Boiler water alkalinity control	400 gal	Cycle chemical feed building	Liquid	Continuously Onsite

TABLE 4.12-2A (BASED UPON TABLE 5.5-3 OF THE AFC, BOLDDED TEXT DENOTES ADDITIONAL HAZARDOUS MATERIALS ASSOCIATED WITH THE OCEAN WATER PURIFICATION PLANT)  
 Combined List of CECP Chemical Inventory – July 2008

Trade Name	Chemical Name	CAS Number	Maximum Quantity Onsite	CERCLA SARA RQ <sup>a</sup>	RQ of Material as Used Onsite <sup>b</sup>	EHS TPQ <sup>c</sup>	Regulated Substance TQ <sup>d</sup>	Prop 65
Aqueous ammonia	Aqueous ammonia (19%)	7664-41-7 (NH3)	17,000 gal	100 lb	100 lb	500 lb	500 lb (state)	No
Citric acid	Citric acid	77-92-9	100 lb	e	e	e	e	No
Cleaning chemicals/detergents	Various	None	100 gal	e	e	e	e	No
Diesel No. 2	Oil	None	200 gal	42 gal <sup>f</sup>	42 gal <sup>f</sup>	e	e	Yes
Cyanamer P-70	Proprietary	Proprietary	55 gal	e	e	e	e	No
Hydraulic oil	Oil	None	500 gal	42 gal <sup>f</sup>	42 gal <sup>f</sup>	e	e	No
Hydrochloric acid (reverse osmosis cleaning)	Hydrochloric acid (30%)	7647-01-0	100 gal	5,000 lb	16,667 lb	e	e	No
Laboratory reagents (liquid)	Various	None	10 gal	e	e	e	e	No
Laboratory reagents (solid)	Various	None	100 lb	e	e	e	e	No
Lubrication oil	Oil	None	40,000 gal	42 gal <sup>f</sup>	42 gal <sup>f</sup>	e	e	No
Mineral insulating oil	Oil	8012-95-1	80,000 gal	42 gal <sup>f</sup>	42 gal <sup>f</sup>	e	e	Yes
Oxygen	Oxygen	7782-44-7	880 cubic feet	e	e	e	e	No
Permatreat PC-191	Proprietary mixture	Proprietary	400 gal	e	e	e	e	No
Sodium hydroxide (50% solution)	Sodium hydroxide 50%	1310-73-2	500 gal	1,000 lb	2,000 lb	e	e	No
Sodium nitrate	Sodium nitrate	7631-99-4	500 lb. initially and once every 3 to 5 years	e	e	e	e	No
Sulfur hexafluoride	Sulfur hexafluoride	2551-62-4	200 lb	e	e	e	e	No
Trisodium phosphate	Sodium phosphate, tribasic	7601-54-9	400 gal	5,000 lb	5,000 lb	e	e	No

<sup>a</sup> Reportable quantity for a pure chemical, per the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) [Ref. 40 CFR 302, Table 302.4]. Release equal to or greater than RQ must be reported. Under California law, any amount that has a realistic potential to adversely affect the environment or human health or safety must be reported.

<sup>b</sup> Reportable quantity for materials as used onsite. Since some of the hazardous materials are mixtures that contain only a percentage of a reportable chemical, the reportable quantity of the mixture can be different than for a pure chemical. For example, if a material only contains 10% of a reportable chemical and the RQ is 100 lb., the reportable quantity for that material would be (100 lb.)/(10%) = 1,000 lb.

<sup>c</sup> Threshold Planning Quantity [Ref. 40 CFR Part 355, Appendix A]. If quantities of extremely hazardous materials equal to or greater than TPQ are handled or stored, they must be registered with the local Administering Agency.

<sup>d</sup> TQ is Threshold Quantity from 19 CCR 2770.5 (state) or 40 CFR 68.130 (federal)

<sup>e</sup> No reporting requirement. Chemical has no listed threshold under this requirement

<sup>f</sup> State reportable quantity for oil spills that will reach California state waters [Ref. CA Water Code Section 13272(f)]

**TABLE 4.12-3A 2A (BASED UPON TABLE 5.5-5 OF THE AFC, BOLDDED TEXT DENOTES ADDITIONAL HAZARDOUS MATERIALS ASSOCIATED WITH THE OCEAN WATER PURIFICATION PLANT)**  
**Combined List of Toxicity of Hazardous Materials for CECP – July 2008**

<b>Hazardous Materials</b>	<b>Physical Description</b>	<b>Health Hazard</b>	<b>Reactive &amp; Incompatibles</b>	<b>Flammability*</b>
Aqueous ammonia	Colorless liquid with pungent odor	<i>Corrosive: Irritation to permanent damage</i> from inhalation, ingestion, and skin contact.	Acids, halogens (e.g., chlorine), strong oxidizers, salts of silver and zinc.	Liquid is incombustible; Vapor is combustible, but difficult to burn
Citric acid	Translucent crystals	None.	None.	Non-flammable
Cleaning chemicals/detergents	Liquid	Refer to individual chemical labels.	Refer to individual chemical labels.	Refer to individual chemical labels
Diesel No. 2	Oily, light liquid	May be carcinogenic.	Sodium hypochlorite. Oxidizers.	Flammable
General dispersant (Cyanamer P-70)	Straw-colored liquid with ammonia odor	May irritate eyes and skin.	Strong acids and oxidizing agents.	Non-flammable
Hydraulic oil	Oily, dark liquid	Hazardous if ingested.	Sodium hypochlorite. Oxidizers.	Combustible
Hydrochloric acid	Colorless, pungent, fuming liquid	<i>Strongly Corrosive and Toxic: Toxic by</i> ingestion. Strong irritant to eyes and skin.	Metals, hydroxides, amines, alkalis.	Non-flammable
Laboratory reagents	Liquid and solid	Refer to individual chemical labels.	Refer to individual chemical labels.	Refer to individual chemical labels
Lubrication oil	Oily, dark liquid	Hazardous if ingested.	Sodium hypochlorite. Oxidizers.	Flammable
Mineral insulating oil	Oily, clear liquid	Minor health hazard.	Sodium hypochlorite. Oxidizers.	Can be combustible, depending on manufacturer
Oxygen	Colorless, odorless, tasteless gas	Therapeutic overdoses can cause convulsions. Liquid oxygen is an irritant to skin.	Hydrocarbons, organic materials.	Oxidizing agent; actively supports combustion
Permatreat PC-191	Mix of phosphonates	May cause irritation with prolonged contact	Strong oxidizing agents, strong acids	Not Flammable
Sodium hydroxide (50%)	Clear yellow liquid	<i>Corrosive: Irritant to tissue in presence of</i> moisture; strong irritant to tissue by ingestion.	Water, acids, organic halogens, some metals.	Non-flammable

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Sodium nitrate	Colorless crystals	<i>Toxic: Mildly toxic by ingestion.</i>	Acetic anhydride, aluminum powder, antimony powder, barium thiocyanate, cyanides, bitumen, boron phosphide, magnesium, metal amidosulfates, organic matter, perosyformic acid, sodium hypophosphite, wood.	Non-flammable
Sulfur hexafluoride	Colorless gas with no odor.	Hazardous if inhaled.	Disilane.	Non-flammable
Trisodium phosphate	Colorless crystals.	<i>Corrosive and Toxic: Toxic by ingestion.</i> Irritant to tissue.	None.	Non-flammable

Data were obtained from Material Safety Data Sheets (MSDSs) and Lewis (1991).

\* Per DOT regulations, under 49 CFR 173: 'Flammable' liquids have a flash point less than or equal to 141 °F; 'Combustible' liquids have a flash point greater than 141 °F.