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NORTHERN CALIFORNIA POWER AGENCY

POLLUTION PREVENTION PLAN

SPICER MEADOW POWERHOUSE SUMP

NORTH FORK STANISLAUS RIVER HYDROELECTRIC DEVELOPMENT PROJECT
(FERC PROJECT NO. 2409-CA)

PREPARED FOR:

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Table of Contents

List of Tables

List of Figures

SECTION 1
INTRODUCTION

Similar to Best Management Practices (BMPs), Pollution Prevention Plans (PPPs) (PLAN) are designed to prevent or control the discharge of pollutants. They may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. A PLAN is a written document that describes the operator's activities to comply with the requirements in the General Permit. The PLAN is intended to evaluate potential pollutant sources at the site and select and implement appropriate measures designed to prevent or control the discharge of pollutants.

According to Provision VII.3.e of the State Water Resources Control Board's (State Water Board) Order No. 2006-0008-DWQ, utility companies covered by the General Permit are required to implement a PLAN whenever there is a discharge. The PLAN shall include, to the extent possible, at least the following items:

i. Provisions for Scheduled Discharges, Unscheduled Discharges, Reservoir Discharges (if any), and Emergency Operation Discharges.

ii. Pollution Prevention Team. Each PLAN shall identify a specific individual or individuals within the utility's organization as members of a Pollution Prevention Team that are responsible for developing the PLAN and assisting the utility or plant manager in its implementation, maintenance, and revision. The PLAN shall clearly identify the responsibilities of the team and shall address all aspects of the utility's PLAN.

iii. Description of Potential Pollutant Sources. Each PLAN shall provide a description of potential sources that may add significant amounts of pollutants to discharges. Each PLAN shall identify all activities and significant materials that may potentially be significant pollutant sources. Each PLAN shall include at a minimum:

   a) Drainage Map. Provide a map showing the essential features of the distribution system for the service area within a specific Regional Water Board boundary and showing the corresponding surface waters to which water may be discharged.

   b) Inventory of Exposed Materials. Include an inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water from 3 years prior to the submission of the NOI for coverage under this General Permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff from 3 years prior to submission of the NOI for coverage under this General Permit and the present; the location and description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

c) Spills and Leaks. Include a list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas exposed to precipitation or that otherwise enter the discharge stream from 3 years prior to the date of submission of the NOI to be covered under the terms of this General Permit. The list shall be updated as appropriate during the term of this General Permit.

d) Risk Identification and Summary of Potential Pollutant Sources. Include a narrative description of the potential pollutant sources, such as from significant dust or particulate generating processes. The description shall specifically list any significant potential source of pollutants at the site and, for each potential source; any pollutant or pollutant's parameter (for example oil and grease, etc.) of concern shall be identified.

iv. Measures and Controls. Each discharger covered by this General Permit shall develop a description of PPP's appropriate for the site(s), and implement such controls. The appropriateness and priorities of PPP's in a PLAN must reflect identified potential sources of pollutants at the site. Also, the Discharger should discuss the advantages and limitations of the PPP. If relevant, include a structural diagram. The description of wastewater management controls shall address the following minimum components, including a schedule for implementing such controls:

a) Good Housekeeping. Maintain areas that may contribute pollutants to discharges so that they are kept clean and orderly. Store and contain liquid materials in such a manner that if the container is ruptured, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.

b) Preventive Maintenance. Inspect and maintain wastewater management devices as well as inspect and test site equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensure appropriate maintenance of such equipment and systems.

c) Spill Prevention and Response Procedures. Identify areas where potential spills, which can contribute pollutants to discharge, can occur and their accompanying drainage points. Specify material handling procedures, storage requirements, and use of equipment. Make accessible to the appropriate personnel the procedures for cleaning up spills identified in the PLAN. Make accessible the necessary equipment to implement a clean up. Note that if the spilled material is hazardous, then the clean up materials used are also hazardous and should be disposed of properly. For large spills, a private spill clean up company or Hazmat may be necessary.

d) Inspections. Identify qualified personnel, by name or job title, to inspect designated equipment and areas of the site, and ensure that appropriate actions are taken in response to the inspections. Maintain records of inspections. Inventory and inspect each discharge point during dry weather.

e) Employee Training. Train employees to implement activities identified in the PLAN. Address topics such as spill response, good housekeeping, and material management practices. Identify how often training will take place.

f) Record Keeping and Internal Reporting Procedures. Federal regulation requires that any oil spill into a water body be reported to the National Response Center at (800) 424-8802 (24 hours). The Discharger shall report spills to the appropriate local agency, such as the fire department, to assist in the clean up. Provide a description of incidents (such as spills or other discharges), along with other information describing the quality and quantity of the discharges. Document patterns in time of occurrence, mode of dumping, responsible parties, date and time of incident, weather conditions, duration and cause of spill/leak/discharge, response procedures, resulting environmental problems and persons notified. Document inspections and maintenance activities and maintain records of such activities. Include the date and time the inspection was performed, the name of the inspector, and the items inspected. If problems are noted, include the corrective action required and the date the action was taken.

g) Sediment and Erosion Control. Identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

h) Management of Runoff. Include a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage runoff in a manner that reduces pollutants in discharges from the site. The PLAN shall provide measures that the Discharger determines to be reasonable and appropriate measures.

v. Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations upon each discharge event. Such evaluations shall provide:

a) The Discharger shall visually inspect for evidence of, or the potential for, pollutants entering the receiving water(s). Evaluate measures to reduce pollutant loadings to determine whether they are adequate and properly implemented in accordance with the terms of this General Permit or whether additional control measures are needed. Ensure that structural wastewater management measures, sediment and erosion control measures, and other structural PPPs identified in the PLAN are operating correctly. Perform a visual inspection of equipment needed to implement the PLAN, such as spill response equipment.

b) Based on the results of the evaluation, the Discharger shall revise, as appropriate, the description of potential pollutant sources identified in the PLAN in accordance with item iii of this section (Description of Potential Pollutant Sources) and PPPs identified in the PLAN with item iv of this section (Measures and Controls) within two weeks of such evaluation and shall provide timely implementation of any changes to the PLAN.

c) Write and retain for 3 years, a report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the PLAN, and actions taken in accordance with item iv.b, above. Identify any incidents of noncompliance or certify that the site(s) is in compliance with the PLAN, and this General Permit. The report shall be signed in accordance with signatory requirements of this General Permit.

In accordance with Provision VI.3.f of the General Permit, additional requirements include:

i. The PLAN shall be designed to comply with BAT/BCT and to ensure compliance with WQS.

ii. The Discharger shall amend the PLAN whenever there is a change in construction, operation, or maintenance, when such amendment is necessary to ensure compliance with BAT/BCT and receiving water limits. The PLAN shall also be amended if it is in violation of any conditions of this General Permit or has not achieved the general objective of controlling pollutants in discharges to surface waters. The Discharger shall submit the amended PLAN to the Regional Water Board.

iii. The PLAN and any amendments thereto shall be certified in accordance with the signatory requirements of Standard Provision B.2.

SECTION 2
GENERAL DESCRIPTION OF THE PROJECT

The Spicer Meadow Powerhouse includes three turbines with a total generating capacity of 5.5 megawatts (MW). It is on the outlet works of Spicer Meadow Dam, a 265-foot high rock-filled dam with an upstream concrete face, located on Highland Creek in Tuolumne County (Figure 1). It is owned by the Calaveras County Water District and operated by the Northern California Power Agency.

The Spicer Meadow Powerhouse contains a sump which collects drainage from within the powerhouse. The powerhouse sump, located under the south side of the powerhouse, is an 8-foot wide, 8-foot long, and 7-foot deep concrete pit (3,350 gallons capacity) which has a baffle that divides the sump into two chambers. The 42-inch high baffle begins 6 inches from the bottom of the sump and extends to 36 inches from the top.

All powerhouse drainage enters the eastern most portion of the sump. Fluids from the western most portion of the sump and pumped by two electrical pumps which discharge about 500 gallons per minute into the powerhouse afterbay (tributary to Highland Creek). The first pump is automatically activated when the water elevation in the sump reaches 6,359 feet (≈ 12 inches from the top of the baffle, 48 inches of freeboard). The second pump is activated when the water elevation in the sump reaches 6,359.5 feet (≈ 6 inches from the top of the baffle, 42 inches of freeboard). The pumps stop automatically when the water level decreases to a depth of about 24 inches.

The sump is inspected at least once per month. Waste oil is removed from the sump when hand measurements indicate that there is approximately a 1-foot build-up of oily substances in the eastern most portion of the sump. Waste oils are pumped directly from the sump into a properly licensed service truck which recycles and/or disposes of the waste at approved locations.

The effluent from the sump has been monitored every twelve months for total petroleum hydrocarbons (EPA Method 418.1, detection limit 0.05 mg/l) and oil and grease (EPA Method 413.8[1], detection limit 0.1 mg/l). If detectable levels are found, the California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is notified and no further discharges from the sump are made until approved by the Regional Water Board.

On July 19, 2006, the State Water Board adopted Order No. 2006-0008-DWQ (NPDES Permit CAG990002), General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from Utility Vaults and Underground Structures to Surface Waters. That permit requires annual monitoring of the following parameters:

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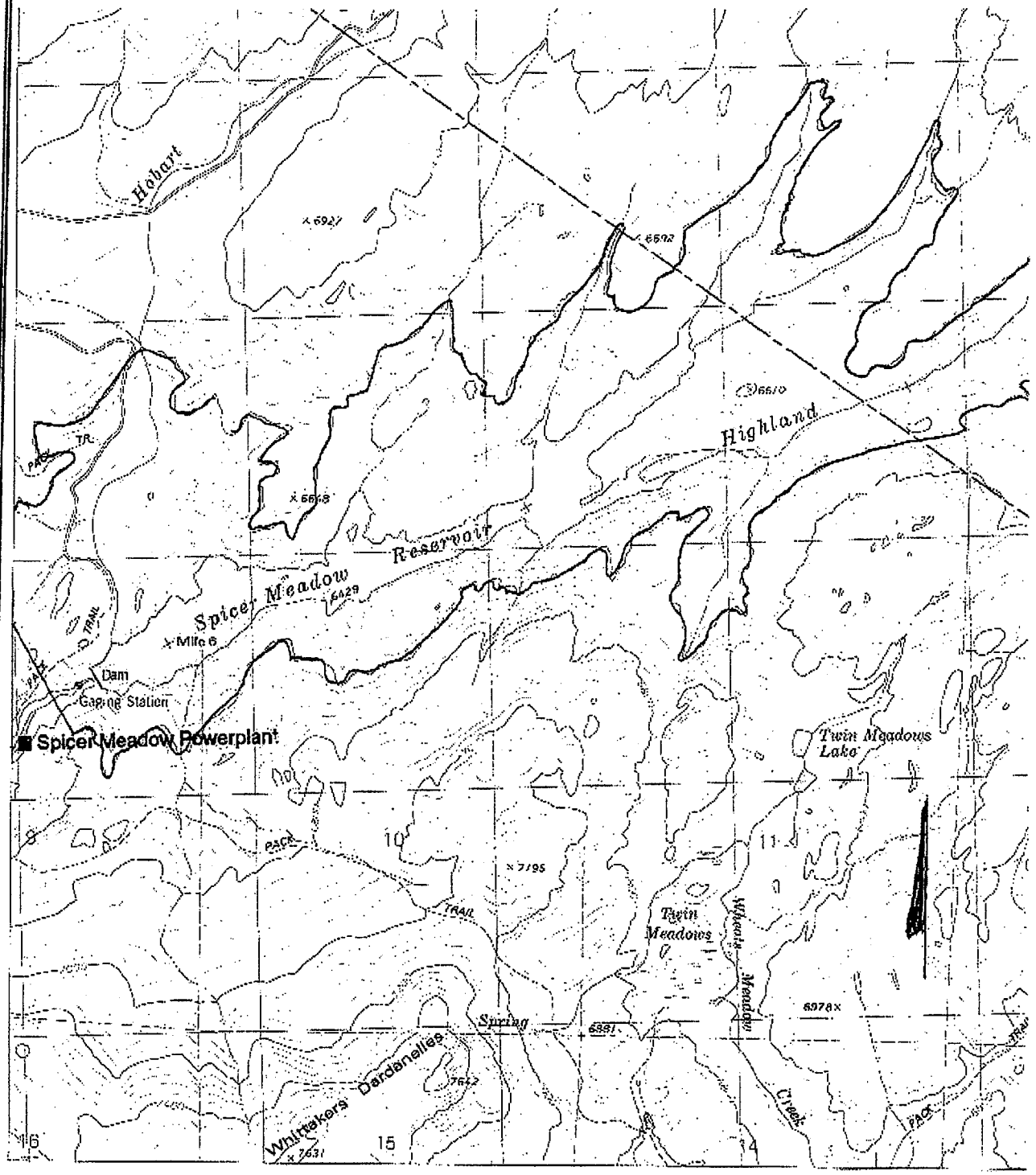
[1] Since 2006, EPA Method 1664A has been utilized in the analyses of oil and grease in accordance with the November, 3, 2005 approval by Erin Mustain, State Water Board.



Scale: 1:24,000 (1" = 2,000')

Source: USGS 7.5' Topographic Map
Spicer Meadow Reservoir, California

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Figure 1
Spicer Meadow Powerplant Location

Application for Permit to Discharge Wastewater
Northern California Power Agency

- Total petroleum hydrocarbons as gasoline [report benzene, toluene, ethylene and xylene (BTEX)].
- Total petroleum hydrocarbons as diesel.
- Total oil and grease.
- pH.
- Total suspended solids.

There are several facilities at the Spicer Meadow Powerhouse which drain to the powerhouse sump. In addition, most of these facilities contain various volumes of hazardous materials and/or potentially environmentally damaging substances which have the potential to drain to the sump in case of a spill. A listing of these facilities and their associated hazardous materials and/or environmentally damaging substances is provided below:

Location	Material	Volume	MSDS*
DC System	Acid	40 gallons	1016C
Emergency Diesel System	Diesel Fuel	775 gallons	1004
	Lubricating Oil	4.5 gallons	1014
	Coolant	10 gallons	1003
	Acid	2 gallons	1016
Howell-Bunger Valve Governor	Hydraulic Fluid	40 gallons	1007
Generator Bearing Oil Systems	Bearing Oil	122 gallons	1008
Governor Cooling Water	Heated Effluent	5 gpm	N/A
Turbine Sealing System	No Pollutant		N/A
Butterfly Valve and Wicket Gate Governors	Hydraulic Fluid	157 gallons	1007
Station Service Water	1% Chlorine	15 gallons	1002
Transformer	Transformer Oil	960 gallons	1017
Fire Control System	Ammonium Phosphate	5 fire extinguishers	1005

* MSDS refers to material safety data sheets contained in Appendix A.

Each of these systems is discussed in detail below. In addition, at the Spicer Meadow Powerhouse all piping is color coded as follows: CO_2, red; water, blue; oil, yellow; and all containers are labeled appropriately.
DC System

DC System

The DC system, located in the lower southwest corner of the powerhouse provides 125 volt power to the switchgear for the control units. The DC system includes 8 stacked modules of batteries, with 58 cells. These batteries contain a total volume of 40 gallons of sulfuric acid.

The DC system is not contained; however, the batteries are a non-spillage type which does not allow the acid to spill.

Emergency Diesel System

The Emergency Diesel System, located on the upper southeast corner of the Powerhouse, provides back-up power to station pumps.

Two diesel fuel storage tanks are located at this facility. One diesel fuel storage tank is a 750-gallon underground storage tank located outside the southeast corner of the Powerhouse. The underground storage tank was installed under Tuolumne County Environmental Health Department Permit No. 201-46ET001, Facility ID # 55002014601, Board of Equalization UST Storage Fee Account # TY(TK)HQ44-03905 which expires annually. The integrity of the underground tank is monitored by an electronic system. The second diesel fuel storage tank at this facility is an above ground 25-gallon tank located in the upper southeast corner of the Powerhouse. Other materials utilized in the emergency diesel system include 4.5 gallons of lubricating oil, 10 gallons of coolant, and 2 batteries containing a total of 2 gallons of sulfuric acid.

When needed, lubricating oil, coolant, and battery acid are replenished from small containers brought to the site from the Murphys warehouse. The diesel fuel storage tanks are serviced by an independent service truck, which supplies fuel on an as-needed basis.

Except for the underground storage tank, there are no containment facilities at this site. However, in the case of a spill, liquids would drain through the floor drain into the lower level of the Powerhouse Sump.

Howell-Bunger Valve Governor

Located in the lower northeast corner of the Powerhouse, the Howell-Bunger Valve Governor is used to operate the Howell-Bunger valves on the 48-inch and 12-inch diameter by-pass pipes. The governor contains 40 gallons of hydraulic fluid.

When needed, hydraulic fluid is brought to the site from supplies at the Murphys warehouse. Small quantities may be stored on-site for operational needs.

There are no containment facilities at this site. However, in the case of a spill, hydraulic fluid would drain into the floor drains and thence into the Powerhouse Sump.

Generator Bearing Oil Systems

Two Generator Bearing Oil Systems, located on the south side of Units 1 and 2, provide lubrication to the generator bearings in Units 1 and 2. The Unit 3 generator, which is considerably smaller, uses grease for lubrication. The Unit 1 and 2 generator oil-bearing systems each contain 61 gallons of bearing oil *(total of 122 gallons)*.

Bearing oil is added as needed from small containers brought from the Murphys warehouse. Small quantities may be stored on-site for operational needs.

The Unit 1 and 2 generator oil-bearing systems are contained in a 3-foot wide, 5-foot long, 2-foot deep concrete pit. In the case of a spill, all bearing oil would be contained in the concrete pit unless the spill occurred where the flexible tubing connects to the High Pressure Oil Pump. In that case, the bearing oil would drain into the Powerhouse Sump.

Governor Cooling Water Systems

The three governor cooling water systems, located on the north side of Units 1 and 2, provide cooling water to the three butterfly valves and wicket gate governors. Water is withdrawn from the power tunnel and gravity flows into the governor systems. The slightly heated water (≈ 5 gallons per minute) is discharged into the turbine water discharge (≈ 180 cubic feet per second = 80,800 gallons per minute) which enters the powerhouse afterbay. Due to the small volume of heated effluent and the approximate 16,200 to 1 dilution by the turbine water, there is no measurable effect on the receiving water.

Turbine Sealing Systems

The three turbine sealing systems, located on the north side of Units 1, 2 and 3 provide water to the turbine seals. Water is withdrawn from the power tunnel and gravity flows to the turbine. There are no hydraulic fluids, lubricators, etc., associated with the turbine sealing system nor does the water used in the system gain or lose any heat. Turbine sealing system water is released into a depression at the units and then drains into the powerhouse sump.

Butterfly Valve and Wicket Gate Governors

The three Butterfly Valve and Wicket Gate Governors, located on the west side of Units 1, 2, and 3, operate the turbine inlet butterfly valves and wicket gates. The two Unit 1 and 2 governors each contain 66 gallons of hydraulic fluid, while the Unit 3 governor contains 25 gallons of hydraulic fluid *(total of 157 gallons)*.

Hydraulic fluid is replenished as needed from supplies brought from the Murphys warehouse. Small quantities may be stored on-site for operational needs.

There are no containment systems at this facility. However, in the case of a spill, hydraulic oil would drain into the Powerhouse Sump.

Station Service Water System

The station service water system, located in the lower southwest corner of the powerhouse, provides potable water for the powerhouse. A 15-gallon chlorine (1% solution) storage tank is utilized in this system.

Chlorine (hypochlorite solution) is replenished as needed from supplies brought from the Murphys warehouse. No supplies are stored on site.

There are no containment facilities for this system; however, in the case of a spill, the chlorine solution would drain into the powerhouse sump.

Powerhouse Transformer

The Spicer Meadow Powerhouse Transformer, in the Transformer Yard outside of the southwest corner of the Powerhouse, converts 4.16 kV power from the generators to 21 kV power for transmission. The transformer contains 960 gallons of transformer oil.

Transformer oil is replenished from small containers brought from the Murphys warehouse as needed. No supplies are stored on-site.

In the case of a spill, transformer oil would drain into the 500-gallon capacity concrete containment area and then drain through a PVC pipe into the Powerhouse Sump

Fire Control System

The Spicer Meadow Powerhouse fire control system contains the following components:

Components	Upper Level	Lower Level
Chemical Fire Extinguisher (Ammonium Phosphate Base) Class 4-A: 60B:C	2	3
Fire Water Hose	1	1
Fire Alarm (Manual)	1	---

Fire Alarm (Automatic)	1	---

The water hose draws water from the power tunnel, unless the tunnel is dewatered, at which times water is pumped from the afterbay.

When needed, the chemical fire extinguishers are recharged by a company specializing in that work.

Should it become necessary to utilize the fire control system, all drainage would flow to the powerhouse sump.

SECTION 3
SCHEDULED DISCHARGES

Types of Discharges that Occur

As previously sated in Section 2, the Spicer Meadow Powerhouse contains a sump which collects drainage from within the powerhouse and ancillary facilities. The two chambered powerhouse sump is an 8-foot wide, 8-foot long, and 7-foot deep concrete pit. It has a 42-inch high central baffle which begins 6 inches from the bottom of the sump and extends to 36 inches from the top of the chamber.

Also as previously stated in Section 2, all powerhouse drainage enters the eastern most portion of the sump. Fluids from the western most portion of the sump are pumped by two electrical pumps with a combined capacity of about 500 gallons per minute (gpm) into the powerhouse afterbay (tributary to Highland Creek). The first pump is automatically activated when the water elevation in the sump reaches 6,359.5 feet and the second sump is activated when the water elevation in the sump reaches 6,359.5 feet (≈6 inches from the top of the baffle and 42 inches freeboard). The pumps stop automatically when the water level decreases to a depth of about 24 inches.

There are no other scheduled discharges at this facility.

Pollutant Constituents Expected in the Discharge

During the preparation of the May 1999 Pollution Prevention Plan, a grab sample was collected at the sampling port on March 3, 1999. The results of that sampling are provided in Table 3-1.

Table 3-1
Sampling Results at Spicer Meadow Powerhouse Sump

Parameter	Result	Detection Limit	Dilution Factor
Total Kjeldahl Nitrogen, mg/l	0.34	0.20	1.0
Methylene Blue Active Substances, mg/l	ND	0.10	1.0
Color, color units	0		1.0
Odor, threshold odor number	0		1.0
Turbidity, NTU	<1.0		1.0
Total Organic Carbon, mg/l	2.1	2.0	1.0
Total Suspended Solids, mg/l	ND	5.0	1.0
Fluoride, mg/l	ND	0.050	1.0
Nitrate + Nitrite as N, mg/l	ND	0.10	1.0
Sulfide, mg/l	ND	1.0	1.0
Biochemical Oxygen Demand, mg/l	ND	3.0	1.0
Residual Chlorine, mg/l	0.020		1.0

Ammonia as N, mg/l	ND	0.20	2.0
Chemical Oxygen Demand, mg/l	ND	10	1.0
N-Hexane Extractable Material, mg/l	ND	5.0	1.0
Total Phosphorus, mg/l	--	0.050	1.0
Bromide, mg/l	ND	0.50	1.0
Sulfate, mg/l	0.63	0.50	1.0
Aluminum, mg/l	ND	0.200	1.0
Barium, mg/l	ND	0.020	1.0
Cobalt, mg/l	ND	0.020	1.0
Iron, mg/l	ND	0.10	1.0
Magnesium, mg/l	ND	1.00	1.0
Manganese, mg/l	ND	0.020	1.0
Molybdenum, mg/l	ND	0.020	1.0
Tin, mg/l	ND	0.50	1.0
Boron, mg/l	ND	0.050	1.0
Titanium, mg/l	ND	0.050	1.0
pH, standard units	7.25		
Ecoli	--	0	1.0
Fecal Coliform	--	0	1.0
Coliform	<2	0	1.0

In addition, grab samples were collected on five separate occasions and analyzed for N-hexane extractable material, total suspended solids, and pH. The results of that sampling are provided in Table 3-2.

Table 3-2
Sampling Results at Spicer Meadow Powerhouse Sump

Constituent	Units	12/08/99	1/18/00	2/23/00	3/14/00	3/31/00
N-Hexane Extractable Material	mg/l	ND	ND	ND	ND	ND
Total Suspended Solids	mg/l	5.0	ND	ND	ND	6.0
pH	units	7.8	7.43	7.58	7.36	7.25

Notes: ND = non-detectable levels.
N-Hexane Extractable Material by EPA Method 1664, reportable limit 5.0 mg/l.
Total Suspended Solids by EPA Method 160.2, reportable limit 5.0 mg/l.
pH by EPA Method 9040.

As stated above, the Northern California Power Agency has also taken grab samples of the effluent on an annual basis and analyzed them for total petroleum hydrocarbons and total oil and grease. The results of that sampling are provided in Table 3-3.

Table 3-3
Sampling Results at Spicer Meadow Powerhouse Sump

Sampling Date	Total Petroleum Hydrocarbons as Diesel	Total Petroleum Hydrocarbons as Motor Oil	Total Petroleum Hydrocarbons	Total Oil and Grease
June 5, 2001	ND	ND	---	ND
May 9, 2002	---	---	ND	ND
May 22, 2003	---	---	ND	ND
May 26, 2004	---	---	ND	ND
July 22, 2005	ND	---	700 µg/l	100 µg/l
August 26, 2005	ND	---	ND	ND
June 13, 2006	ND	ND	---	ND
June 6, 2007	ND	---	---	ND

Notes: ND = Non-detectable levels.
- - - = Not analyzed.
August 26, 2005 sampling conducted after completion of remedial measures.

During the preparation of this Pollution Prevention Plan an additional sample of the effluent from the Spicer Meadow Powerhouse sump was collected. The results of that sampling are provided in Table 3-4.

Table 3-4
Sampling Results at the Collierville Sump Discharge
February 4, 2008

Parameter	Results	Reporting Limit	Method
TPHg	ND	50 µg/l	8015M DHS
Benzene	ND	1 µg/l	8260B DHS
Toluene	ND	1 µg/l	8260B DHS
Ethylbenzene	ND	1 µg/l	8260B DHS
Xylene	ND	1 µg/l	8260B DHS
TPHd	ND	50 µg/l	8015M DHS
TPHd w/silica gel	ND	50 µg/l	8015M DHS
pH	7.0		EPA 150.1
Total Suspended Solids	ND	2.0 mg/l	EPA 160.2
Oil and Grease	ND	1000 µg/l	EPA 1664
Oil & Grease w/silica gel	ND	1000 µg/l	EPA 1664

Analysis by Sparger Technologies, Inc., Environmental Laboratories, DHS Certification No. 1614.

As can be seen by the above sampling results, the discharge from the Collierville Sump is in compliance with the terms of Order No. 2006-0008-DWQ, NPDES No. CAG990002), *General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from Utility Vaults and Underground Structures to Surface Waters.*

Also as can be seen by the data provided in Tables 3-1, 3-2, 3-3 and 3-4, the discharge from the Spicer Meadow Powerhouse sump does not contain concentrations of any constituent that would violate applicable water quality objectives for the receiving waters, including prohibition of discharge nor cause acute or chronic toxicity in the receiving waters.

Approximate Duration of Discharge

As previously stated, fluids from the western most portion of the sump are pumped by two electrical pumps which discharge about 500 gallons per minute (combined discharge) into the powerhouse afterbay. The first pump is activated when the water elevation in the sump reaches 6,359 feet. The second pump is activated

when the water elevation in the sump reaches 6,359.5 feet. The pumps stop automatically when the water level decreases to a depth of about 24 inches.

Also as previously stated, the sump is a concrete pit that is 8.0 feet wide, 8 feet long and 7.0 feet deep. Therefore, the volume of water that would be pumped by the first pump is equal to about 720 gallons.

[8.0 feet x 8.0 feet x 1.5 feet x 7.48 gallons per cubic foot ≈ 720 gallons]

Each pump has a capacity of about 250 gallons per minute; therefore, the first pump would run for about 3 minutes before it was automatically shut off. It is doubtful if the second pump would ever start under these conditions.

It is estimated that approximately 156,000 gallons of water is pumped from the sump on an annual basis. Therefore, it is estimated that the discharge would occur approximately every other day.

[156,000 gallons per year ÷ 365 days per year ≈ 430 gallons per day]

Existing Structural and Non-Structural Control Measures

As previously stated in Section 2, all drainage from the powerhouse facilities enters the easternmost portion of the powerhouse sump. A baffle divides the powerhouse sump into two chambers. An automatic skimmer is installed in the first chamber and absorbent booms are provided in the westernmost portion of the sump to further control any floating materials that might possibly enter this section of the sump.

Also as previously stated in Section 2, the sump is inspected at least once per month. Waste oil is removed from the sump when hand measurements indicate that there is approximately a 1-foot build-up of oily substances in the easternmost portion of the sump. Waste oils are pumped directly from the sump into a properly licensed service truck which recycles and/or disposes of the waste at approved locations.

Effluent from the sump will be monitored every twelve months for total petroleum hydrocarbons as gasoline (report benzene, toluene, ethylene and xylene), total petroleum hydrocarbons as diesel, total oil and grease, pH and total suspended solids. If detectable levels of total petroleum hydrocarbons or total oil and grease are found, the California Regional Water Quality Control Board, Central Valley Region (CRWQCB, CVR) will be notified and no further releases from the sump will be made until approved by the CRWQCB, CVR.

SECTION 4
UNSCHEDULED DISCHARGES

There are no unscheduled discharges associated with the Spicer Meadow Powerhouse Sump.

SECTION 5
RESERVOIR DISCHARGES

There are no direct reservoir discharges associated with the Spicer Meadow Powerhouse Sump.

SECTION 6
EMERGENCY OPERATION DISCHARGES

There is no emergency operation discharges associated with the Spicer Meadow Powerhouse Sump.

SECTION 7
POLLUTION PREVENTION TEAM

The Northern California Power Agency has developed a Spill Prevention, Control and Countermeasure Plan for the North Fork Stanislaus River Hydroelectric Development Project (January 2008) which includes the Spicer Meadow Powerhouse.

As shown in the SPCC Plan, those responsible for pollution prevention include:

Ed Warner, Manager, Hydroelectric Operations
(209) 728-1387 ext. 22
Residence: (209) 736-9976
Cell: (209) 763-5887

Barry Sullivan, Operations Supervisor
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Sandy Rainey, Technical Supervisor
(209) 728-1387 ext. 34
Residence: (209) 296-4890
Cell: (209) 768-5889

Randy Bowersox
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Residence: (530) 672-8452
Cell: (209) 762-2779

SECTION 8
MONITORING AND EVALUATION

As shown previously in Section 3, a grab sample of the discharge was taken on March 3, 1999 and analyzed for a variety of constituents. The results of that sampling were provided in Table 3-1. In addition, five grab samples were taken and analyzed for N-hexane extractable materials, total suspended solids, and pH. The results of that sampling were provided in Table 3-2. Annual grab samples were also taken and analyzed for total petroleum hydrocarbons and total oil and grease. The results of that sampling were provided in Table 3-3. During the preparation of this plan, an additional sampling was taken. The results of that sampling were provided in Table 3-5.

As can be seen by the data provided in Tables 3-1, 3-2, 3-3 and 3-4, the discharge from the Spicer Meadow Powerhouse sump does not contain concentrations of any constituent that would violate applicable water quality objectives for the receiving waters, including prohibition of discharge, nor cause acute or chronic toxicity in the receiving waters.

In the future, in accordance with the terms of the general permit's monitoring and reporting program, effluent from the sump will be monitored every twelve months for total petroleum hydrocarbons as gasoline (report BTEX), total petroleum hydrocarbons as diesel, total oil and grease, pH and total suspended solids. If detectable levels of total petroleum hydrocarbons or total oil and grease are found, the California Regional Water Quality Control Board, Central Valley Region (CRWQCB, CVR) will be notified and no further releases from the sump will be made until approved by the CRWQCB, CVR.

SECTION 9
ALTERNATIVES TO DISCHARGING TO SURFACE WATERS

The Spicer Meadow Powerhouse is located in the Highland Creek watershed which is surrounded by steep terrain on lands administered by the U.S. Forest Service. Due to the steep terrain, there are no alternatives to discharging to surface waters.

SECTION 10
CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Ed Warner, Manger, Hydroelectric Operations
Northern California Power Agency

3/10/08
Date

APPENDIX A
MATERIAL SAFETY DATA SHEETS

APPENDIX A
MATERIAL SAFETY DATA SHEETS

Appendix A contains the Material Safety Data Sheets (MDSD) for those chemicals utilized at the Spicer Meadow Powerhouse. A summary of the MSDS's is provided below:

MSDS No.	Trade Name	Common Usage
1002	Regular Chlorine Bleach	Sodium Hypochlorite
1003	02055 Startex Anti-freeze Coolant	Coolant
1004	00449 Texaco Diesel 2	Diesel Fuel
1005	Pyro Chem Dry Chemical Fire Extinguisher	Ammonium Phosphate
1006	00995 Multifak EP 2	Industrial Gear Oil
1007	01657 Rando Oil HD 32	Hydraulic Fluid
1008	02778 Rando Oil HD 100	Generator Bearing Oil
1014	Caterpillar CD/SF Plus 10W30	Diesel Engine Oil
1016	Sulfuric Acid	Sulfuric Acid
1016C	Valve Regulated Lead Acid Battery	Electric Storage Battery
1017	Shell Diala7 Oil AX	Transformer Oil
1021	Waste Oil	Various Oil Products

EXIDE TECHNOLOGIES

MATERIAL SAFETY DATA SHEET

1016C

I. PRODUCT IDENTIFICATION

MANUFACTURER
GNB Industrial Power
A Division of Exide Technologies
3950 Sussex Avenue
Aurora, IL 60504-7932

CHEMICAL/TRADE NAME (as used on label): ABSOLYTE IIP, CHAMPION, and ELEMENT Valve Regulated Lead Acid Battery

FOR INFORMATION
Primary: MACTEC Engineering and Consulting, Inc.
Attention: DeLyn Thompson (770) 421-3364
Secondary: Environmental, Safety & Health
Attention: Fred Ganster (610) 921-4052

CHEMICAL FAMILY/ CLASSIFICATION: Electric Storage Battery

DATE ISSUED: November 1, 2006

FOR EMERGENCY
CHEMTREC (800) 424-9300
24-hour Emergency Response Contact
Ask for Environmental Coordinator

CHEMTREC INTERNATIONAL (703) 527-3887 - Collect

II. HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

			Approximate Air Exposure Limits ($\mu g/m^3$)		
Components	CAS Number	% by Wt.	OSHA	ACGIH	NIOSH
Inorganic components of:					
Lead	7439-92-1	67-77	50	50	50
Antimony	7440-36-0	0.2-0.4	500	500	500
Cadmium	7440-43-9	0.2-0.3	5	2*	Ca‡
Copper	7440-50-8	< 1	1000†	1000	1000 †
Tin	N/A	< 0.2	2000	2000	2000
Electrolyte (sulfuric acid)	7664-93-9	18-23	1000	200	1000
Case Material:					
Polypropylene	9003-07-0	2-5	N/A	N/A	N/A
Separator	N/A	2-3	N/A	N/A	N/A

† As metal dust
* Respirable fraction
‡ Any substance that NIOSH considers to be a potential occupational carcinogen is designated by the notation "Ca."
NOTE: Inorganic lead and electrolyte (water and sulfuric acid solution) are the primary components of every battery manufactured by Exide Technologies or its subsidiaries. Other ingredients may be present dependent upon battery type. Polypropylene is the principal case material of automotive and commercial batteries.

III. PHYSICAL DATA

Boiling Point (Electrolyte)	203° F (at 760 mm Hg)	Specific Gravity (H_20=1)	1.230 to 1.350
Melting Point	Not Applicable	Vapor Pressure (mm Hg at 20 °C)	10
Solubility in Water	100%		
Evaporation Rate (Butyl acetate=1)	Less Than 1	Vapor Density (AIR=1)	Greater than 1
Appearance and Odor	A clear liquid with a sharp, penetrating, pungent odor. A battery is a manufactured article; no apparent odor.	% Volatiles by Weight	Not Applicable

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable

Flammable Limits: LEL = 4.1% (Hydrogen Gas in air) ; UEL = 74.2%

Extinguishing media: CO_2; foam; dry chemical

Special Fire Fighting Procedures:

Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but, note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.

Unusual Fire and Explosion Hazards:

In operation, or when on charge, batteries generate hydrogen and oxygen gases (hydrogen is highly flammable and oxygen supports combustion). They must always be assumed to contain these gases which, if ignited by burning cigarette, naked flame or spark, may cause battery explosion with dispersion of casing fragments and corrosive liquid electrolyte. Carefully follow manufacturer's instructions for installation and service. Keep away all sources of gas ignition, ensure that adequate ventilation is provided, and do not allow metallic articles to simultaneously contact the negative and positive terminals of a battery.

V. REACTIVITY DATA

Stability: Stable _X_ Unstable ___

Conditions to Avoid: Prolonged overcharging and overheating current; sparks and other sources of ignition.

Incompatibility: (materials to avoid)

Electrolyte: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, most metals, carbides, chlorates, nitrates, picrate, sulfur trioxide gas, strong oxidizers, and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.

Lead compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, potassium, carbides, sulfides, phosphorus, sulfur, and reducing agents.

Hazardous Decomposition Products:

Electrolyte: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, hydrogen sulfide, hydrogen.

Lead compounds: Temperatures above the melting point are likely to produce toxic metal fume, vapor, or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

Hazardous polymerization: May Occur _____ Will Not Occur _X_

VI. HEALTH HAZARD DATA

Routes of Entry:

Electrolyte: Harmful by all routes of entry. Under normal conditions of use, sulfuric acid vapors and mist are not generated. Sulfuric acid vapors and mist may be generated when product is overheated, oxidized, or otherwise processed or damaged.
Lead compounds: Under normal conditions of use, lead dust, vapors, and fumes are not generated. Hazardous exposure may occur when product is heated above the melting point, oxidized or otherwise processed or damaged to create dust, vapor, or fume.

Inhalation:

Electrolyte: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.
Lead compounds: Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.

Ingestion:

Electrolyte: May cause severe irritation of mouth, throat, esophagus, and stomach.
Lead compounds: Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead rapidly to systemic toxicity. Acute ingestion should be treated by physician.

Skin Contact/Skin Absorption

Electrolyte: Severe irritation, burns, and ulceration. Sulfuric acid is not readily absorbed through the skin.
Lead compounds: Not readily absorbed through the skin.

Eye Contact:

Electrolyte: Severe irritation, burns, cornea damage, blindness.
Lead compounds: May cause eye irritation.

VI. HEALTH HAZARD DATA (CONTINUED)

Effects of Overexposure - Acute:

Electrolyte: Severe skin irritation, burns, damage to cornea may cause blindness, upper respiratory irritation.
Lead compounds: Headache, fatigue, abdominal pain, loss of appetite, nausea, vomiting, diarrhea, muscular aches and weakness, sleep disturbances, and irritability.

Effects of Overexposure - Chronic:

Electrolyte: Possible erosion of tooth enamel; inflammation of nose, throat, and bronchial tubes, and scarring of the cornea.
Lead compounds: Anemia; neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in both males and females.

Carcinogenicity:

Electrolyte: The National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC) have classified "strong inorganic acid mist containing sulfuric acid" as a substance that is carcinogenic to humans. This classification does not apply to sulfuric acid solutions in static liquid state or to electrolyte in batteries. Batteries subjected to abusive charging at excessively high currents for prolonged periods of time without vent caps in place may create a surrounding atmosphere of the offensive strong inorganic acid mist containing sulfuric acid.
Lead compounds: Listed as a 2B carcinogen, likely in animals at extreme doses. Proof of carcinogenicity in humans is lacking at present.

Medical Conditions Generally Aggravated by Exposure:

Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of electrolyte (water and sulfuric acid solution) with skin may aggravate skin diseases such as eczema and contact dermatitis. Contact of electrolyte (water and sulfuric acid solution) with eyes may damage cornea and/or cause blindness. Lead and its compounds can aggravate some forms of kidney, liver, and neurologic diseases.

Emergency and First Aid Procedures:

Inhalation:

Electrolyte: Remove to fresh air immediately. If breathing is difficult, give oxygen.
Lead compounds: Remove from exposure, gargle, wash nose, eyes and lips; consult physician.

Ingestion:

Electrolyte: Give large quantities of water; **do not** induce vomiting; consult physician.
Lead compounds: Consult physician immediately.

Skin:

Electrolyte: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes, and do not wear again until cleaned. If acid is splashed on shoes, remove and discard if they contain leather.
Lead compounds: Wash immediately with soap and water. Lead compounds are not readily absorbed through the skin.

Eyes: Electrolyte and Lead compounds: Flush immediately with large amounts of water for at least 15 minutes; consult physician immediately.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storage:

Store batteries under roof in cool, dry, well-ventilated areas that are separated from incompatible materials and from activities which may create flames, sparks, or heat. Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit. Single batteries pose no risk of electric shock but there may be increasing risk of electric shock from strings of connected batteries exceeding three 12-volt units.

Charging:

There is a possible risk of electric shock from charging equipment and from strings of series connected batteries, whether or not being charged. Shut-off power to chargers whenever not in use and before detachment of any circuit connections. Batteries being charged will generate and release flammable hydrogen gas. Charging space should be ventilated. Keep battery vent caps in position. Prohibit smoking and avoid creation of flames and sparks nearby. Wear face and eye protection when near batteries being charged.

Spill or Leak Procedures:

Remove combustible materials and all sources of ignition. Stop flow of material and contain spill by diking with soda ash, etc. Carefully neutralize spill with soda ash, etc. Make certain mixture is neutral then collect residue and place in a drum or other suitable container with a label specifying "contains hazardous waste" or (if uncertain call distributor regarding proper labeling procedures). Dispose of as hazardous waste. If battery is leaking, place battery in a heavy duty plastic bag. Wear acid resistant boots, face shield, chemical splash goggles and acid resistant gloves. DO NOT RELEASE UNNEUTRALIZED ACID.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE (CONTINUED)

Waste Disposal Methods:

Sulfuric Acid: Neutralize as described above for a spill, collect residue and place in a container labeled as containing hazardous waste. Dispose of as a hazardous waste. If uncertain about labeling procedures, call your local battery distributor or listed contact. DO NOT FLUSH LEAD CONTAMINATED ACID TO SEWER.

Spent batteries: Send to secondary lead smelter for recycling following applicable federal, state, and local regulations.

Precautionary Labeling:

POISON - CAUSES SEVERE BURNS
DANGER - EXPLOSIVE GASES
CORROSIVE - CONTAINS SULFURIC ACID
KEEP AWAY FROM CHILDREN

VIII. CONTROL MEASURES

Engineering Controls and Work Practices:

Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid-resistant.
Handle batteries cautiously. Make certain vent caps are on securely. If battery case is damaged, avoid bodily contact with internal components. Wear protective clothing, eye and face protection, when charging or handling batteries. Follow all manufacturers' recommendations when stacking or palletizing. Do not allow metallic materials to simultaneously contact both the positive and negative terminals of the batteries. Use a battery carrier to lift a battery or place hands at opposite corners to avoid spilling acid through the vents. Avoid contact with internal components of the batteries.

Hygiene Practices:

Wash hands thoroughly before eating, drinking or smoking after handling batteries.

Respiratory Protection:

None required under normal conditions. If an overcharging or overheating condition exists and concentrations of sulfuric acid mist are known or suspected to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

Protective Clothing:

None required under normal conditions. If battery case is damaged, use rubber or plastic acid-resistant gloves with elbow-length gauntlet and acid-resistant apron, clothing, and boots.

Eye Protection:

None required under normal conditions. If battery case is damaged, chemical goggles or face shield.

Emergency Flushing:

In areas where water and sulfuric acid solutions are handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.

IX. OTHER REGULATORY INFORMATION

NFPA Hazard Rating for sulfuric acid:

Flammability (Red) = 0 Health (Blue) = 3 Reactivity (Yellow) = 2
Sulfuric acid is water-reactive if concentrated.

TRANSPORTATION:

US DOT identification and description for this battery is:
Batteries, wet, non-spillable, 8, UN 2800, PG III
Label: Corrosive
(Exceptions 173.159, paragraph (d), C.F.R. 49)
For air shipments, see International Air Transportation Association (IATA) Dangerous Goods Regulations Manual, special provisions A-48 and A-67. For ocean shipments, reference International Maritime Dangerous Goods Code, P. 8121.

This is to certify that the "Non-Spillable" batteries are capable of withstanding the Vibration and Pressure Differential Test, and at a temperature of 55°C, the electrolyte will not flow from a ruptured or cracked case. The batteries have been protected against short circuits and securely packaged. The batteries and outer packaging must be plainly marked "Non-Spillable" or "Non-Spillable Battery".

RCRA: Spent lead-acid batteries are not regulated as hazardous waste when recycled. Spilled sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D002 (corrosivity).

IX. OTHER REGULATORY INFORMATION (CONTINUED)

CERCLA (Superfund) and EPCRA:

(a) Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (Superfund) and EPCRA (Emergency Planning and Community Right to Know Act) is **1,000 lbs.** State and local reportable quantities for spilled sulfuric acid may vary.

(b) Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA, with a Threshold Planning Quantity (TPQ) of **1,000 lbs**

(c) EPCRA Section 302 notification is required if **1,000 lbs** or more of sulfuric acid is present at one site. An average automotive/commercial battery contains approximately 5 lbs of sulfuric acid. Contact your Exide representative for additional information.

(d) EPCRA Section 312 Tier Two reporting is required for non-automotive batteries if sulfuric acid is present in quantities of **500 lbs** or more and/or if lead is present in quantities of 10,000 lbs or more.

(e) **Supplier Notification:**
This product contains a toxic chemical or chemicals subject to the reporting requirements of section 313 of (Title) III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Chemical	CAS	Percent by Weight
Lead (Pb)	7439-92-1	67-77
Electrolyte: Sulfuric Acid (H_2SO_4)	7664-93-9	18-23
Cadmium (Cd)	7740-43-9	0.2-0.3

If you distribute this product to other manufacturers in SIC Codes 20 through 39, this information must be provided with the first shipment of each calendar year.
Note: The Section 313 supplier notification requirement does not apply to batteries that are "consumer products".

CAA: Exide Technologies supports preventative actions concerning ozone depletion in the atmosphere due to emissions of CFC's and other ozone depleting chemicals (ODC's), defined by the USEPA as Class I substances. Pursuant to Section 611 of the Clean Air Act Amendments (CAAA) of 1990, finalized on January 19, 1993, Exide established a policy to eliminate the use of Class I ODC's prior to the May 15, 1993 deadline.

TSCA: Each ingredient chemical listed in Section II of this MSDS is also listed on the TSCA Registry.

CANADIAN REGULATIONS: All chemical substances in this product are listed on the CEPA DSL/NDSL or are exempt from list requirements.

CALIFORNIA PROPOSITION 65:

"WARNING: This product contains lead, a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm."

PREPARED BY:

GNB INDUSTRIAL POWER
A DIVISION OF EXIDE TECHNOLOGIES
3950 SUSSEX AVENUE
AURORA, IL 60504-7932
(800) 872-0471

1004

SAFETEC
CHEMICAL COMPLIANCE

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: 00449 Texaco Diesel 2

Manufacturer: Chevron

Revision Date: 4/10/1989

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
Hydrocarbons		100.00%	100

HMIS

Health: 3
Flammability: 2
Reactivity: 0
Protective:

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro			

Attributes

Regulations

First Aid

Eye: As with most foreign materials, should eye contact occur, flush eyes with plenty of water.

Skin: Wash exposed areas with soap and water.

Inhalation: Should symptoms noted under physiological effects occur, remove to fresh air. If not breathing, apply artificial respiration.

Ingestion: Do NOT induce vomiting. Aspiration may cause chemical pneumonia.

Other: Other Instructions: None.

Personal Protection

Eye: Chemical type goggles or face shield optional.

Skin: Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly. Gloves resistant to chemicals and petroleum distillates recommended.

Inhalation: Supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.

Ventilation: Normal.

Other:

Spill Measures

(Transportation Spills Call CHEMTREC (800) 424-9300) Avoid all personal contact. Ventilate area. Avoid breathing vapor. Use self-contained breathing apparatus or supplied-air mask for large spills in confined area. Contain spill if possible. Wipe up or absorb on suitable material and shovel up.

SARA Properties:

Hazard Properties:	☑ Fire	☐ Sudden Release	☐ Reactivity
	☑ Immediate	☑ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	○ Pure	● Mixture	○ Undefined
Specific Gravity:	0.852		

1014

SAFETEC
CHEMICAL COMPLIANCE ON DEMAND

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: Caterpillar CC/SF Plus 10W-30

Manufacturer: Exxon (ExxonMobil)

Revision Date: 12/18/1986

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
Refined Mineral Oils		100.00%	>80
Zinc (Elemental Analysis)	744-06-6	0.12%	0.12
Additives and/or other ingreds.		20.00%	<20

HMIS

Health:
Flammability:
Reactivity:
Protective:

NFPA

Toxicity: 0
Fire: 1
Reactivity: 0
Special:

Facility

Facility	Department	Archived	Status
Hydro		☐	

Attributes

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Regulations
Michigan PIPP
NYC Hazardous Substance List

First Aid

Eye: Flush with water.

Skin: Wash contact areas with soap and water.

Inhalation: Not expected to be a problem.

Ingestion: Not expected to be a problem. However, if greater than 1/2 liter (pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

Other:

Personal Protection

Eye: Normal industrial eye protection practices should be employed.

Skin: No special equipment required. However, good personal hygiene practices should always be followed.

Inhalation: No special requirements under ordinary conditions of use and with adequate ventilation.

Ventilation: No special requirements under ordinary conditions of use and with adequate ventilation.

Other:

Spill Measures

Environmental Impact: Report spills as required to appropriate authorities. U.S. coast guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to coast guard toll free number 800-424-8802. Procedures If Material is Released or Spills: Absorbs on fire retardant trusted sawdust, diatomaceous earth, etc. Shovel up and dispose of current applicable laws and regulations, and product characteristics at time of disposal.

SARA Properties:

Hazard Properties:	☐ Fire	☐ Sudden Release	☐ Reactivity
	☑ Immediate	☑ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	○ Pure	◉ Mixture	○ Undefined
Specific Gravity:			

1003

SAFETEC
CHEMICAL COMPLIANCE ON DEMAND

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: 02055 Startex Anti-Freeze Coolant

Manufacturer: Chevron

Revision Date: 6/9/1986

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
1,2-Ethanediol	107-21-1	99.99%	95.00-99.99
Borax	1303-96-4	3.99%	1.00-3.99

HMIS

Health:
Flammability:
Reactivity:
Protective:

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro			

Attributes

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No Ingredients on MSDS

Regulations

CERCLA
HAPs - CAA 112(b)
HAPs - Non-Carcinogen
HAPs - Organic
Michigan PIPP
NESHAPs
New Jersey RTK Hazardous Substance List
North Carolina HAPs
NPRI
NYC Hazardous Substance List
Pennsylvania Hazardous Substances List
SARA 313

First Aid

Eye: Flush with water for fifteen minutes.

Skin: Wash exposed areas with soap and water.

Inhalation: Remove to fresh air; if not breathing apply artificial respiration. Get medical attention. Keep affected person warm and at rest.

Ingestion: Give large quantities of water, then induce vomiting immediately. Get immediate medical attention. Do not make an unconscious person vomit. Never give anything by mouth to an unconscious person.

Other: None.

Personal Protection

Eye: Chemical type goggles or face shield optional.

Skin:

	Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly.
Inhalation:	Supplied air positive pressure full-facepiece respirators in emergencies, cleaning spills, entry into tanks, confined spaces.
Ventilation:	Normal.
Other:	

Spill Measures

(Transportation Spill Call CHEMTREC (800) 424-9300) Avoid contact with eyes. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Remarks: Waste Classification: Product has been evaluated for RCRA characteristics and does not meet criteria of a hazardous waste if discarded in its purchased form.

SARA Properties:

Hazard Properties:	☐ Fire	☐ Sudden Release	Reactivity
	☑ Immediate	☑ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	☐ Pure	◉ Mixture	○ Undefined
Specific Gravity:	1.13		

1016

SAFETEC
CHEMICAL COMPLIANCE CERTIFIED

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: 001FCLC - Lead Acid Cell (Calcium)

Manufacturer: Exide Technologies (GNB)

Revision Date: 9/17/2003

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
Lead	7439-92-1	52.40%	52.4
Non-Hazardous Ingredients		8.20%	8.2
Lead Dioxide (PbO2)	1309-60-0	20.80%	20.8
Lead Compounds		100.00%	
Electrolyte: Sulfuric Acid	7664-93-9	44.00%	19-44

HMIS

Health:
Flammability:
Reactivity:
Protective:

NFPA

Toxicity: 3
Fire: 0
Reactivity: 2
Special:

Facility

Facility	Department	Archived	Status
Hydro			

Attributes

Regulations
California Regulated Substances List
CERCLA
Clean Water Act
EPCRA Section 302 EHS
Global Automotive Declarable Substance List
HAPs - CAA 112(b)
HAPs - Carcinogen
HAPs - Inorganic
IARC-2A
IARC-2B
Michigan PIPP
New Jersey RTK Hazardous Substance List
North Carolina HAPs
North Carolina TAPs
NPRI
NYC Hazardous Substance List
OSHA Carcinogen
Pennsylvania Hazardous Substances List
SARA 313
Section 304 EHS

First Aid

Eye: Sulfuric Acid - flush immediately with cool water for at least 15 minutes, then consult physician. Lead Compounds - flush immediately with cool water for at least 15 minutes, then consult physician.

Skin: Sulfuric Acid - flush with large amounts of water for at least 15 minutes, remove any contaminated clothing and do not wear again until cleaned If acid is splashed on shoes, remove and discard if they contain leather. Lead Compounds are not readily absorbed through the skin.

Inhalation:

	Sulfuric Acid - Remove to fresh air immediately If breathing is difficult, give oxygen. Lead Compounds - Remove from exposure; gargle, wash nose and eyes and consult physician.
Ingestion:	Sulfuric Acid - give large quantities of water; DO NOT induce vomiting, then consult physician. Lead Compounds - consult a physician.
Other:	
Personal Protection	
Eye:	Chemical splash goggles or face shield.
Skin:	Rubber or plastic acid resistant gloves with elbow length gauntlet.
Inhalation:	None are required under normal conditions. If an overcharge or overheating condition exists and concentrations of sulfuric acid mist are known or suspected to exceed PEL, use NIOSH or MSHA approved respiratory protection.
Ventilation:	Store and handle lead acid batteries in well ventilated areas. Work Practices: Make certain vent caps are on tightly. Follow all manufacturers' recommendations when stacking or palletizing. Do not allow metallic materials to simultaneously contact both the positive and negative terminals of the batteries. Use a battery carrier to lift a battery or place hands at opposite corners to avoid spilling acid through the vents. Avoid contact with internal components of the batteries.
Other:	Other Special Clothing and Equipment: Acid resistant apron. Under severe exposure or emergency conditions, wear acid resistant clothing and boots.

Spill Measures

Remove combustible materials and all sources of ignition. Stop flow of material and contain spill by diking with soda ash (sodium carbonate) or quick lime (calcium oxide). Carefully neutralize spill with soda ash, etc. Make certain mixture is neutral then collect residue and place in a drum or other suitable container with a label specifying "contains hazardous waste" or (if uncertain call distributor regarding proper labeling procedures) Dispose of as hazardous waste. If battery is leaking, place battery in a heavy duty plastic bag Wear acid resistant boots, faceshield, chemical splash goggles and acid resistant gloves. DO NOT RELEASE UNNEUTRALIZED ACID.

SARA Properties:

Hazard Properties:	☐ Fire	☐ Sudden Release	☑ Reactivity
	☑ Immediate	☑ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	○ Pure	◉ Mixture	○ Undefined
Specific Gravity:	1.35		

1007

SAFETEC
CHEMICAL COMPLIANCE ON DEMAND

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: 01657 Rando Oil HD 32

Manufacturer: Chevron

Revision Date: 9/7/1989

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
Solvent-Dewaxed Heavy Paraffinic Petroleum Distillates	64742-65-0	99.99%	95.00-99.99
Zinc		0.03%	0.029

HMIS

Health: 0
Flammability: 1
Reactivity: 0
Protective:

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro		☐	

Attributes

Poor Quality Image

Regulations

CEPA 1.2 UVCBs
CEPA Master List
Michigan PIPP
NYC Hazardous Substance List

First Aid

Eye: As with most foreign materials, should eye contact occur, flush eyes with plenty of water.

Skin: Wash exposed areas with soap and water.

Inhalation: If irritation or drowsiness occurs, remove to fresh air.

Ingestion: None considered necessary.

Other: None.

Personal Protection

Eye: Chemical type goggles or face shield optional.

Skin: Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly.

Inhalation: If vapor, mist or dust is generated in excess of permissible concentrations (see pg.4) use respirator approved by MSHA or NIOSH.

Ventilation: Adequate to meet component permissible concentrations.

Other:

Spill Measures

(Transportation Spill Call CHEMTREC (800) 424-9300) Contain Spill if possible. Wipe up or absorb on suitable material and shovel up. Remarks: Waste Classification: Product has been evaluated for RCRA characteristics and does not meet criteria of a hazardous waste if discarded in its purchased form.

SARA Properties:

Hazard Properties:	☐ Fire	☐ Sudden Release	☐ Reactivity
	☑ Immediate	☐ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	○ Pure	● Mixture	○ Undefined
Specific Gravity:	0.8681		

1008

SAFETEC
CHEMICAL COMPLIANCE ON DEMAND

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: 02778 Rando Oil HD 100

Manufacturer: Chevron

Revision Date: 9/7/1989

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
Zinc		0.03%	0.029
Solvent-Dewaxed Heavy Paraffinic Petroleum Distillates	64742-65-0	99.99%	95.00-99.99

HMIS

Health: 0
Flammability: 1
Reactivity: 0
Protective:

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro			

Attributes

Regulations
CEPA 1.2 UVCBs
CEPA Master List
Michigan PIPP
NYC Hazardous Substance List

First Aid

Eye: As with most foreign materials, should eye contact occur, flush eyes with plenty of water.

Skin: Wash exposed areas with soap and water.

Inhalation: If irritation or drowsiness occurs, remove to fresh air.

Ingestion: None considered necessary.

Other: None.

Personal Protection

Eye: Chemical type goggles or face shield optional.

Skin: Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly.

Inhalation: If vapor, mist or dust is generated in excess of permissible concentrations (see pg.4) use respirator approved by MSHA or NIOSH.

Ventilation: Adequate to meet component permissible concentrations.

Other:

Spill Measures

Procedures in Case of Breakage of Leakage (Transportation Spill Call CHEMTREC (800) 424-9300): Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Remarks: Waste Classification: Product has been evaluated for RCRA characteristics and does not meet criteria of a hazardous waste if discarded in its purchased form.

SARA Properties:

Hazard Properties:	☐ Fire	☐ Sudden Release	☐ Reactivity
	☑ Immediate	☐ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	○ Pure	● Mixture	○ Undefined
Specific Gravity:	0.8871		

1002

SAFETEC
CHEMICAL COMPLIANCE DATA

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: Regular Clorox Bleach

Manufacturer: Clorox Co.

Revision Date: 8/1/1987

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
Sodium Hypochlorite	7681-52-9	5.20%	5.2

HMIS

Health: 2*
Flammability: 0
Reactivity: 1
Protective: B

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro			

Attributes

No Regulation Section

Regulations

CERCLA
Clean Water Act
Michigan PIPP
NYC Hazardous Substance List
Pennsylvania Hazardous Substances List

First Aid

Eye: Immediately flush eyes with plenty of water. If irritation persists, see a doctor.

Skin: Remove contaminated clothing. Wash area with water.

Inhalation: If breathing problems develop remove to fresh air.

Ingestion: Drink a glassful of water and call a physician.

Other:

Personal Protection

Eye:

Skin:

Inhalation:

Ventilation: Use general ventilation to minimize exposure to vapor or mist.

Other: Hygienic Practices: Wear safety glasses. With repeated or prolonged use, wear gloves. Work Practices: Avoid eye and skin contact and inhalation of vapor or mist.

Spill Measures

Small quantities of less than 5 gallons may be flushed down drain. For larger quantities wipe up with an absorbent material and dispose of in accordance with water to minimize oxidizing effect on spilled surface.

SARA Properties:

Hazard Properties:	Fire	Sudden Release	Reactivity

Tier II Report Exemption:	☑ Immediate	☑ Delayed	
	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	☐ Pure	☉ Mixture	☐ Undefined
Specific Gravity:	1.085		

1021

SAFETEC
CHEMICAL COMPLIANCE ON DEMAND

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: Waste Oil

Manufacturer: Northern California Power Agency

Revision Date: 6/8/1992

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range

HMIS

Health:
Flammability:
Reactivity:
Protective:

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro			

Attributes

No HMIS and/or NFPA
No Regulation Section
No Ingredients on MSDS

Regulations

First Aid

Eye: As with most foreign materials, should eye contact occur, flush eyes with plenty of water.

Skin: Wash exposed areas with soap and water.

Inhalation: If irritation or drowsiness occurs, remove to fresh air.

Ingestion: None considered necessary.

Other: Other Instructions: Refer to Material Safety Data Sheet for the particular product in the waste oil.

Personal Protection

Eye: Chemical type goggles or face shield optional.

Skin: Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times with soap and water, and laundering or dry cleaning soiled work clothing.

Inhalation: If vapor, mist or dust is generated in excess of permissible concentrations, use respirator approved by MSHA or NIOSH.

Ventilation: Adequate to meet component permissible concentrations.

Other:

Spill Measures

(Transportation Spills: Call CHEMTREC (800) 424-9300). Contain spill if possible. Wipe up or absorb on suitable material and temporarily store in a sealed drum for proper subsequent disposal. Remarks: See Material Safety Data Sheet for particular product in the waste oil.

SARA Properties:

Hazard Properties: Fire ☑ Immediate ☐ Sudden Release ☐ Delayed ☐ Reactivity

Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	☐ Pure	☐ Mixture	☉ Undefined
Specific Gravity:			

1017

SAFETEC
CHEMICAL COMPLIANCE ON TO

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: Shell Diala Oil AX

Manufacturer: Shell

Revision Date: 7/24/1985

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range
Solvent Refined, Hydrotreated Middle Distillate	64742-46-7	100.00%	60-100
Butylated Hydroxy Toluene	128-37-0	0.20%	<0.2
Severely Hydro-Treated Light Naphthenic Distillate	64742-53-6	40.00%	0-40

HMIS

Health: 1
Flammability: 1
Reactivity: 0
Protective:

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro			

Attributes
Poor Quality Image

Regulations
NPRI
NYC Hazardous Substance List
Pennsylvania Hazardous Substances List

First Aid

Eye: Flush eyes with water. If irritation occurs, get medical attention.

Skin: Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention.

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

Other:

Personal Protection

Eye:

Skin: Wear chemical-resistant gloves and other protective clothing as required to minimize skin contact. No special eye protection is routinely necessary. Test data from published literature and/or glove and clothing manufacturers indicate the best protection is provided by nitrile gloves.

Inhalation: If exposure may or does exceed occupational exposure limits (section IV) use a NIOSH-approved respirator to prevent overexposure. In accord with 29 CFR 1910.13 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors and particulates.

Ventilation: This product is classified as an oil under section 311 of the clean water act. Spills entering (a) surface water or (e) any water courses or severs entering/leading to surface waters that cause a sheen must be reported to the national response center. 800-424-8002

Other:

Spill Measures

May burn although not readily ignitable. Use cautions judgment when cleaning up large spills. Large Spills: Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable materials; dispose of properly. Flush area with water to remove trace residue. Small Spills: Take up with an absorbent material and dispose of properly.

SARA Properties:

Hazard Properties:	☐ Fire	☐ Sudden Release	☐ Reactivity
	☑ Immediate	☑ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☐ Solid	☑ Liquid	☐ Gas
Chemical Type:	○ Pure	◉ Mixture	○ Undefined
Specific Gravity:	0.883		

1005

SAFETEC
CHEMICAL COMPLIANCE MADE

Standard Options
Options Menu
Search Page
Help
Sign Out

Record Options

Report Options

Additional Options
View MSDS Document

Navigation Options

Product Name: ABC Multipurpose

Manufacturer: Tyco International (Mallinckrodt)

Revision Date:

Common Names:

Notes:

Synonyms:

Ingredients

Chemical Name	CAS #	Max %	% Range

HMIS

Health:
Flammability:
Reactivity:
Protective:

NFPA

Toxicity:
Fire:
Reactivity:
Special:

Facility

Facility	Department	Archived	Status
Hydro		☐	

Attributes

Poor Quality Image
No Ingredients on MSDS
No HMIS and/or NFPA
No Regulation Section
Missing Revision Date

Regulations

First Aid

Eye:
Skin:
Inhalation:
Ingestion:
Other: Cleanse thoroughly.

Personal Protection

Eye:
Skin:
Inhalation:
Ventilation:
Other: OTHER PROTECTIVE EQUIPMENT: To avoid discomfort-respiratory, eye, and surface protection may be worn.

Spill Measures

Avoid breathing powder dust. Powder is slightly hygroscopic and corrosive; clean immediately after use. May be handled dry by sweeper, vacuum, air etc. and washed down with water.

SARA Properties:

Hazard Properties:	☐ Fire	☐ Sudden Release	☐ Reactivity
	☑ Immediate	☐ Delayed	
Tier II Report Exemption:	☐ Exempt On New Inventory		
Chemical State:	☑ Solid	☐ Liquid	☐ Gas
Chemical Type:	☐ Pure	☐ Mixture	☑ Undefined
Specific Gravity:	1		