

EPA REGION 6 Enforcement Division

INSPECTION REPORT

Inspection Entry Date/Time	09/03/2024 09:30 AM (CT)	Announced: No	
Inspection Exit Date/Time	09/03/2024 02:45 PM (CT)	Access: Granted	
Regulatory Program	RCRA		
Type of Inspection	RCRA Compliance Evaluation Inspection		
Company Name	BP Exploration & Production		
Facility or Site Name	Mississippi Canyon 778 A Thunder Horse		
Facility/Site Identifier	XFR982310252		
Facility/Site Physical Address	Latitude: 28.187698 Longitude: -88.490685		
City, State, Zip Code	United States (Federal Waters)		
County/Borough	Not Applicable		
Generator Status	Large Quantity Generator		
NAICS	211120 Crude Petroleum Extraction 211130 Natural Gas Extraction		
Type of Operation	Oil and gas production offshore platform.		
Geographic Coordinates	Latitude: 28.187698 Longitude: -88.490685		
Mailing Address	501 Westlake Park Blvd		
City, State, Zip Code	Houston, TX 77079		
Permit Number (If Applicable)	Not Applicable		
Additional Persons Participating in Inspection:			
Name	Title	Organization	Email
Erin Young-Dahl	Inspector	EPA Region 6	Youngdahl.erin@epa.gov
Ronald McClary	Engineer	Bureau of Safety and Environmental Enforcement (BSEE)	ronald.mcclary@bsee.gov

Lead Inspector:			
Dedriel Gardner			
	EPA REGION 6	Gardner.Dedriel@epa.gov	(281) 983-2133
Supervisor Review:			
Debra Pandak			
	EPA REGION 6	Pandak.debra@epa.gov	

SECTION I – INTRODUCTION

Purpose of the Inspection

Type of inspection: Compliance Evaluation Inspection

On September 3, 2024, I, Dedriel Gardner, conducted an unannounced inspection of the Mississippi Canyon 778 A Thunder Horse (Thunder Horse) facility located at Latitude: 28.187698 Longitude: -88.490685 in federal waters, for compliance with the Resource Conservation and Recovery Act (RCRA). I was accompanied by Erin Young-Dahl, EPA Inspector, and Ronald McClary, Bureau of Safety and Environmental Enforcement (BSEE) Engineer. The EPA has been conducting a Port Initiative that focuses on RCRA hazardous waste management and compliance with inland facilities that accept RCRA regulated waste from offshore. Typically, hazardous waste determinations are made at the offshore point of generation prior to waste arrival onshore, which prompted this inspection at Thunder Horse with BSEE. The goals of the inspection were to observe and gather information on offshore platform waste-generating operations and waste management prior to the wastes being shipped to shore. William Ferrel, Offshore Installation Manager, acted as the primary facility representative. I informed him this inspection would evaluate waste management activities.

This report is based on information supplied by Mr. Ferrel and other attendees, inspector observations, and records including photographs taken (see Appendix 1), verbal or written statements made during or after the onsite inspection, and/or materials shown, demonstrated, or submitted to the EPA during or after the on-site inspection. In addition, information gathered prior to or after the inspection from a review of EPA, State, and public records may be included in this report. Document transfer was facilitated through the use of an electronic secure online drive. These documents are accessible by the EPA Enforcement Officer for review.

Attendees

Title/Organization	Name	Phone	Email	Opening Conf.	Closing Conf.
Lead Inspector/ Enforcement Officer/EPA Region 6	Dedriel Gardner	(913) 551-7049	gardner.dedriel@epa.gov	Yes	Yes
Inspector/EPA Region 6	Erin Young-Dahl	(214) 665-3166	youngdahl.erin@epa.gov	Yes	Yes
Engineer/BSEE	Ronald McClary	---	ronald.mcclary@bsee.gov	Yes	Yes
BP Offshore Installation Manager/Thunder Horse	William Ferrel	979-235-2860	william.farrell2@bp.com	Yes	Yes
BP Health, Safety, Environment (HSE)	Josh Wyatt	979-35-28572	josh.wyatt@bp.com	Yes	Yes
BP Marine Team Lead	Ed Hadden	979-235-2886	haerl@bp.com	Yes	Yes
BP Production Team Lead	Brandon Hilliard	979-235-2944	brandon.hilliard@bp.com	Yes	Yes

BP Maintenance Team Lead	Michael A Cernuska (Big Mac)	979-235-2671	michael.cernuska@bp.com	Yes	Yes
Valaris Drilling Contractor Offshore Installation Manager	Lance J Guillory	979-235-2871	lance.guillory@bp.com	Yes	Yes
BP Site Services Lead	Michael Ardoir	979-235-2853	michael.ardoir@bp.com	Yes	Yes
BP Lead Well Site Leader	Shawn Southworth	832-2489-7761	shawn.southworth@bp.com	Yes	Yes
Danos OLC	Ryan Nelson	985-498-8308	ryan.nelson@bp.com	Yes	Yes
BP Well Site Leader	Randall Reed	832-248-7761	randall.reed@bp.com	Yes	Yes

SECTION II – OPENING CONFERENCE

On September 3, 2024, Ms. Young-Dahl, Mr. McClary, and I arrived at the Thunder Horse platform. We met William Ferrel, Offshore Installation Manager, who acted as the primary facility representative and other attendees as listed on the sign-in sheet included as Appendix 2. We presented our credentials to Mr. Ferrel. I informed Mr. Ferrel that we were there to conduct an inspection of the facility under the authority of Section 3007 of RCRA and that this inspection would focus on waste management. I discussed EPA Region 6's Confidentiality Notice (40 CFR Section 2.203) for any potential Business Confidentiality Information claims by CHESI. I informed him that the inspection would include a discussion of facility operations, waste generation, and waste management as well as a visual inspection of the facility, including waste generation and management areas. I noted that due to time limitations I would leave a list of requested documents to be provided after the inspection. I set up the electronic secure online drive for documents to be uploaded.

General Information: Thunder Horse is a moored semi-submersible oil and gas production, drilling, and quarters (PDQ) platform. It began operating around 2005 and is located about 150 miles southeast of New Orleans, Louisiana in the Mississippi Canyon of the Gulf of Mexico. It is owned 75 percent by BP Exploration and Production (BP) and 25 percent by ExxonMobile. It is operated 100 percent by BP. Currently, there are about 269 employees onsite.

Thunder Horse was developed using mostly clustered subsea production and water injection wells, with some satellite subsea production and water wells. Currently, Thunder Horse has 22 online wells plus three injection water wells. The water depth varies between 5700 and 6500 ft. The crude oil pumped from the reservoir is de-sanded and separated into oil, natural gas, and water. Supporting operations include wastewater treatment (production, sanitary, storm water, and contaminated drains), natural gas power plant from gas produced, analytical lab, water plant, food disposal, air emission controls, and maintenance..

According to RCRAInfo, Thunder Horse last notified as a large quantity generator (LQG) of hazardous waste on February 29, 2024, and it routinely manifests hazardous wastes offsite. Also, they are a small quantity handler of universal waste and a used oil generator.

Waste Streams and Management Discussion: Thunder Horse works with disposal firm Heritage, who uses the “Kabal” system (logistic type management software) to track their wastes. Thunder Horse generates many types of waste streams, including hazardous, non-hazardous, exempt exploration and production (E&P), universal, electronic, municipal, Naturally Occurring Radioactive Material (NORM), RCRA-empty containers and hoses, and foreign wastes. During the inspection, not all waste streams were observed being generated since they were not routinely generated and/or not currently accumulated onsite. This included waste streams such as produced sands, empty container rinsate that is processed in the closed wastewater drain system, and laboratory wastes, which are added back into the process stream. In addition, the facility representatives stated that the following waste streams are not generated onsite: boiler-related wastes as Thunder Horse has no boilers onsite (although they generate heat exchanger cleaning wastes which a third party comes onsite as needed and cleans with only high-pressure water); gas plant cooling tower wastes; incinerator ash; and radioactive wastes. Thunder Horse does not allow any unloading of wastes from vessels at the platform.

Thunder Horse’s offshore waste is shipped by vessel to BP’s Fourchon Supply Base (BP-FSB) located at Port of Fourchon (POF) C-Port 3. A brief overall description of their waste management process from offshore to POF C-Port 3 was explained as follows:

- The Logistic Coordinator calls Heritage, who is available 24 hours, seven days per week.
- Heritage assists with making the hazardous waste determination and tells Thunder Horse how to manage the waste onsite and where to send it.
- If necessary, a sample of the waste may be sent to Heritage to help with a hazardous waste determination.
- Thunder Horse also has an Industrial Hygienist onsite to help with hazardous waste determinations.
- The hazardous waste is manifested from Thunder Horse to the BP-FSB at POF C-Port 3. In order that the 10-day transfer facility requirement is met, prior to shipping the waste to the BP-FSB, the shipments are coordinated with the waste contractor to ensure that the designated facility can receive the shipment.

SECTION III - OBSERVATIONS

The following waste management observations were made along with related Area of Concerns (AOC) noted at the time.

1. In the chemical storage area, we observed products being stored and the machinery related contaminated drain collection system that generates hydraulic oil/water that is sent to BP-FSB. No wastes were observed accumulated in the area.
2. In the Breezeway, we observed one approximately full container of electronic waste (see Appendix 1, Photos 1 and 2).
3. In the Universal Waste Storage Area (see Appendix 1, Photos 3 and 4), we observed an accumulation tracking log of the universal waste batteries and lamps (see Appendix 1, Photos 6 and 7). Also, we observed that the containers were dated and labeled universal waste “bulbs” as opposed to universal waste “lamps” (see Appendix 1, Photo 5). The log’s accumulation start date and the dates on the containers did not agree, but both were still dated within one year. I

discussed with the facility representatives that the length of accumulation must be documented correctly as required by 40 CFR 273.15(c).

4. In the area where the crude oil first enters the platform, we observed a red safety can of non-hazardous oily rags and absorbent pads (see Appendix 1, Photos 8 and 9). The can is emptied daily into an Omega non-hazardous waste container (see #5 below). Prior to the crude oil reaching the platform, the hydraulic oil used on the subsea equipment may discharge small amounts to the sea at the control point (at the subsea infrastructure). A Safety Data Sheet (SDS) of this marine hydraulic oil was provided during the inspection (see Appendix 3).
5. In the Riser Area, we observed a container of non-hazardous rags and other rags, including oily rags. They were being shipped to Omega Waste Management in Patterson, Louisiana, as industrial non-hazardous waste (see Appendix 1, Photos 10, 11, and 12).
6. In the High Pressure (HP)/Intermediate Pressure (IP)/Low Pressure (LP) Separator Area, we observed the contents of a partially full Omega oily debris container. Facility personnel stated it contained exempt E&P waste but could potentially be mixed with hydraulic oil (see Appendix 1, Photos 13 and 14). **AOC #1a:** *A hazardous waste determination must be made on each individual waste stream at the POG. – 40 CFR 262.11.* I discussed with facility personnel the management of exempt E&P waste mixed with other wastes. After the inspection, Thunder Horse responded that they inspected containers onsite and were not able to locate any such container of mixed used oil and E&P wastes and that there could have been a miscommunication by one of their personnel.
7. Near the HP/IP/LP Separator Area, we observed two 55-gallon drums labeled as non-hazardous waste. One contained unused Crosstrans 206 electrical insulating oil and the other used blast media (see Appendix 1, Photos 15 thru 18, and 21). The SDS for the Crosstrans 206 was provided at the time to show that it was non-hazardous waste (see Appendix 4 for SDS).
8. In the General Trash Accumulation Area, we observed several supersacks of general trash. We looked inside one that appeared to contain general trash. Also, I looked in various trash containers throughout the visual inspection and no apparent concerns were noted.
9. Near the HP/IP/LP Separator Area, we observed plastic containers put inside three unlabeled full 55-gallon drums to await disposal (see Appendix 1, Photos 19 and 20). When picked up, the containers still held residual resin materials and therefore were not RCRA-empty. **AOC #1b:** *A hazardous waste determination must be made for each individual waste stream at the POG. – 40 CFR 262.11.* After the inspection, Thunder Horse stated that these drums were labeled hazardous waste and dated 9/1/24.
10. In the Aerosol Can Puncturing Area, we observed a partially full open aerosol can puncturing unit attached to a 55-gallon aerosol accumulation drum (i.e., the cap on the puncturing unit was opened) and no waste was being added or removed (see Appendix 1, Photo 22). **AOC #2:** *A hazardous waste satellite accumulation container must remain closed unless adding or removing wastes. – 40 CFR 262.15(a)(4).* This AOC was discussed during the inspection, after which the facility personnel closed it.

11. In the Paint Waste Satellite Accumulation Area (SAA), we observed greater than 55 gallons of hazardous waste. Therefore, it was considered a Central Accumulation Area (CAA) at the time of the inspection and the following was noted:
- Approximately 3/4th full, 55-gallon drum of hazardous liquid paint waste was undated, and open (unsecured lid) (see Appendix 1, Photos 23, 24 and 31). **AOC #3a:** *A hazardous waste accumulation container must be dated and remain closed unless adding or removing wastes.* – 40 CFR 262.17(a)(5)(i)(C) and 262. 17(a)(1)(iv)(A).
 - An undated, open (unsecured lid) approximately full, 55-gallon drum of hazardous waste paint and solvent contaminated rags and brushes (see Appendix 1, Photos 25, 26 and 27). **AOC #3b:** *A hazardous waste accumulation container must be dated and remain closed unless adding or removing wastes.* – 40 CFR 262.17(a)(5)(i)(C) and 262. 17(a)(1)(iv)(A).
 - An undated, closed, full, 55-gallon drum of hazardous paint rags (see Appendix 1, Photo 32) located just outside of the yellow satellite accumulation containment shelter seen in Photo 27. **AOC #3c:** *A hazardous waste accumulation container must be dated.* – 40 CFR 262.17(a)(5)(i)(C).

The above containers were closed and dated 9/1/24 during the inspection (see Appendix 1, Photos 33 and 34). Mr. Wyatt stated that normally they would not have the excess wastes in the SAA, but the CAA was currently full (i.e., contained four drums) and the crane used to move the drums was broken.

12. In the Paint Waste CAA, we observed four undated, closed, full, 55-gallon drums labeled as hazardous waste (see Appendix 1, Photos 35 thru 38). Mr. Wyatt stated that they all contained liquid paint waste. However, I observed one labeled liquid paint waste, two labeled paint solid debris (rags, rollers, brushes), and one label I could not see fully. **AOC #3d:** *A hazardous waste accumulation container must be dated.* – 40 CFR 262.17(a)(5)(i)(C). We also discussed how the labels must be visible to read. After the inspection, Thunder Horse stated that the containers were dated.
13. In the Waste Storage Area near the Paint Waste CAA, we observed 12 full 55-gallon drums of paint chips labeled as non-hazardous waste (see Appendix 1, Photos 39, 40, and 41. Paint chips are generated when paint is removed from platform equipment (e.g., decks, support beams).
14. In the Lab, the types of analyses conducted included water quality and Infrared. We did not observe any accumulated wastes. The lab wastes which are all sample related wastes (i.e., no separate types of waste generated including solvents) are added back into the process.

SECTION IV – AREA OF CONCERN

The Area(s) of Concern (AOC) noted at the time are as follows, although further EPA review may change or add to these concerns.

- AOC #1:** A hazardous waste determination not made for each individual waste stream at the POG. – 40 CFR 262.11.
 - Omega container of exempt E&P waste that could potentially be mixed with hydraulic oil.
 - Plastic containers put inside three unlabeled full 55-gallon drums to await disposal.

2. **AOC #2:** A partially full, open, 55-gallon satellite accumulation drum with an open aerosol can puncturing unit attached. – 40 CFR 262.15(a)(4).
3. **AOC #3:** A hazardous waste accumulation container must be dated and remain closed unless adding or removing wastes. – 40 CFR 262.17(a)(5)(i)(C) and 262. 17(a)(1)(iv)(A).
 - a. An undated, open (unsecured lid), approximately 3/4th full, 55-gallon drum of hazardous liquid paint waste.
 - b. An undated, open (unsecured lid), approximately full, 55-gallon drum of hazardous waste paint and solvent contaminated rags and brushes.
 - c. An undated closed full 55-gallon drum of hazardous paint rags.
 - d. Four undated closed full 55-gallon drums of paint liquid and solid wastes labeled hazardous waste.

SECTION V – CLOSING CONFERENCE AND FOLLOW UP

Closing Conference: I closed out the inspection with the facility representatives listed on Appendix 2. I briefly reviewed the requested documents and AOCs noted at the time of the inspection. I informed Mr. Ferrel that later that day I would follow up with an email containing this information. No confidentiality business claims were made. We left the platform about 2:45 pm.

Follow Up: On September 3, 2014, I emailed Thunder Horse an initial list of AOCs and requested documents. On September 6, 2024, Thunder Horse emailed their response to the AOCs (see Section III above for the AOCs addressed). On September 18, 2024, the documents/information uploaded/emailed included the following along with several comments I noted based on my initial brief review:

1. Clarification - The SDS provided during the inspection titled Transaqua HT is the marine hydraulic fluid that is used in their subsea control systems and discharges in small quantities to the sea at the control point (at the subsea infrastructure). See Appendix 3 for SDS.
2. Waste Logs/Tracking Documents for wastes being tracked, e.g., paint waste, universal waste, garbage, etc. This included Environmental Compliance Summaries, Universal Waste Logs, and Hazardous Waste Logs for 2024. Other waste tracking reports are available upon request by EPA.
3. Waste Stream Profiles along with supporting documents from BP's waste management contractor Heritage.
 - a. I did not see a discussion of how samples were collected for the waste streams that were analyzed. This includes for an Omega Waste Management Recertification for the non-hazardous solid waste profile "NH Solid Waste - Oil Contaminated pads, boom, fuel & oil filters, RCRA containers, 5 scrap hoses, gloves, PPE, Oily Debris" that also included a January 17, 2024, analysis. The profile was dated December 5, 2023, with an expiration date of January 17, 2027, and a renewal date of January 17, 2025. However, this waste stream appears to be a mixture of some individual waste streams that would each require a hazardous waste determination made at their individual point of generation (POG).
 - b. I was not able to determine which waste profile was for the non-hazardous "paint chips".

4. Waste Management Plans/SOP - I did not note where “used oil” was specifically discussed in the waste management documents provided. However, it is profiled and shipped offsite as used oil on non-hazardous waste shipping documents that were uploaded.
5. Arrangements/Agreements with Heritage.
6. Shipping Documents (manifests, bills of lading, etc.) for each waste stream.
7. Facility Layout with hazardous waste accumulation areas.
8. Process Descriptions to include a Simplified Process Block Flow Overview and the first two sections of the Marine Operations Manual, which includes descriptions of the Thunder Horse facility itself as well as the production, drilling, and marine systems overview.
9. Emergency Response Plan and Gulf of Mexico (GoM) Regional Spill Response Plan.
10. Excerpt of Training Matrix showing the Hazardous Waste related training courses and groups/roles to which they are assigned.
11. Inspections of hazardous waste containers.
12. A List of Incidents/Spills for the past three years on the Thunder Horse facility.
13. Biohazard/Sharps wastes are managed by their Medics on-board the Thunder Horse facility. They utilize Stericycle pre-paid 5-gallon soft waste and 2-gallon sharps disposal containers with pre-paid return/disposal packaging. I did not see any mention of pharmaceuticals.

SECTION VI – LIST OF APPENDICES

- Appendix 1 - Photo Log
- Appendix 2 - In-Brief/Out-Brief Sign-In Sheet
- Appendix 3 - Transaqua HT SDS
- Appendix 4 - Crosstrans 206 SDS

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0084

Date of Photo: 09/03/2024

Time of Photo: 1146

Photographer: Erin Young-Dahl

Description: Contents of e-waste container.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0085

Date of Photo: 09/03/2024

Time of Photo: 1146

Photographer: Erin Young-Dahl

Description: Overview of approximately full e-waste container.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0086

Date of Photo: 09/03/2024

Time of Photo: 1148

Photographer: Erin Young-Dahl

Description: Overview of Universal Waste storage area, focusing on bulb and lamp area. Containers are partially full to full.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0087

Date of Photo: 09/03/2024

Time of Photo: 1148

Photographer: Erin Young-Dahl

Description: Overview of Universal Waste batteries/ballast area. Containers are partially full to full.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters

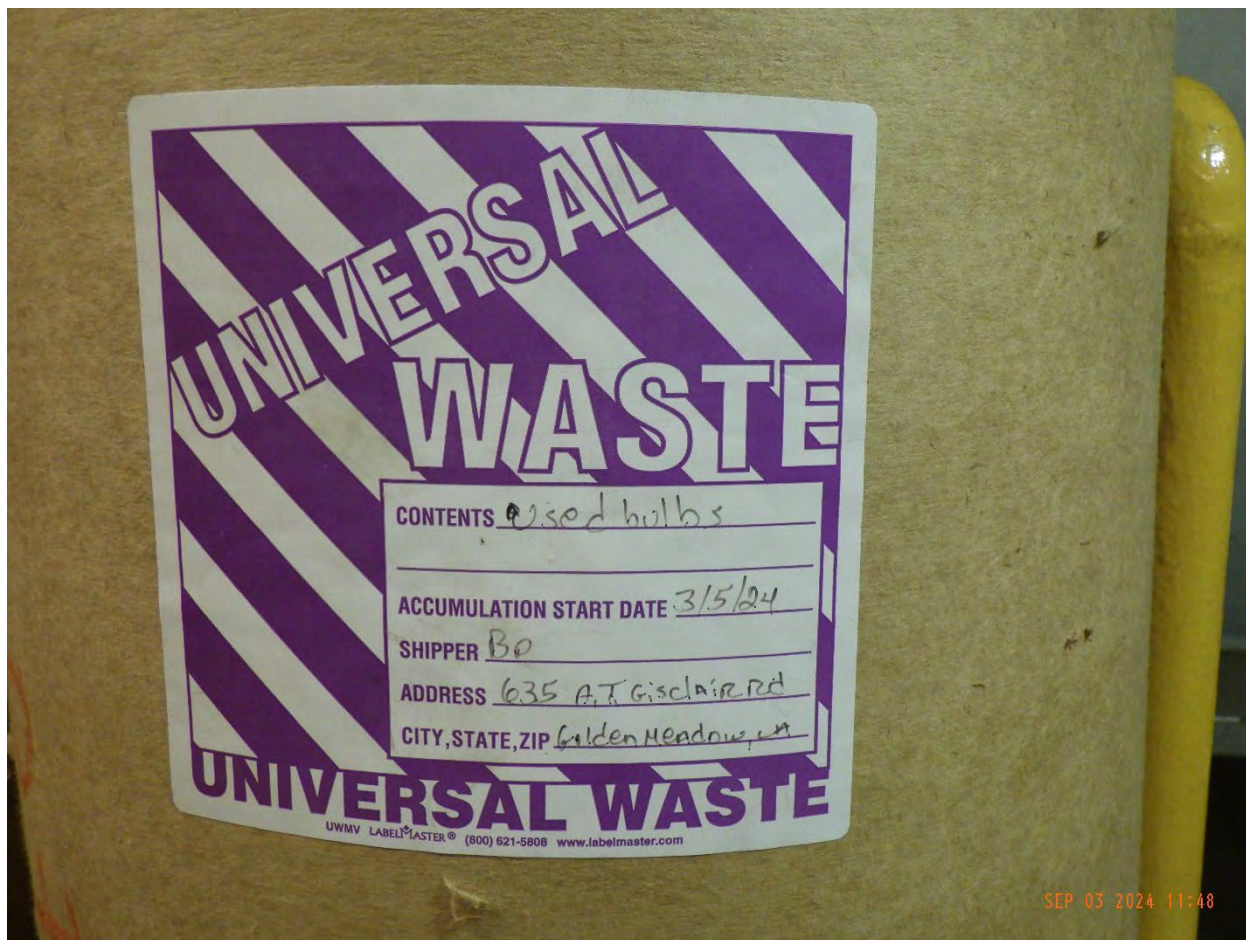


Photo File Name: POB_0088

Date of Photo: 09/03/2024

Time of Photo: 1148

Photographer: Erin Young-Dahl

Description: Closeup of Universal Waste bulbs label.

Description: Closeup of Universal Waste batteries generation log.

Description: Closeup of Universal Waste bulbs generation log.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0091

Date of Photo: 09/03/2024

Time of Photo: 1157

Photographer: Erin Young-Dahl

Description: Closeup of label on oily waste can containing rags and absorbent pads that is emptied daily into an Omega non-hazardous waste container.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0092

Date of Photo: 09/03/2024

Time of Photo: 1157

Photographer: Erin Young-Dahl

Description: Contents of oily waste can from Photo 8.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0093

Date of Photo: 09/03/2024

Time of Photo: 1224

Photographer: Erin Young-Dahl

Description: Overview of Omega non-hazardous oily rags container in Riser Area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters

OMEGA WASTE MANAGEMENT, INC. OMEGA WASTE MANAGEMENT, INC.

OMEGA

INDUSTRIAL NON-HAZARDOUS WASTE ONLY

CONTENTS OF THIS CONTAINER:

☐ PIGS/SADDLES	☐ EMPTY PAINT CANS	☐ TYVEK/GLOVES	☐ BUCKETS	☒ RAGS/PADS
☐ FILTERS/HOSES	☐ COOKING OIL	☒ OILY RAGS	☐ GREASE	☐ USED OIL
☐ GLYCOL	☐ COMPLETION FILTERS	☐ TRIPLE RINSED RCRA M/T DRUMS		

GENERATOR NAME: _____

PROFILE #: _____ ACCUMULATION START DATE: _____

LOCATION: _____

GENERATOR CHARGES: _____

KEEPING THE GULF COAST GREEN

Omega Waste Management, Inc.
1900 Hwy 90 West - Patterson, LA 70392
985-399-5100
www.omegawastemanagement.com

SEP 03 2024 12:24

Photo File Name: POB_0094

Date of Photo: 09/03/2024

Time of Photo: 1224

Photographer: Erin Young-Dahl

Description: Closeup of Omega oily rags container in Riser Area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0095

Date of Photo: 09/03/2024

Time of Photo: 1224

Photographer: Erin Young-Dahl

Description: Contents of Omega container in Riser Area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0096

Date of Photo: 09/03/2024

Time of Photo: 12:51

Photographer: Erin Young-Dahl

Description: Contents of oily debris container in HP/IP/LP Separator Area. Facility personnel stated it contained E&P waste potentially mixed with hydraulic oil.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0097

Date of Photo: 09/03/2024

Time of Photo: 1251

Photographer: Erin Young-Dahl

Description: Overview of oily debris container in HP/IP/LP Separator Area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0098

Date of Photo: 09/03/2024

Time of Photo: 1253

Photographer: Erin Young-Dahl

Description: Two 55-gallon drums containing unused CrossTrans 206 electrical insulating oil (left of photo) and used blast media (right of photo). Located near the HP/IP/LP Separator Area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0100

Date of Photo: 09/03/2024

Time of Photo: 1253

Photographer: Erin Young-Dahl

Description: Closeup of manufacturer's label on unopened waste oil drum seen in Photo 15.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_101

Date of Photo: 09/03/2024

Time of Photo: 1255

Photographer: Erin Young-Dahl

Description: Contents of drum seen in Photo 15 containing used blast media.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters

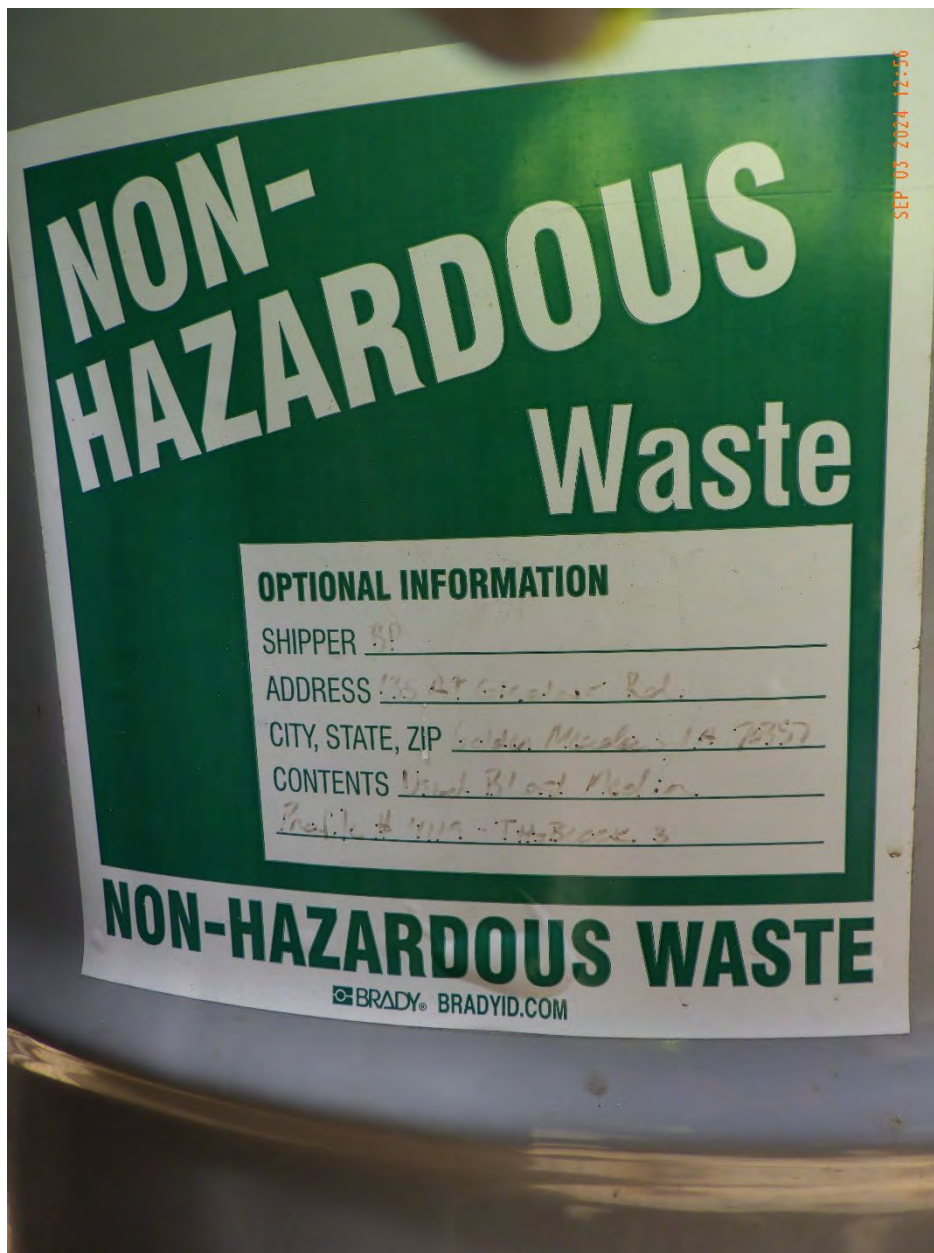


Photo File Name: POB_0102

Date of Photo: 09/03/2024

Time of Photo: 1256

Photographer: Erin Young-Dahl

Description: Closeup of label on used blast media drum of Photos 15 and 17.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0103

Date of Photo: 09/03/2024

Time of Photo: 1308

Photographer: Erin Young-Dahl

Description: Plastic containers put in 55-gallon drum to await disposal. Containers still held residual resin materials. Located near the HP/IP/LP Separator Area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0104

Date of Photo: 09/03/2024

Time of Photo: 1308

Photographer: Erin Young-Dahl

Description: Overview of container storage area housing 3 unlabeled full drums of plastic containers with residual resins inside. Far back left container held lithium batteries. Contents of open container seen in Photo 19.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0105

Date of Photo: 09/03/2024

Time of Photo: 1310

Photographer: Erin Young-Dahl

Description: Another view of container storage area of Photo 17 & 18 with lid replaced on drum seen in Photo 17.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 22

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0106

Date of Photo: 09/03/2024

Time of Photo: 1316

Photographer: Erin Young-Dahl

Description: Overview of aerosol can puncturing area. Note that metal cap is not replaced on aerosol can tube (blue arrow) attached to a partially full 55-gallon drum.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 23

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0107

Date of Photo: 09/03/2024

Time of Photo: 1320

Photographer: Erin Young-Dahl

Description: Drum in paint waste satellite accumulation area (see Photo 27). Container lid was not secured.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 24

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0108

Date of Photo: 09/03/2024

Time of Photo: 1321

Photographer: Erin Young-Dahl

Description: Contents of approximately 3/4th full paint waste drum in SAA seen in Photo 23.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 25

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0109

Date of Photo: 09/03/2024

Time of Photo: 1321

Photographer: Erin Young-Dahl

Description: Paint- and solvent-contaminated rags and brushes found in a paint waste drum in SAA shown in Photo 27.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 26

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0110

Date of Photo: 09/03/2024

Time of Photo: 1321

Photographer: Erin Young-Dahl

Description: Closeup of label of paint- and solvent-contaminated wastes found in SAA (see Photo 25).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 27

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0111

Date of Photo: 09/03/2024

Time of Photo: 1321

Photographer: Erin Young-Dahl

Description: Overview of paint waste SAA containing one full drum of paint- and thinner-contaminated wastes (on left) and 3/4-full drum of liquid paint waste (on right). Neither lid was secured. Two pails of dried paint were placed between the two drums.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 28

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0112

Date of Photo: 09/03/2024

Time of Photo: 1322

Photographer: Erin Young-Dahl

Description: Small bucket containing dried paint in the SAA. Bucket is not the original paint packaging.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 29

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0113

Date of Photo: 09/03/2024

Time of Photo: 1322

Photographer: Erin Young-Dahl

Description: Small bucket of dried paint in the SAA tucked between the two drums seen in Photo 27.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 30

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0114

Date of Photo: 09/03/2024

Time of Photo: 1323

Photographer: Erin Young-Dahl

Description: Manufacturer's label of paint can seen in Photo 29. Found in paint waste SAA.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 31

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0115

Date of Photo: 09/03/2024

Time of Photo: 1323

Photographer: Erin Young-Dahl

Description: Closeup of label on paint waste drum in SAA, seen in Photos 23 & 24.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 32

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0116

Date of Photo: 09/03/2024

Time of Photo: 1328

Photographer: Erin Young-Dahl

Description: Closeup of label on paint rags drum seen in Photos 33 and 34. No accumulation start date noted.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 33

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0117

Date of Photo: 09/03/2024

Time of Photo: 1329

Photographer: Erin Young-Dahl

Description: Closeup of label on paint rags drum (see Photo 34). Drum was located just outside of containment shelter seen in Photo 27. Accumulation start date added during the inspection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 34

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0118

Date of Photo: 09/03/2024

Time of Photo: 1329

Photographer: Erin Young-Dahl

Description: Paint rags drum shown in Photos 32 and 33 located just outside containment shelter seen in Photo 27.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 35

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0119

Date of Photo: 09/03/2024

Time of Photo: 1330

Photographer: Erin Young-Dahl

Description: Overview of paint waste central accumulation area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 36

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0120

Date of Photo: 09/03/2024

Time of Photo: 1330

Photographer: Erin Young-Dahl

Description: Closeup of label on a drum in the paint waste CAA. No accumulation start date noted.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 37

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0121

Date of Photo: 09/03/2024

Time of Photo: 1330

Photographer: Erin Young-Dahl

Description: Closeup of label on a drum in the paint waste CAA. No accumulation start date noted.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 38

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0122

Date of Photo: 09/03/2024

Time of Photo: 1331

Photographer: Erin Young-Dahl

Description: Closeup of label on a drum in the paint waste CAA. No accumulation start date noted.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 39

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0123

Date of Photo: 09/03/2024

Time of Photo: 1334

Photographer: Erin Young-Dahl

Description: Overview of collection of drums containing paint chips in waste storage area. Same drums as in Photo 40.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 40

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_-124

Date of Photo: 09/03/2024

Time of Photo: 1334

Photographer: Erin Young-Dahl

Description: Overview of collection of nine drums containing paint chips in waste storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 41

Location: BP Exploration & Production - Mississippi Canyon 778 A Thunder Horse		
City: Lat: 28.187698 Long: -88.490685	County/Parish: Federal Waters	State: Federal Waters



Photo File Name: POB_0125

Date of Photo: 09/03/2024

Time of Photo: 1335

Photographer: Erin Young-Dahl

Description: Overview of collection of three drums containing paint chips in waste storage area. Same type of drums as in Photo 40. The yellow drum did not contain waste.

APPENDIX 2 - In-Brief/Out-Brief Sign-In Sheet

In-brief/Out-brief Sign-in Sheet

Inspection Site Name: Thunder HorseDate: 2/3/24

Name	Title	Organization Representing	Business Phone	Business Email	At Opening	At Closing
Joyce Johnson- ERIN YOUNG-DAHL	RCRA Inspector/ Enforcement Officer	US EPA, Region 6	214-665-8548 3166	Johnson.Joyce-r6@epa.gov- youngdahl.erin@epa.gov	✓	✓
Dedriel Gardner	RCRA Inspector/ Enforcement Officer	US EPA, Region 6	281-983-2133	Gardner.Dedriel@epa.gov	✓	✓
ED HADDEN	MARINE TEAM LEAD	BP	979-235- 2886	haerl@bp.com	✓	✓
WILLIAM FARRELL	OFFSHORE INSTALLATION MGR	bp	979-235- 2860	WILLIAM.FARRELL@bp.com	✓	✓
Brandon Hilliard	Production Team lead	bp	979-235- 2944	brandon.hilliard@bp.com	✓	✓
MICHAEL A CERNUSKA BIG MAC	MAINTENANCE TEAM LEADER	bp	979-235- 2671	michael.cernuska@bp.com	✓	✓
Lance J. Guillory	Drilling Contractor OFFSHORE Installation mgr	Valaris	979-235- 2871	lance.Guillory@bp.com	✓	✓
Michael Ardoir	Site Services Lead	BP	979-235- 2853	michael.ardoir@bp.com	✓	✓
Shawn Southworth	Lead Well Site Leader	BP	832-248-7761	Shawn.Southworth@bp.com	✓	✓
Ryan Neylon	OLC	Danos	985-498-8308 cell.	ryan.neylon@bp.com	✓	✓
Josh Wyatt	HSE	bp	979-235- 2857	Josh.Wyatt@bp.com	✓	✓
Randall Reed	Well Site Leader	BP	832-248-7761	Randall.Reed@BP.com	✓	✓

Date:

Name	Title	Organization Representing	Business Phone	Business Email	At Opening	At Closing
Ron McClary	HSE	BSEE		ronald.mcclary@bsee.gov	✓	✓
MICHAEL HUDDEY	Offshore Operations	BSEE	722-332-5800	michael.huddey@bsee.gov		
LEWIS TEVD HUYETTE	USCGE	USCGE	361-532-5800	lewis.tevd_huyette@uscg.mil		
ED HUDDEY	LEWIS TEVD HUYETTE	BSEE	361-532-5800	ed.huddey@bsee.gov		

APPENDIX 3 - Transaqua HT SDS

Section 1. Identification

Product name Transaqua HT
SDS # 453721
Code 453721-FR01

Relevant identified uses of the substance or mixture and uses advised against

Product use Fire-resistant hydraulic fluid.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07470
Telephone: 1-888-CASTROL

Supplier BP Lubricants USA Inc.
P.O. Box 4518
Houston, Texas 77210-4518
Telephone: 1-877-542-6792

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735
Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)

Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture ACUTE TOXICITY (oral) - Category 4
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms



Signal word

Warning

Hazard statements

Harmful if swallowed.
May cause damage to organs through prolonged or repeated exposure. (kidneys)

Precautionary statements

Prevention

Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

Storage

Not applicable.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

None known.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture

Ethylene glycol; ethanediol. Proprietary performance additives.

Ingredient name	CAS number	%
Ethylene glycol	107-21-1	≥25 - ≤50
2,2',2''-nitrilotriethanol	102-71-6	≤5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation

If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

Ingestion

If ingested, call a physician or Poison Control Center immediately. Get medical attention urgently informing the doctor that a product containing ethylene glycol has been ingested and specific treatment may be required. Transport casualty together with the product container, its label, or the safety data sheet urgently to hospital. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Note: High Pressure Applications

Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis.

Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

Specific treatments

Ethylene Glycol: Gastric irrigation, ethanol or fomepizole may have value in treatment. Consult physician.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water fog, alcohol resistant foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media

Do not use water jet.

Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products

Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)
nitrogen oxides (NO, NO₂ etc.)

Special protective actions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. DO NOT ADD NITRITES TO THIS FLUID.

Not suitable

Prolonged exposure to elevated temperature.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Ethylene glycol	ACGIH TLV (United States). STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 3/2017 Form: Inhalable fraction. Aerosol only. STEL: 50 ppm 15 minutes. Issued/Revised: 3/2017 Form: Vapor fraction TWA: 25 ppm 8 hours. Issued/Revised: 3/2017 Form: Vapor fraction
2,2',2''-nitrilotriethanol	ACGIH TLV (United States). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 9/1994

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Butyl gloves. Neoprene gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacture and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacture and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state

Liquid.

Color

Yellow. [Light]

Odor

Not available.

Odor threshold

Not available.

pH

8.8 [Conc. (% w/w): 100%]

Melting point/freezing point

Not available.

Boiling point, initial boiling point, and boiling range

Not available.

Flash point

Closed cup: Not applicable. [Water content interferes with flash point determination.]

Pour point

-35 °C

Evaporation rate

Not available.

Flammability

Not applicable. Based on - Physical state

Lower and upper explosion limit/flammability limit

Not available.

Vapor pressure

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Water	23.8	3.2				
Ethylene glycol	0.09	0.012				
2,2',2''-nitrilotriethanol	<0.01	<0.0013				

Relative vapor density

Not available.

Density

>1000 kg/m³ (>1 g/cm³) at 15°C

Solubility

Soluble in water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water

Not applicable.

Auto-ignition temperature

Ingredient name	°C	°F	Method
Ethylene glycol	398	748.4	
2,2',2''-nitrilotriethanol	324	615.2	

Decomposition temperature

Not available.

Viscosity

Kinematic: 2.3 mm²/s (2.3 cSt) at 40°C

Particle characteristics

Median particle size

Not applicable.

Section 10. Stability and reactivity

Reactivity

No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

Chemical stability

The product is stable.

Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid

Avoid excessive heat.

Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Classification

Product/ingredient name	OSHA	IARC	NTP
2,2',2''-nitrilotriethanol	-	3	-

Descriptors:

OSHA:
+ - Potential occupational carcinogen

IARC:
1 - Carcinogenic to human.
2A - Probable human carcinogen.
2B - Possible carcinogen to human.
3 - Not classifiable as a human carcinogen.
4 - Probably not a human carcinogen.

NTP:
Proven - Known to be human carcinogens.
Possible - Reasonably anticipated to be human carcinogens.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Ethylene glycol	Category 2	oral	kidneys

Information on the likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Skin contact

No known significant effects or critical hazards.

Inhalation

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Section 11. Toxicological information

Ingestion Harmful if swallowed. Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Inhalation May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.

Ingestion Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General May cause damage to organs through prolonged or repeated exposure. (kidney)

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects Birth defects and decreased fetal weight have been observed in laboratory animals fed ethylene glycol in large amounts repeatedly during pregnancy.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1087.08 mg/kg

Additional information Alkanolamine: This product contains an alkanolamine. In all metalworking fluids containing amines, there is a potential for forming nitrosamines which are animal carcinogens. Therefore, no nitrites or related nitrosating agents should be added to such compositions.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Section 12. Ecological information

Mobility in soil

Soil/water partition
coefficient (K_{oc})

Not available.

Mobility

Spillages may penetrate the soil causing ground water contamination.

Other adverse effects

No known significant effects or critical hazards.

Other ecological information

Miscible in water.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Diluted fluid should not be discharged into sewage systems unless provided for by local regulations. Dispose under conditions approved by the local authority or via a licensed waste disposal contractor.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	Reportable quantity 10869.6 lbs / 4934.8 kg [1185.1 gal / 4486.2 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	-	-	-

Special precautions for user

Not available.

Section 14. Transport information

Transport in bulk according
to IMO instruments

Not available.

Section 15. Regulatory information

U.S. Federal regulations

United States inventory
(TSCA 8b)

All components are active or exempted.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification

ACUTE TOXICITY (oral) - Category 4
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Ethylene glycol	107-21-1	36.8 - 46
Supplier notification	Ethylene glycol	107-21-1	36.8 - 46

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: ETHYLENE GLYCOL; 1,2-DIHYDROXYETHANE; TRIETHANOLAMINE

New Jersey

The following components are listed: ETHYLENE GLYCOL; 1,2-ETHANEDIOL; TRIETHANOLAMINE; ETHANOL, 2,2',2"-NITRILOTRIS-

Pennsylvania

The following components are listed: 1,2-ETHANEDIOL; ETHANOL, 2,2',2"-NITRILOTRIS-

California Prop. 65

 **WARNING:** This product can expose you to chemicals including Methyl isobutyl ketone, Benzene and Ethylene oxide, which are known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Diethanolamine, which is known to the State of California to cause cancer, and Ethylene Glycol and Ethylene Glycol, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Other regulations

Australia inventory (AIC)

All components are listed or exempted.

Canada inventory

At least one component is not listed in DSL but all such components are listed in NDSL.

China inventory (IECSC)

At least one component is not listed.

Japan inventory (CSCL)

At least one component is not listed.

Korea inventory (KECI)

At least one component is not listed.

Philippines inventory
(PICCS)

At least one component is not listed.

Taiwan Chemical
Substances Inventory
(TCSI)

At least one component is not listed.

REACH Status

The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

Section 16. Other information

[National Fire Protection Association \(U.S.A.\)](#)



History

Date of issue/Date of revision	02/16/2022.
Date of previous issue	01/08/2021.
Prepared by	Product Stewardship
Key to abbreviations	ACGIH = American Conference of Industrial Hygienists ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS Number = Chemical Abstracts Service Registry Number GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) OEL = Occupational Exposure Limit SDS = Safety Data Sheet STEL = Short term exposure limit TWA = Time weighted average UN = United Nations UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods. Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

APPENDIX 4 - Crosstrans 206 SDS

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID: 531021
Product Name: Crosstrans 206
Revision Date: Sep 09, 2015 Date Printed: Sep 16, 2016
Version: 2.0 Supersedes Date: Feb 03, 2015
Manufacturer's Name: Cross Oil Refining & Marketing, Inc.
Address: 484 E. 6th Street Smackover, AR, US, 71762
Emergency Phone: CHEMTREC (800) 424-9300
Information Phone Number: 870-864-7500
Fax:
Product/Recommended Uses: Electrical insulating oil.

SECTION 2) HAZARDS IDENTIFICATION

Classification:

Aspiration Hazard - Category 1
Acute aquatic toxicity - Category 3
Chronic aquatic toxicity - Category 3

Pictograms:



Signal Word:

Danger

Hazardous Statements - Health:

May be fatal if swallowed and enters airways

Hazardous Statements - Environmental:

Harmful to aquatic life
Harmful to aquatic life with long lasting effects

Precautionary Statements - General:

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.

Precautionary Statements - Prevention:

Avoid release to the environment.

Precautionary Statements - Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor.
Do NOT induce vomiting.

Precautionary Statements - Storage:

Store locked up.

Precautionary Statements - Disposal:

Dispose of contents/container to disposal recycling center. Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0064742-53-6	MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (MILD) LIGHT NAPHTHENIC	77% - 100%
0000128-39-2	2,6-DI-T-BUTYLPHENOL	0.0% - 0.3%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

SECTION 4) FIRST-AID MEASURES

Inhalation:

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell or are concerned.

Skin Contact:

Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

Eye Contact:

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

Ingestion:

Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position.

If more than several mouthfuls have been swallowed, give two glasses of water (16 Oz.).

Notes:

High velocity injection of grease under the skin may result in serious injury. If left untreated, the affected area is subject to infection, disfigurement, lack of blood circulation and may require amputation. When dispensed by high-pressure equipment, this material can easily penetrate the skin and leave a bloodless puncture wound. Material injected into a finger can be deposited into the palm of the hand and in rare occasions up to the elbow. Within 24 to 48 hours the patient may experience swelling, discoloration, and throbbing pain in the affected area. Immediate treatment by a surgical specialist is recommended.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Dry chemical, foam, carbon dioxide, water spray or fog is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water or foam may cause frothing. If leak or spill has not ignited, use water spray to cool the containers and to provide protection for personnel attempting to stop the leak.

Unsuitable Extinguishing Media:

Do not use water in a jet.

Specific Hazards in Case of Fire:

Hazardous combustion products may include: Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones.

Fire-fighting Procedures:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions:

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure:

Immediately turn off or isolate any source of ignition. Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Clean up immediately. Contain spill. Wipe up or add suitable absorbent, non-combustible, inert material such as sand, sawdust, etc. to spill area and shovel into appropriate container for disposal. Local authorities should be advised immediately if required or if significant spillages cannot be contained.

Ventilate area.

Recommended equipment:

Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions:

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Will not produce vapors unless heated to temperatures of ~300 °F.

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains/surface waters/ groundwater. Retain and dispose of contaminated wash water.

SECTION 7) HANDLING AND STORAGE

General:

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.

Ventilation Requirements:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous.

Minimum feasible handling temperature should be maintained. Periods of exposure to high temperature should be minimized. Water contamination should be avoided.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection:

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin protection:

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Laundry soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours.

Supplied air respiratory protection should be used for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.

Appropriate Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA Tables (Z1, Z2, Z3)	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
2,6-DI-T-BUTYLPHENOL												
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (MILD) LIGHT NAPHTHENIC	500	2000			1							

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)	ACGIH Carcinogen	ACGIH Notations	ACGIH TLV Basis
2,6-DI-T-BUTYLPHENOL							
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (MILD) LIGHT NAPHTHENIC							

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density @ 15.6°C	7.432 lb/gal
Specific Gravity @ 15.6°C	0.891
Appearance	Clear; light amber to dark liquid
Odor Threshold	N.A.
Odor Description	Mild hydrocarbon odor
pH	N.A.
Water Solubility	Insoluble
Flammability	N/A
Flash Point Symbol	N.A.
Flash Point, COC	152.0 °C (305.6 °F)
Viscosity	9.15 cSt @ 40°C (104°F)
Lower Explosion Level	N.A.
Upper Explosion Level	N.A.
Vapor Pressure	0 mmHg (Calculated @ 20 C/68 F)
Vapor Density	1+
Freezing Point	N.A.
Pour Point	-46.0 °C (-50.8°F)
Melting Point	N.A.
Low Boiling Point	392 °F
High Boiling Point	794 °F
Auto Ignition Temp	N.A.
Decomposition Pt	N.A.
Evaporation Rate	N.A.
Partition Coefficient: n-Octanol/Water	N.A.

SECTION 10) STABILITY AND REACTIVITY

Stability:

Stable

Conditions to Avoid:

Avoid heat, sparks, flame, build up of static electricity, contact with incompatible materials.

Hazardous Polymerization:

Will not occur.

Incompatible Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

Evolves toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones when heated to combustion.

SECTION 11) TOXICOLOGICAL INFORMATION

Skin Corrosion/Irritation:

Prolonged or repeated contact may cause skin irritation.

Serious Eye Damage/Irritation:

Irritating, but will not permanently injure eye tissue.

Respiratory/Skin Sensitization:

No Data Available

Germ Cell Mutagenicity:

No Data Available

Carcinogenicity:

The highly refined mineral oil contains <3% DMSO extract as measured by IP 346, hence the classification of a carcinogen need not apply.

Reproductive Toxicity:

No Data Available

Specific Target Organ Toxicity - Single Exposure:

No Data Available

Specific Target Organ Toxicity - Repeated Exposure:

No Data Available

Aspiration Hazard:

May be fatal if swallowed and enters airways.

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

May be fatal if swallowed and enters airways

Acute Toxicity:

No Data Available

0064742-53-6 MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (MILD) LIGHT NAPHTHENIC

LC50 (Rodent - rat, Inhalation) : 2180 mg/m3 (4 hours exposure) Toxic effects : Lungs, Thorax, or Respiration - structural or functional change in trachea or bronchi.

LD50 (Rodent - rat, Oral) : >5000 mg/kg, Toxic effects : Behavioral - somnolence (general depressed activity).

LD50 (Rodent - rabbit, Administration onto the skin) : >2000 mg/kg, Toxic effects : Skin and Appendages - primary irritation (after topical exposure)

SECTION 12) ECOLOGICAL INFORMATION

Toxicity:

This product is not toxic to fish but may coat gill structures resulting in suffocation if spilled in shallow, running water. Product may be moderately toxic to amphibians by preventing dermal respiration.

If applied to leaves, this product may kill grasses and small plants by interfering with transpiration and respiration.

This product may cause gastrointestinal distress in birds and mammals through ingestion.

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

Persistence and Degradability:

Is rapidly biodegradable. Biodegradation is possible with 100 to 120 days in aerobic environments at temperatures above 70 °F (21 °C).

Bio-accumulative Potential:

No Data Available.

Mobility in Soil:

No Data Available.

Other Adverse Effects:

No Data Available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal:

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information:

Bulk Shipping Description: Does not apply to bulk oil shipping.

Non-Bulk Shipping Description: Does not apply to non-bulk oil shipping.

Identification Number: Not applicable.

Hazard Classification: Not applicable.

Other: See 49 CFR for additional requirements for descriptions, allowed modes of transport and packaging. For more information concerning spills during transport, consult latest DOT Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

IMDG Information:

This material is not classified as dangerous under IMDG regulations.

IATA Information:

This material is not classified as dangerous under IATA regulations.

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0064742-53-6	MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (MILD) LIGHT NAPHTHENIC	77% - 100%	DSL,SARA312,TSCA,OSHA
0000128-39-2	2,6-DI-T-BUTYLPHENOL	0.0% - 0.3%	DSL,SARA312,TSCA

SECTION 16) OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Glossary:

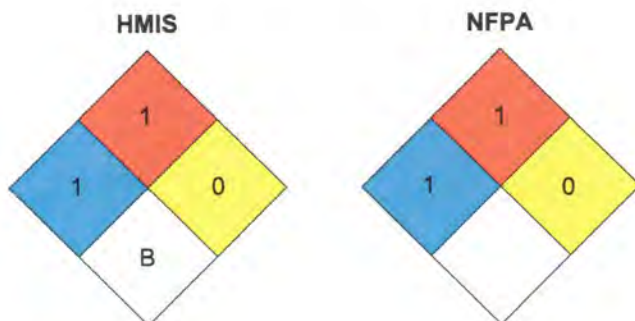
ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ - Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA - Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

Version 2.0:

Changes made on: Section 1, Section 2, Section 3, section 8, Section 9, Section 11, Section 12 and Section 15

Revision Date: Sep 9, 2016

Please contact the supplier for further information on the version history



Chronic :



DISCLAIMER

This SDS is prepared to comply with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) as prescribed by the United States (US) Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

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