South Dakota Spill Report Form

PRCF #: **Case #:** 2025.106

Reported (MM/DD/YY): 7/22/25	Time: ~approx 8 am central	Recorded By: TK

A. REPORTER

Reported By: Zac Archer

Organization Name: Pennington County Highway — ☐ Discharger ☐ Public ☐ State ☑ Local ☐ Federal

Phone: — Email:

Address: 3601 Cambell St.

City: Rapid City — State: SD — Zip: 57701

B. DISCHARGER (Responsible Party) ☐ As Above in A

Name: Bituminous Paving - Chris Brehmer

Address: PO Box 6

City: Ortonville — State: MN — Zip: 56278

Phone: — Email:

C. INCIDENT DATE & LOCATION ☐ As Above In B

Spill Date: (MM/DD/YY) 7/21/25 applied — Spill Time: heavy rain hours later

Street or Approx. Location: multiple roads in Rapid Valley

Survey Description:

City: Rapid Valley — County: Pennington — State: SD — Zip:

D. MATERIAL

Material type (Code/Name): ☐ Hazardous Substance ☐ Oil ☐ Material Unknown ☐ Other	Quantity Spilled	Spilled in Water	Units (Check one)	
chip seal oil			☐ lb. ☐ bbl.	☑ gal. ☐ oth.
			☐ lb. ☐ bbl.	☐ gal. ☐ oth.
			☐ lb. ☐ bbl.	☐ gal. ☐ oth.

E. SOURCE

Source of Spill: ☐ AST ☐ UST ☐ Railway ☐ Transport ☐ Fixed Facility ☐ Pipeline ☑ Highway ☐ Other

Description:

Regulated Tank Facility: ☐ Tank Facility ID #:

F. MEDIUM

Medium Affected: ☐ Air ☐ Land ☐ Water ☐ Groundwater ☐ Within Facilities Only

Waterway Affected:

G. CAUSE

Reported Cause: ☐ Transportation Accident ☐ Operational Error ☐ Dumping ☐ Equipment Failure ☐ Natural Phenomenon ☐ Unknown ☑ Other

Description:

H. DAMAGES

# of Injuries: — # of Fatalities:

I. ACTIONS

Response Action Taken:

K. NOTIFIED

Responding Agency: ☑ DANR ☑ Local ☑ Discharger ☐ Federal ☐ EPA ☐ Other

Agencies Notified:

K. COMMENTS

Comments:

Some spots and it is still sticky and not fully set - Was applied Friday and Saturday

Ennen Road is the worst one - Pennington County (pic with person wearing hi-vis, tree pic and camper pic)
Tinton Road District is also bad - Road District

Department of Agriculture and Natural Resources
Inspection, Compliance, and Remediation Program
523 East Capitol Avenue
Pierre, South Dakota 57501

Business Hours M – F 8:00-5:00 pm
Normal Business Hours- (605)773-3296
After Business Hours- (605) 773-3231

DEPARTMENT of AGRICULTURE and NATURAL RESOURCES
JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

July 22, 2025

Chris Brehmer
Bituminous Paving Inc.
43153 Big Stone County Rd 21
Odessa, MN 67276

Subject: Department of Agriculture and Natural Resources File Number 2025.106, pertaining to a road oil runoff event on several streets in Rapid Valley/Rapid City, SD.

Dear Mr. Brehmer,

The Department of Agriculture and Natural Resources (DANR) is contacting you regarding the event noted above. A copy of the initial spill report form is enclosed for your review.

Based upon the information provided, oil was applied to streets in the Rapid Valley/Rapid City as part of the road chip sealing process. Several hours later, a heavy rainfall event occurred, washing oil off the road and into adjoining ditches, and drainage areas. The procedures for the assessment and cleanup in cases such as this were developed to protect surface and groundwater resources. In this situation, DANR requires the following (some of these actions may have already taken place):

- Retain the services of an environmental consulting firm to direct cleanup on your behalf;
- Immediately remove contaminated soil, from ditches and dry drainage areas;
- If a sheen is present on any pooled water, use absorbent materials or booms to collect the oil (Check downstream waterbodies such as the dam east of Ennen Drive);
- Properly dispose all absorbent materials and contaminated soil/hardened asphalt at a permitted municipal solid waste landfill. Provide DANR with copies of all disposal receipts;
- Reseed ditch areas where grass was removed as a result of cleanup work, in a manner acceptable to the Pennington County Highway Department or the impacted landowner; and
- By August 22, 2025, complete and return the attached Written Contamination Incident Follow Up Report form.

Macy Jo Peterson will be the project manager for this case and will review the progress of your cleanup activities. She will contact you if further issues arise or if additional

cleanup is required. If you have questions or need additional information, please do not hesitate to contact Macy Jo at 605.773.3296. Thank you for your cooperation protecting South Dakota's natural resources.

Sincerely,

Trish Kindt
Inspection, Compliance, & Remediation Program
(605) 773-3296

Enclosures

cc: Dustin Willett, Pennington County Emergency Manager
Zachary Archer, Pennington County Highway Department
Sean Kruger, DANR Surface Water Quality Program

DEPARTMENT of AGRICULTURE and NATURAL RESOURCES
JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

October 8, 2025

Chris Brehmer
Bituminous Paving Inc.
PO Box 6
Ortonville, MN

RE: No Further Action designation for DANR File# 2025.106: pertaining to a road oil runoff event on several Rapid Valley streets in Rapid City, South Dakota.

Dear Mr. Brehmer,

The Department of Agriculture and Natural Resources (DANR) has reviewed the available information regarding the road oil runoff cleanup work and is granting this case No Further Action designation. Based on available information, it appears there is no current risk to human health or further risk to the environment.

Please note, if future problems arise as a result of the remaining road oil, Bituminous Paving Inc. may be responsible for conducting additional assessment or remediation. This No Further Action designation will be recorded in DANR's release database and can be found at: https://apps.sd.gov/NR42InteractiveMap.

Thank you for your cooperation in protecting the ground water resources of South Dakota. If you have questions or concerns about this No Further Action designation, please contact Macy Jo Peterson of my staff at (605) 773-3296.

Sincerely,

Hunter Roberts
Secretary
SD DANR

cc: Dustin Willett, Pennington County Emergency Manager
Zachary Archer, Pennington County Highway Department
Sean Kruger, DANR
Matt Carreiro, AET

DEPARTMENT of AGRICULTURE and NATURAL RESOURCES
JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

Memorandum

To: Terry Florentz, P.E., Administrator
Inspection, Compliance, and Remediation Program

From: Macy Jo Peterson, Environmental Scientist II
Inspection, Compliance, and Remediation Program

10/8/2025
Macy Jo Peterson 10/8/25

Subject: No Further Action for DANR Spill Case 2025.106: pertaining to a road oil (Anionic Asphalt Emulsion) runoff event along several Rapid Valley streets in Rapid City, South Dakota.

Date: October 8, 2025

Site Description
Based on the information provided, on Friday, July 21, 2025, road oil was applied to streets in the Rapid Valley neighborhood as part of the road chip sealing process. Several hours later, a heavy rainfall event occurred, washing oil off the road and into adjoining ditches, gutters, and drainage areas. In response, Bituminous Paving retained the services of American Engineering Testing (AET) to perform remedial work. An estimated 28 sites were impacted by the road oil runoff. The areas primarily impacted lawns and streets.

Investigation Efforts
On July 23, 2025, AET accompanied Terry Florentz, DANR ICR Administrator, to assess the impacted locations. DANR determined 14 locations required remedial action. During the month of August, AET removed contaminated soil from private owner's lawns and replaced with clean soil and grass seed. Sidewalks and curbs were also scraped to remove any solid left-over road oil. On August 12, 2025, Bituminous Paving scraped gravel driveways impacted by the release and steam cleaned a concrete driveway. AET replaced the impacted gravel with clean gravel and soil. All contaminated soil and gravel were properly disposed of at the Rapid City Solid Waste Facility.

Recommendations
There is minimal remaining visible contamination on the driveways, roads, and ditches in Rapid Valley. For this reason, there is likely no further harm to the environment and no harm to human health as a result of this release. Therefore, I recommend DANR case 2025.106 be given No Further Action status.

Macy Jo Peterson
SD DANR
Inspection, Compliance, and Remediation Program

RECEIVED
By Macy Jo Peterson at 1:45 pm, Sep 29, 2025

INCIDENT FOLLOW-UP REPORT

DANR CASE FILE #: 2025.106

RETURN COMPLETED FORM TO:

SOUTH DAKOTA DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES (DANR)
INSPECTION, COMPLIANCE, AND REMEDIATION PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182

NAME/TYPE OF PRODUCT SPILLED: Anionic Asphalt Emulsion

TOTAL AMOUNT OF PRODUCT SPILLED: Unknown

POUNDS OF ACTIVE INGREDIENT SPILLED (fertilizer/pesticide spills): Not Applicable (N/A)

AMOUNT OF PRODUCT RECOVERED: Impacted Soil Material, see below and attached information

WAS SURFACE WATER OR GROUND WATER IMPACTED BY THE SPILL?: No

SPILL DATE: 7/21/2025 DATE CLEANUP OCCURRED: 8/7, 8/12, 8/15, & 9/16, 2025

SPILL LOCATION (physical address, directions, distance to nearest intersection or landmark, etc.):
Rapid Valley, Pennington County, South Dakota

LATITUDE/LONGITUDE: 44.064164°, -103.151333°

LAND USE (Residential, Commercial, Agricultural, Industrial, Other – describe): ROW and Residential

RESPONSIBLE PARTY: Bituminous Paving, Inc.

MAILING ADDRESS: P.O. Box 6

CITY/STATE: Ortonville, MN TELEPHONE NUMBER: 320-273-2113

PROPERTY OWNER: Pennington County / Private Property Owners (see Table 1)

MAILING ADDRESS: P.O. Box 6160

CITY/STATE: Rapid City, SD TELEPHONE NUMBER: 605-394-2174

CONSULTANT / CLEANUP CONTRACTOR (if applicable): American Engineering Testing, Inc.

MAILING ADDRESS 1745 Samco Road

CITY/STATE: Rapid City, SD TELEPHONE NUMBER: 605-388-0029

INSURANCE PROVIDER (if applicable): Federated Insurance

NAME OF INSURED: Bituminous Paving, Inc.

POLICY NUMBER: CLAIM NUMBER: Loss 858904-3

MAILING ADDRESS: PO Box 486

CITY/STATE: Owatonna, MN TELEPHONE NUMBER: 507-444-7061

INCIDENT FOLLOW-UP REPORT (Page 2 of 2)

DANR CASE FILE #: 2025.106

WAS SOIL EXCAVATED?: Yes DIMENSIONS OF EXCAVATION: Multiple Locations (see attached)

CUBIC YARDS EXCAVATED: 260 Lbs. (0.13 Ton) of Impacted Soil

DISPOSAL SITE (Name of Facility): Rapid City Landfill

DISPOSAL DATE: 8/7/2025

*****If soil was disposed, attach copies of disposal receipts*****

FERTILIZER/PESTICIDE SPILLS ONLY **!!REQUIRES DANR PRE-APPROVAL!!**

WILL THE CONTAMINATED SOIL/MATERIAL BE LAND APPLIED?: N/A

WHAT CROP IS/WILL BE GROWN ON THE LAND APPLICATION SITE?: N/A

LEGAL DESCRIPTION OF THE LAND APPLICATION SITE: N/A

TOTAL ACRES SOIL/MATERIAL WILL BE APPLIED TO: N/A

YARDS/POUNDS/ETC. OF SOIL/MATERIAL TO BE APPLIED: N/A

CONCENTRATION OF CHEMICAL IN THE SOIL/MATERIAL TO BE APPLIED?: N/A

THIS SECTION FOR DANR OFFICE USE ONLY

LAND APPLICATION APPROVAL DATE: _____

APPLICATION APPROVED BY: _____

WAS SPILL CONTAINED TO IMMEDIATE AREA?: Yes

DISTANCE TO AND NAME OF NEAREST SURFACE WATER (include currently dry perennial streams): Private pond 130' south of Location 13 / Private pond 850' south of Location 23 (attached Fig. 2)

DISTANCE TO NEAREST WATER WELL (if applicable): N/A

OWNER OF NEAREST WATER WELL (if applicable): N/A

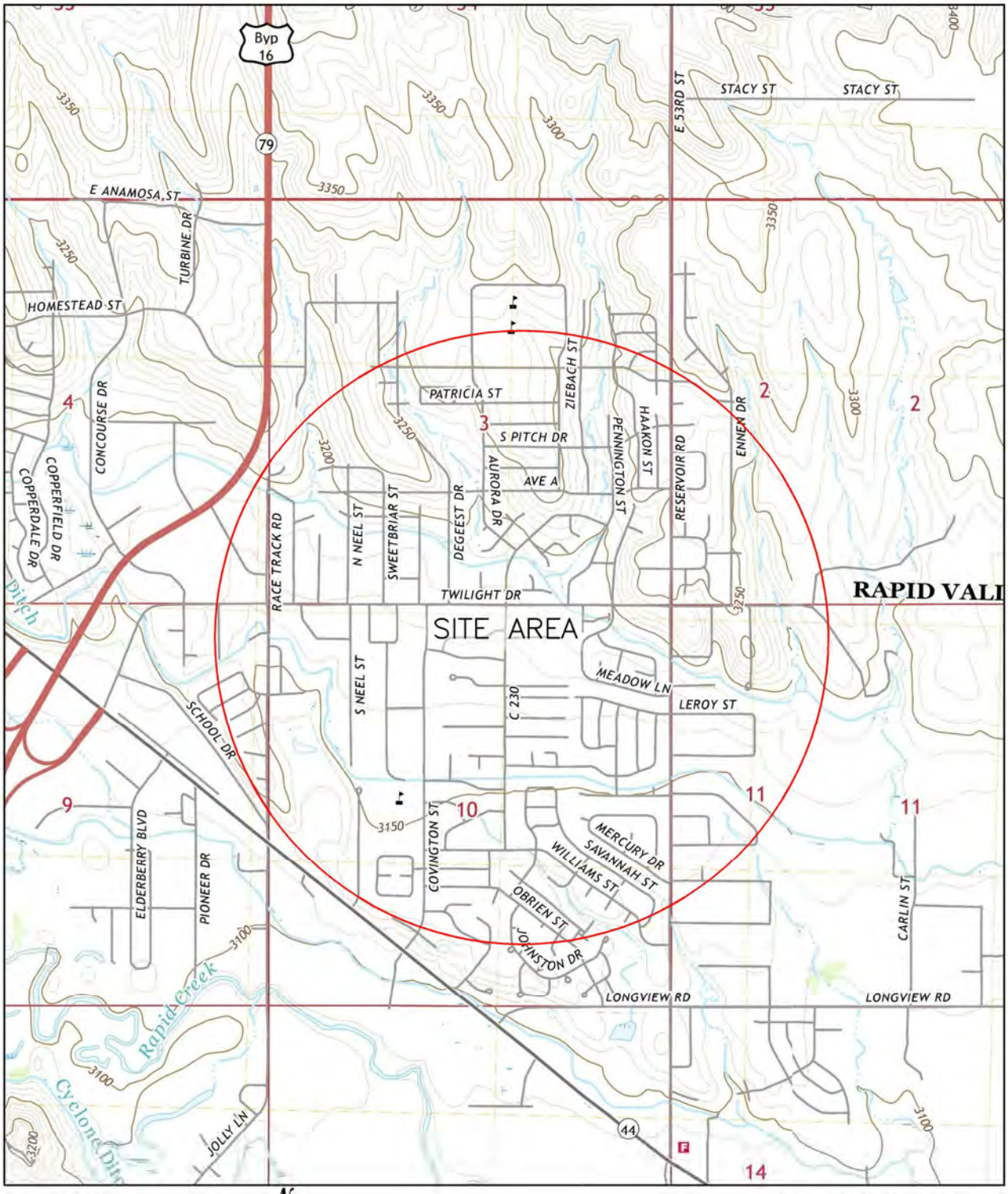
On July 23, 2025, AET accompanied a DANR representative to assess 25 impacted locations within the site area, as identified by Pennington County officials. DANR determined that 12 of these locations, along with two additional sites, required restorative action (see attached Figures and Table 1). Several impacted areas were located on privately owned property. AET contacted the respective landowners and proceeded with cleanup only where consent was obtained. During this period, an additional property owner requested cleanup, which was added to the scope of work (see Table 1). AET mobilized to the site on August 7, 2025, to perform cleanup activities under DANR direction. Cleanup included removing contaminated soil from lawns, replacing it with clean topsoil and grass seed, and scraping stained solids from sidewalk curbs and storm drains. On August 12, 2025, the Responsible Party (RP) organized crews to address impacted gravel driveways and steam clean a concrete driveway. AET returned on August 15, 2025, to document RP activities and complete remaining cleanup tasks. In response to a subsequent residential complaint, AET removed and replaced impacted gravel and soil on September 16, 2025, at the RP's request.

Supporting documentation, including pre- and post-cleanup photos and landfill disposal ticket, is attached. Based on field observations and documentation, AET concludes that the cleanup actions taken were sufficient to mitigate potential risks to human health and the environment and address landowner concerns. AET recommends this release be considered for case closure or no further action status.

FORM COMPLETED BY: Matthew Carreiro / Bradley Bishop DATE: September 24, 2025

E-MAIL ADDRESS: mcarreiro@teamAET.com / bbishop@teamAET.com

Original – DANR
Copy – Keep for your records.



SCALE (FEET)

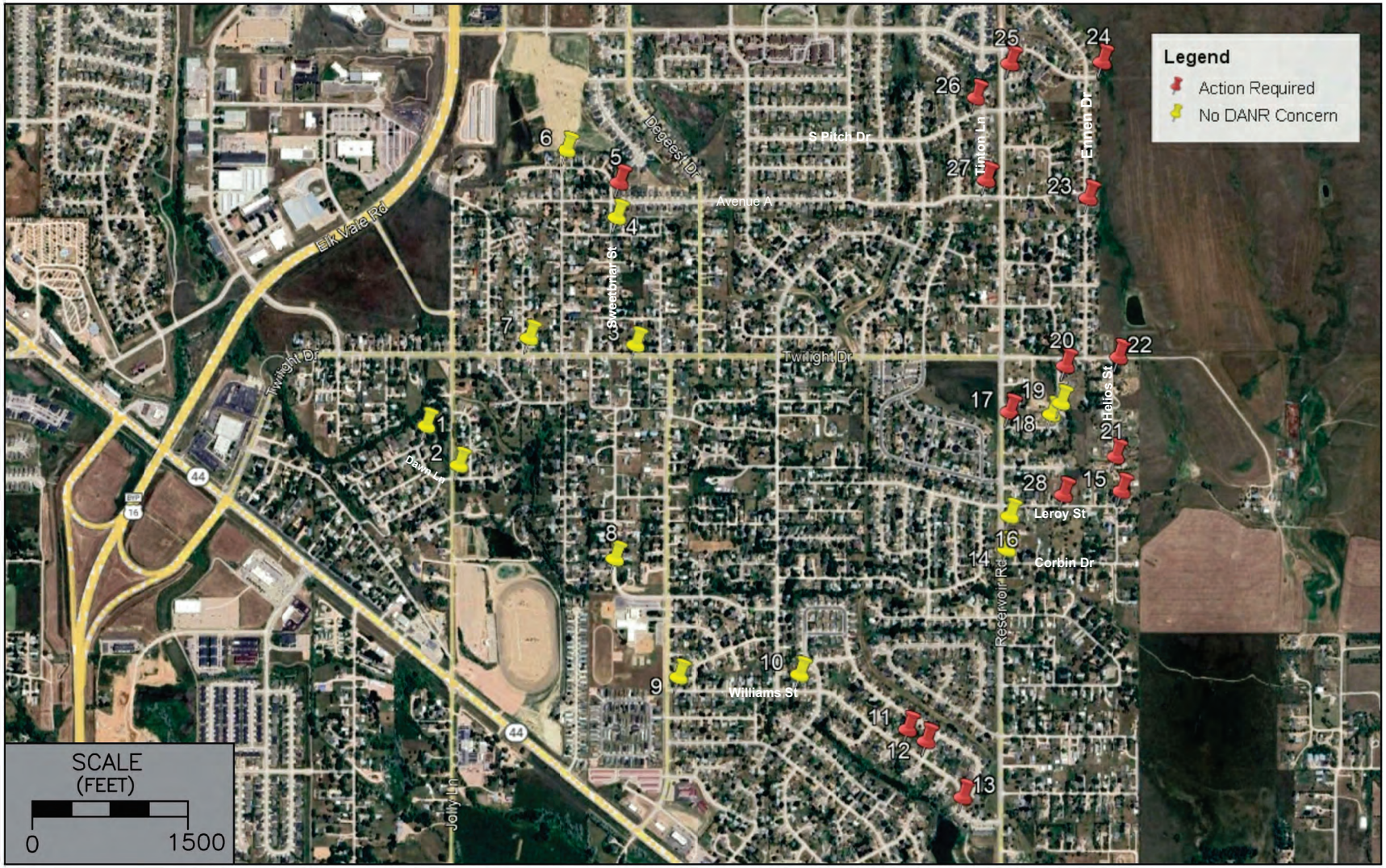
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USGS TOPOGRAPHIC MAP
PROVIDED BY USGS DATABASE
DATED: 2021 SCALE: 1:24,000

AMERICAN ENGINEERING TESTING

PROJECT: RAPID VALLEY ROAD OIL RUNOFF RAPID VALLEY, SOUTH DAKOTA		PROJECT NO.: P-0045711
SUBJECT: SITE LOCATION TOPO MAP	DRAWN BY: JJH	DATE: SEPTEMBER 19, 2025
SCALE: 1 INCH = 2,000 FEET	REVIEWED BY: BPB	FIGURE: 1



AMERICAN ENGINEERING TESTING	PROJECT: RAPID VALLEY ROAD OIL RUNOFFF RAPID VALLEY, SOUTH DAKOTA		PROJECT NO. P–0045711
	SUBJECT: SITE AERIAL WITH IMPACTED AREAS	DRAWN BY: JJH	DATE: SEPTEMBER 19, 2025
	SCALE: 1 INCH = 1500 FEET	REVIEWED BY: BPB	FIGURE: 2

TABLE 1					
Location	**Original description of impacted area from Pennington Co. (7/22)**	**DANR Action Required? Y/N**	**Notes from AET/DANR site visit (7/23)**	**Photo Log Photo #**	**Cleanup**
1	3852 Dawn Ln - Black streak down gravel drive.	N	Streak ends near end of gravel drive and does not continue down drainage. Spoke with homeowner on site who expressed they overall are not concerned and do not want cleanup on property.	1	NA
2	Intersection of Sherry Ln & Jolly Ln - sheen in south gutter, black down both ditches.	N	Product hardened, lack of solids, no concern.	NA	NA
3	Intersection of Sweetbriar & Twilight - Black down east drive into storm sewer.	N	Product hardened and no longer mobile around sewer inlet.	NA	NA
4	Intersection of Sweetbriar & Macks - Black going down edge of east side of street into northeast corner culvert.	N	Product hardened and no impact at culvert outfall.	2	NA
5	Intersection of Sweetbriar & Avenue A near house# 4400 - Black down east side of street into 4400 Avenue A yard and into culvert. Down east side of street and into northeast storm sewer.	Y	Staining in yard and around culvert inlet. Marked areas for removal. Contact homeowner of 4400 Ave. A for permission to remove stained area and apply topsoil. No impact at culvert outfall, product hardened at north storm sewer.	3, 4	Attempted to contact property owner multiple times. AET left a letter on property requesting access, but did not receive a reply.
6	Sweetbriar to Neel to end of county maintenance - Black running down north side of street from Neel to end of county maintenance. Black running into 4130 and 4134 yards and down into north storm sewer.	N	Product entered storm sewer on north side of Sweetbriar, product hardened and did not exit culvert outfall.	5, 6	NA
7	Intersection of Zinnia & Twilight - Black running down east side of street into storm sewer at Twilight.	N	Product hardened and no longer mobile around sewer inlet.	NA	NA
8	2481 Sweetbriar - Black down west and east sides of street into storm sewer.	N	Product hardened and lack of solids.	7, 8	NA
9	4053 Williams - Water with oil sheen south side.	N	No sheen at time of visit.	NA	NA
10	4900 Williams - Black down north side of street into storm sewer.	N	Product hardened and no longer mobile around sewer inlet.	9	NA
11	5214 Williams - Oil in front of drive also tracked into drive.	Y	Sheen on water at foot of driveway. Apply sand/absorbent material and sweep.	Before: 10 After: 52	Completed 8/7/2025.
12	Intersection of Preston & Williams - Black running down street into northwest storm sewer.	Y	Stained solids around storm sewer; scrape and remove with shovel along curb.	Before: 11 After: 53	Completed 8/7/2025.

TABLE 1					
Location	**Original description of impacted area from Pennington Co. (7/22)**	**DANR Action Required? Y/N**	**Notes from AET/DANR site visit (7/23)**	**Photo Log Photo #**	**Cleanup**
13	5409/5407 Williams - Black running down both sides of street into drainage between addresses.	Y	Staining on material in concrete drainage, ends before entering drain to surface water behind residences. Scrape solids from concrete. No impact at outfall.	Before: 12, 13, 14 After: 42, 43	Completed 8/7/2025.
14	Reservoir Rd - Black coming off of Corbin onto Reservoir storm sewer.	N	Product hardened and no longer mobile around sewer inlet.	15	NA
15	Lunar/Leroy - Black down into grass around mailboxes at road curve.	Y	Surface scrape around mailboxes.	Before: 16 After: 54	Completed 8/7/2025.
16	2440 Reservoir - Black coming down street into storm sewer in front of address.	N	Product hardened and no longer mobile around sewer inlet	17	NA
17	Uranus/Reservoir - Black coming down both sides of Uranus into corner lot yards and storm sewer on Uranus and Reservoir.	Y	Scrape stained solids upgradient of Uranus ad Reservoir storm sewers.	Before: 18, 19 After: 55, 56	Completed 8/15/2025.
18	5647 Uranus - Black coming down street into yard.	N	No concern, minimal staining and product hardened.	NA	NA
19	5634 Uranus - Black coming down Eclipse into rock on east side of address.	N	Minimal staining at edge of lawn, no impact at culvert inlet or outfall. Black fabric around culvert inlet not stained.	20, 21, 22	NA
20	1980 Eclipse - Black down east side of street into lawn on north side of driveway.	Y	Staining in yard on north side of driveway. Contact owner of 1980 Eclipse about removal. No impact at culvert outfall south of driveway.	23, 24	Attempted to contact property owner multiple times. AET left a letter on property requesting access but did not receive a reply.
21	Helios - Starting at 2133 going south to end of cul de sac, black down both sides of street into ALL lawns, culverts, driveways.	Y	2150 Helios - contact owner about covering stained drive with gravel. 2152 Helios - contact owner about covering stained drive with gravel and removal of stained soil. Prodcut crossed fence at south property line onto 5848 Leroy. Contact owner about removal.	Before: 25, 26, 27, 28, 29, 62, 63, 64 After: 44, 45, 46, 47, 48, 65, 66, 67	2152 Helios and 5848 Leroy - Stained soil removed and repaired 8/7/2025. 2150 and 2152 Helios - Gravel drives repaired 8/12/2025. 2251 Helios - Property owner requested cleanup in lawn and driveway; completed by AET 9/16/2025.
22	1914 Helios - Water standing on edge of street with sheen, driveway stained, water running into yard.	Y	Sheen on water at edge of road. Apply sand/absorbent material and sweep. No staining on lawn.	Before: 30 After: 57	Completed 8/15/2025.

TABLE 1					
Location	**Original description of impacted area from Pennington Co. (7/22)**	**DANR Action Required? Y/N**	**Notes from AET/DANR site visit (7/23)**	**Photo Log Photo #**	**Cleanup**
23	Ennen Dr - Black down Ennen in west gutter to drainage across from 1515 Ennen. Down drainage into field.	Y	Staining on concrete drainage, continues into trees and vegetation with impacts to soil at outfall. Dig and remove as much impacted soil as possible. Product may continue across fence to east property. Contact property owner for further investigation/soil removal.	Before: 31, 32, 33 After: 49, 50, 51	Impacts were limited to the immediate area of the outfall and ~20 feet on to eastern property beyond fence. Completed 8/7/2025.
24	Meadow Ridge dead end - Black down both sides of street, east to end of street drainage.	Y	Mild sheen on standing water, staining ends before east property line. Remove areas of stained solids and scrape product sludge from road.	Before: 34, 35 After: 58	Completed 8/7/2025.
25	Intersection of Reservoir & North Pitch - Black running down east side of Reservoir from Meadow Ridge into storm sewer at corner of Reservoir and North Pitch.	Y	Stained solids around storm sewer; scrape and remove with shovel along curb.	Before: 36 After: 59	Completed 8/15/2025.
26	*SDDANR requested impacted solids removal in addition to Pennington County.*	*Y*	*South Pitch Dr - scrape stained solids along curb and around storm sewer on north side of street.*	*60*	*Completed 8/15/2025.*
27	*SDDANR requested impacted solids removal in addition to Pennington County.*	*Y*	*Intersection of Tinton and Ave A - scrape stained solids around NW storm sewer.*	*Before: 37 After: 61*	*Completed 8/15/2025.*
28	*Driveway cleaned due to property owner request.*	*Y*	*Steam clean concrete driveway at 5677 Leroy.*	*Before: 38, 39 After: 40, 41*	*Property owner complained of staining in concrete driveway and requested cleaning; steam cleaning completed 8/12/2025.*

PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 1:	**Location 1. Staining on gravel drive looking west at 3852 Dawn Ln.**
Photo 2:	**Location 4. Culvert outfall at intersection of Sherry Ln and Jolly Ln.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 3:	**Location 5. Staining in lawn and culvert inlet at 4400 Ave A.**
Photo 4:	**Location 5. Culvert outfall at intersection of Sweetbriar and Ave A.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 5:	**Location 6. Storm sewer inlet on north side of Sweetbriar.**
Photo 6:	**Location 6. Storm sewer outfall on north side of Sweetbriar.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 7:	**Location 8. Storm drain on west side of 2481 Sweetbriar.**
Photo 8:	**Location 8. Storm drain on east side of 2481 Sweetbriar.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 9:	**Location 10. Storm sewer inlet 4900 Williams.**
Photo 10:	**Location 11. Water at foot of driveway, 5214 Williams.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 11:	**Location 12. Storm sewer inlet at intersection of Preston and Williams.**
Photo 12:	**Location 13. Concrete drainage between 5407 and 5409 Williams.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 13:	**Location 13. Areas of stained sediment marked for removal between 5407 and 5409 Williams.**
Photo 14:	**Location 13. Inlet at end of concrete drainage between 5407 and 5409 Williams.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 15:	**Location 14. Storm sewer inlet along east side of Reservoir Rd.**
Photo 16:	**Location 15. Mailboxes at Lunar/Leroy.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 17:	**Location 16. Storm sewer inlet at 2440 Reservoir Rd.**
Photo 18:	**Location 17. Uranus storm sewer drain.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 19:	**Location 17. Reservoir Rd storm sewer drain.**
Photo 20:	**Location 19. 5634 Uranus lawn and driveway.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 21:	**Location 19. Culvert inlet at 5634 Uranus.**
Photo 22:	**Location 19. Culvert outfall at 5634 Uranus.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 23:	**Location 20. Lawn and culvert inlet on north side of 1980 Eclipse driveway.**
Photo 24:	**Location 20. Culvert outfall south of 1980 Eclipse driveway.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 25:	**Location 21. 2150 Helios driveway.**
Photo 26:	**Location 21. 2152 Helios driveway.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 27:	**Location 21. 2152 Helios lawn south of driveway.**
Photo 28:	**Location 21. 2152 Helios culvert outfall south of driveway.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 29:	**Location 21. Staining across 2152 Helios southern property boundary at 5848 Leroy.**
Photo 30:	**Location 22. Standing water at 1914 Helios.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 31:	**Location 23. Staining on concrete drainage at Ennen Dr.**
Photo 32:	**Location 23. Stained vegetation and soil at end of Ennen Dr concrete outfall.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 33:	**Location 23. Staining across eastern property boundary at Ennen Dr.**
Photo 34:	**Location 24. Mild sheen on standing water at end of Meadow Ridge.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 35:	**Location 24. Stained solids at end of Meadow Ridge.**
Photo 36:	**Location 25. Stained solids at storm sewer at intersection of Reservoir and North Pitch.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 37:	**Location 27. Impacted solids at intersection of Tinton and Ave A.**
Photo 38:	**Location 28. Driveway at 5677 Leroy before steam cleaning.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 39:	**Location 28. Driveway at 5677 Leroy before steam cleaning.**
Photo 40:	**Location 28. Steam cleaning concrete driveway at 5677 Leroy.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 41:	**Location 28. Concrete driveway after steam cleaning at 5677 Leroy.**
Photo 42:	**Location 13. Stained sediment removal in concrete drainage between 5407 and 5409 Williams.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 43:	**Location 13. No visible impacts on water at outfall of concrete drainage between 5407 and 5409 Williams.**
Photo 44:	**Location 21. 2150 Helios driveway; stained material scraped, and gravel added.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 45:	**Location 21. 2152 Helios driveway; stained material scraped, and gravel added.**
Photo 46:	**Location 21. 2152 Helios new topsoil and grass seed.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 47:	**Location 21. 2152 Helios new topsoil and grass seed.**
Photo 48:	**Location 21. New topsoil across southern property boundary on 5848 Leroy.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 49:	**Location 23. Ennen Dr concrete drainage outfall after stained soil removal.**
Photo 50:	**Location 23. Stained soil removal across eastern property boundary fence at Ennen Dr.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 51:	**Location 23. Dam at end of drainage on property east of Ennen Dr; no visible impacts.**
Photo 52:	**Location 11. Standing water swept and dried at 5214 Williams.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF

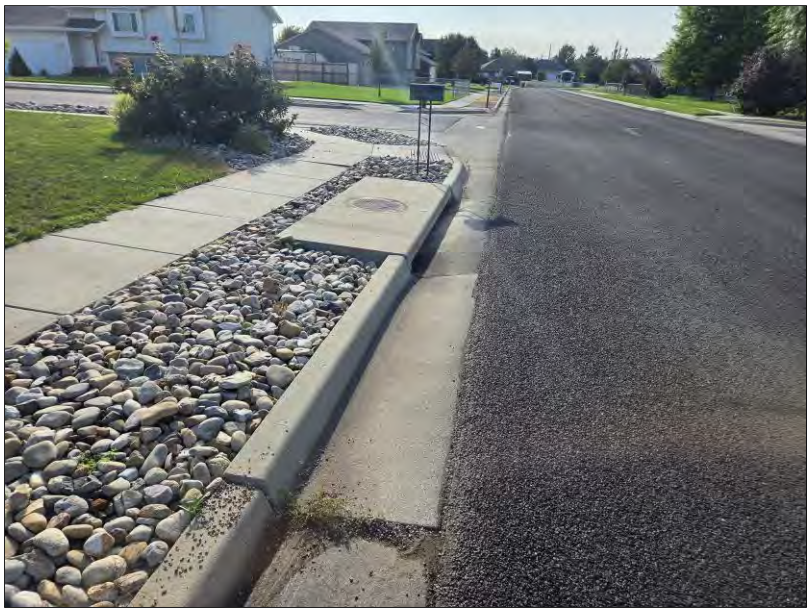


Photo 53:	**Location 12. Stained solids scraped from curb and around drain at Preston and Williams.**
Photo 54:	**Location 15. Stained material around mailboxes removed at Lunar and Leroy.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 55:	**Location 17. Uranus storm sewer drain after scraping.**
Photo 56:	**Location 17. Reservoir storm sewer drain after scraping.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 57:	**Location 22. Standing water removed and dried at 1914 Helios.**
Photo 58:	**Location 24. Stained solids scraped and removed at end of Meadow Ridge.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 59:	**Location 25. Stained solids scraped and removed around storm drain at intersection of Reservoir and N Pitch Dr.**
Photo 60:	**Location 26. Stained solids removed along curb on S Pitch Dr.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 61:	**Location 27. Stained solids scraped and removed from curb at intersection of Tinton and Ave A.**
Photo 62:	**Location 21. Impacted gravel at 2251 Helios driveway.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 63:	**Location 21. Impacted soil in 2251 Helios lawn.**
Photo 64:	**Location 21. Impacted soil in 2251 Helios lawn.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 65:	**Location 21. 2251 Helios driveway with new gravel.**
Photo 66:	**Location 21. 2251 Helios lawn with added topsoil and grass seed.**



PHOTOGRAPHS
RAPID VALLEY ROAD OIL RUNOFF



Photo 67: **Location 21. 2251 Helios with added topsoil and grass seed.**

10246354
Rapid City Solid Waste
5555 S Highway 79
Rapid City, SD 57701
Phone: (605) 394-4197

Ticket: 10246354
Date: 8/7/2025
Time: 12:31:17 - 12:43:25

Customer: 9999999999/Cash (Taxed)
Truck: 72617C
Truck Type: NA/Not Applicable

Gross: 7780 LB In Scale 1
Tare: 7520 LB Out Scale 2
Net: 260 LB
Tons: 0.13

Materials & Services

Origin: NA/Not Applicable
Material: 016/dirt and mud
Quantity: 0.13 Ton
Rate: $0.00/TON
Amount: $ 0.00

Total Taxes: $ 0.00
Total Amount: $ 0.00
Change: 0.00

Weighmaster: Linda H.

Driver:

****

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

IDENTIFICATION of the PREPARATION:

Identification of Product Series: **Anionic Asphalt Emulsion - 500 Series**

Product Identifier/Trade Names (As Labeled): AE150-SD; AE150S; HD-150P; HF-100; HF-1000; HF-150; HF-250; HF-350; HF-500; HFE-100P; HFE-150; HFE-150P; HFE-300; HFE-300P; HFE-60; HFE-60P; HFE-90; HFRS-P1; HFRS-P2

Other Means Of Identification: Anionic Asphalt Emulsions

Recommended Product Use: Road Paving and Resurfacing

Restrictions On Use: Other Than Recommended Use

COMPANY/UNDERTAKING IDENTIFICATION:

U.S. Manufacturer/Supplier's Name: **IDAHO ASPHALT SUPPLY, Inc.**

Address: PO Box 50538,
Idaho Falls, ID 84305

Business Phone: 1-(208)-524-5871 or 1-(800)-524-1679 (8 a.m. to 5 p.m. MST)

Emergency Phone: Chemtrec: 1-(800)-424-9300 [24-hours]

Company Website: https://idahoasphalt.com

DATE OF PREPARATION: 06-22-2021 **REVISION DATE:** New

Section 2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with the UN Global Harmonization Standard under the U.S. OSHA Hazard Communication Standard.

Classification: Carcinogenicity Category 1A, Reproductive Toxicity Category 2, Skin Irritation Category 2, Skin Sensitization Category 1, Eye Irritation Category 2A, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation, Narcotic Effect) Category 3, Specific Target Organ Toxicity (Adrenal System, Thymus, Bones) Repeated Category 1, Aquatic Acute Toxicity Category 3, Aquatic Chronic Toxicity Category 3

Physical Hazards Not Otherwise Classified: Contact with heated product can cause burns. Contents may create or be under pressure during transportation, storage and/or heating conditions.

Chemical Hazards Not Otherwise Classified: Heated asphalts can release hydrogen sulfide, which causes adverse effects at 300 ppm and can be fatal at 500 ppm if exposure is prolonged. Chronic inhalation of fumes from heated product may cause cancer. Contains compounds that are suspected endocrine disruptors.

Signal Word: Danger

Hazard Statements: May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. Causes damages to organs adrenal system and bones through prolonged or repeated exposure. May cause long-lasting harmful effects to aquatic life.

Precautionary Statements:

Prevention: Obtain, read and follow all safety instructions before use. Do not breathe vapors, spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves, protective clothing, eye protection or face protection.

Response: If exposed or concerned, get medical advice. IF ON SKIN (or hair): Remove or take off immediately all contaminated clothing. Rinse skin with water or instant-acting shower. If skin irritation or rash occurs, get medical attention. IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: get medical help. IF SWALLOWED: Get emergency medical help immediately. If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical help if you feel unwell.

Storage: Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard Symbols/Pictograms:



PERCENT OF UNKNOWN TOXICITY BY ROUTE OF EXPOSURE: 50-86% of toxicity by the oral route of exposure is unknown. 14-46% of toxicity is unknown by the dermal route of exposure. 20-52% of toxicity by inhalation is unknown.

HAZARD OVERVIEW

Product Description: These products thick viscous brown to black liquids with a mild hydrocarbon odor.

Health Hazards: Contact with heated product will cause burns. Acute inhalation of fumes will cause irritation of the nose, throat and respiratory system. Contact of fumes with the eyes can cause irritation; direct eye contact with heated product may cause burns and may cause blindness. Chronic skin contact may cause skin eruptions, redness or rash. Although unlikely, accidental ingestion may cause severe burns to the throat and digestive system. Contains multiple compounds that may cause skin sensitization and allergic reactions in susceptible individuals. Chronic inhalation of asphalt fumes may cause cancer; risk of cancer depends on duration and concentration of exposure. Contains a compound that is a suspect reproductive toxin. Contains a compound that can adversely affect the adrenal and endocrine system. Due to possible presence of hydrogen sulfide fumes and the toxicity of hydrogen sulfide, inhalation of fumes should be avoided. Refer to Section 11 for additional information.

Flammability Hazards: Due to the high water content, these products will not burn. If involved in a fire where the water has evaporated, ignition of the residue may occur. If involved in a fire, these products may produce carbon and nitrogen oxides, hydrogen sulfide, hydrocarbons and thick, dense smoke and stream.

Reactivity Hazards: These products are not normally reactive.

Section 2. HAZARD IDENTIFICATION (Continued)

HAZARD OVERVIEW (continued)

Environmental Hazards: Anionic asphalt emulsions contain a complex mixture of hydrocarbons that may be harmful to aquatic and terrestrial organisms. Although these products present minimal environmental hazard when used in road paving and resurfacing, all intentional and accidental release or disposal to the soil or waterways should be avoided.

Emergency Considerations: Emergency responders should wear appropriate protection for situation to which they respond as well as to be aware of potential hydrogen sulfide toxicity and potential for thermal burns of hot asphalts. If hydrogen sulfide poisoning is suspected immediate medical attention is needed.

Section 3. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	WT%	GHS Classification under U.S. OSHA Hazard Communication and Global Harmonization Standards Hazard Statements
Asphalt	8052-42-4	31-65%	Classification: Not hazardous under GHS criteria. Hazard Statements: Not Applicable
Asphalt fumes from heated product		Not possible to determine	Self-Classification (based on IARC-2B classification & GHS criteria): Carcinogenic Cat. 2 Hazard Statements: H351: Suspected of causing cancer.
Diesel Fuel # 2 containing	68476-34-6	0-7%	Harmonized Classification: Carcinogenic Cat. 2 Notified Classification: Flammable Liquid Cat. 3, Aspiration Toxicity Cat. 1, Acute Inhalation Cat. 4, Skin Irritation Cat. 2, Specific Target Organ Toxicity (Inhalation-Narcotic Effect) Single Exposure Cat. 3, Aquatic Chronic Toxicity Cat. 2 Self-Classification: Specific Target Organ Toxicity (Blood, Thymus) Repeated Exposure Cat. 1 Hazard Statements: H351: Suspected of causing cancer. H226: Flammable liquid and vapor. H304: May be fatal if swallowed and enters airways. H332: Harmful if inhaled. H315: Causes skin irritation. H336: May cause drowsiness or dizziness. H372: Causes damages to blood and thymus through prolonged or repeated exposure. H411: Toxic to aquatic life with long-lasting effects.
Kerosine (petroleum)	8008-20-6	(0- >3%)	Harmonized Classification: Aspiration Toxicity Cat. 1 Notified Classification: Flammable Liquid Cat. 3, Skin Irritation Cat. 2, Specific Target Organ Toxicity (Inhalation-Narcotic Effect) Single Exposure Cat. 3, Aquatic Chronic Toxicity Cat. 2 Hazard Statements: H226: Flammable liquid and vapor. H315: Causes skin irritation. H336: May cause drowsiness or dizziness. H411: Toxic to aquatic life with long-lasting effects.
Alkanes C10-20, Straight Linear	928771-01-1	(0- > 0.3%)	Notified Classification: Aspiration Toxicity Cat. 1 Hazard Statements: H304: May be fatal if swallowed and enters airways.
Fuels, Diesel C9-18-Alakane Branched & Linear	1159170-26-9	(0- > 0.3%)	Notified Classification: Carcinogenic Cat. 2, Flammable Liquid Cat. 3, Aspiration Toxicity Cat. 1, Acute Oral Toxicity Cat. 4, Skin Irritation Cat. 2, Eye Irritation Cat. 2A, Specific Target Organ Toxicity (Inhalation-Narcotic Effect) Single Exposure Cat. 3, Aquatic Chronic Toxicity Cat. 2 Supplemental Classification: Repeated exposure may cause skin dryness or cracking. Hazard Statements: H351: Suspected of causing cancer. H226: Flammable liquid and vapor. H304: May be fatal if swallowed and enters airways. H302: Harmful if swallowed. H315: Causes skin irritation. H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness. H411: Toxic to aquatic life with long-lasting effects.
Naphthalene	91-20-3	(0- > 0.03%)	Harmonized Classification: Carcinogenic Cat. 2 Notified Classification: Acute Oral Toxicity Cat. 4, Aquatic Acute Toxicity Cat. 1, Aquatic Chronic Toxicity Cat. 1 Hazard Statements: H351: Suspected of causing cancer. H302: Harmful if swallowed. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long-lasting effects.
Distillates (Petroleum) Heavy Naphthenic	64741-53-3	0 to > 3%	Harmonized Classification: Carcinogenic Cat. 1A Hazard Statements: H350: May cause cancer.
Crude Tall Oil	8002-26-4	0-3%	Notified Classification: Skin Sensitization Cat. 1 Hazard Statements: H317: May cause an allergic skin reaction.
Proprietary Tall Oil		0 to 2%	Mfg Classification: Skin Sensitization Cat. 1 Hazard Statements: H317: May cause an allergic skin reaction.
Extracts (Petroleum) Heavy Naphthenic	64742-11-6	0 to > 1%	Harmonized Classification: Carcinogenic Cat. 1B Notified Classification: Reproductive Toxicity Cat. 2, Specific Target Organ Toxicity (Adrenal System, Bones) Repeated Exposure Cat. 1, Aquatic Chronic Toxicity Cat. 2 Hazard Statements: H350: May cause cancer. H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child. H372: Causes damages to thymus, adrenal system and bones through prolonged or repeated exposure. H411: Toxic to aquatic life with long-lasting effects.

NOTE: Sodium hydroxide is added to this product as a pH adjustor but it reacts out; no residual sodium hydroxide remains and so does not add additional hazards to the product and is not referenced throughout this SDS. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

Section 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES: All first aid procedures should be periodically reviewed by a doctor familiar with the product and its conditions of use in the workplace. Provide general supportive measures (comfort, warmth, rest). Consult a doctor and/or the nearest Poison Control Centre for all exposure except minor instances of inhalation or skin contact. Take a copy of label and SDS to physician or health professional with the contaminated individual.

Inhalation: If excessive inhalation of fumes occurs, remove to fresh air. Get prompt medical attention if breathing remains difficult or if irritation persists. If breathing is difficult, give oxygen. Seek medical attention if adverse effect occurs after removal to fresh air. If hydrogen sulfide toxicity is suspected to have occurred, immediate medical attention is needed.

GHS Precautionary Statements for Inhalation: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical help if you feel unwell.

Skin Exposure: For skin contact that is not hot, rinse skin with a mild soap and water after manually handling and wash contaminated clothing if there is potential for direct skin contact. Contaminated shoes, and leather goods (e.g., watchbands, belts) should also be removed. If skin contact causes irritation, flush with running water. Seek medical attention if adverse effects occur after flushing. If heated product contacts the skin, quickly remove contaminated clothing and cool immediately by immersing the contacted skin in cool water for at least 15 minutes to limit tissue damage and prevent spread of liquid product. Iced water and cold packs may be applied to any burned area only if burned area is less than 10% of the body surface (about equal to surface of one arm or one half of a leg). If burns are over more than 10% of body, apply lukewarm water to alleviate pain, but heat in the asphalt must be removed as quickly as possible. Seek immediate emergency medical treatment.

GHS Precautionary Statements for Skin Exposure: IF ON SKIN (or hair): Remove or take off immediately all contaminated clothing. Rinse skin with water or instant-acting shower. Rinse skin with water or instant-acting shower. If skin irritation or rash occurs, get medical attention.

Eye Exposure: If vapors or aerosols enter the eyes, immediately flush eye(s) with plenty of with clean, potable and lukewarm, gently flowing water for at least 20 minutes, by the clock, while holding the eyelid(s) open. Have contaminated individual(s) "roll" eyes. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Take care not to rinse contaminated water into the non-affected eye or onto the face. If irritation persists, repeat flushing and seek immediate medical attention. Get medical attention if irritation, pain, swelling, lacrimation or photophobia persist or develop later.
If molten asphalt is splashed into the eye(s), immediate medical attention must be sought.

GHS Precautionary Statements for Eye Exposure: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: get medical help.

Ingestion Exposure: If product has been swallowed and adverse effect occurs, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. NEVER give anything by mouth if the person who has swallowed the product is rapidly losing consciousness, is unconscious or is convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 240 to 300 mL (8 to 10 oz.) of water to dilute product in stomach. If milk is available, it may be administered AFTER the water has been given. If vomiting occurs naturally, rinse mouth and repeat administration of water. Quickly transport victim to an emergency care facility if adverse effects are evident.

GHS Precautionary Statements for Ingestion: IF SWALLOWED: Get emergency medical help immediately.

PROTECTION OF FIRST AID RESPONDERS: See Sections 6 (Accidental Release Measures) and 8 (Exposure Controls-Personal Protection).

IMPORTANT SYMPTOMS AND EFFECTS, WHETHER ACUTE OR DELAYED: See Sections 2 (Hazard Identification) and 11 (Toxicological Information) for more detailed information.

Acute:

Symptoms/Effects After Inhalation: EXPOSURE TO FUMES: Coughing, dry or sore throat, irritation to respiratory system.

Symptoms/Effects After Skin Contact: Burns may occur from heated product; irritation from direct skin exposure or fume exposure.

Symptoms/Effects After Eye Contact: Moderate to severe irritation of eye tissue. Burns from heated product.

Symptoms/Effects After Ingestion: Irritation of the digestive system.

Symptoms/Effects After Accidental Injection: None known.

Chronic:

Symptoms/Effects After Skin Contact: Dermatitis (dry, red skin, itching, cracking of the skin, skin rash/inflammation), allergic reactions, scarring (from burns).

Symptoms/Effects After Inhalation: Chronic inhalation exposure may cause reduced lung function or cancer or reproductive toxicity.

Symptoms/Effects After Ingestion: None known.

Symptoms/Effects After Accidental Injection: None known.

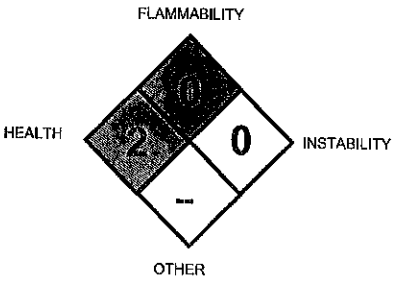
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin and respiratory disorders (including COPD) may be aggravated by exposure to asphalts.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure. In event of possible hydrogen sulfide toxicity, according to the CDC, some anecdotal evidence suggests nitrite therapy (found in a cyanide antidote kit) as a therapy for hydrogen sulfide exposure. Amyl nitrite is given by inhalation (for 30 seconds every minute until an intravenous line is established) followed by intravenous sodium nitrite (300 mg over absolutely no less than 5 minutes). This may aid recovery by forming sulfmethemoglobin, thus removing sulfide from combination in tissue. It is not necessary to use the sodium thiosulfate component of the cyanide antidote kit. Nitrite therapy should not be allowed to interfere with the establishment of adequate ventilation and oxygenation.

Section 5. FIRE-FIGHTING MEASURES

FLASH POINT: Not determined; these are emulsions that can have up to 66% water which makes determining a flash point difficult.
AUTOIGNITION TEMPERATURE: Not determined.
FLAMMABLE LIMITS (in air by volume, %): Not determined.
FIRE EXTINGUISHING MEDIA: Dry Chemical, CO_2, Class "B" extinguisher.
UNSUITABLE FIRE EXTINGUISHING MEDIA: Use of foam or water may cause frothing. Avoid using straight water streams. Use of a solid water stream for fighting fire may also scatter burning product and spread the fire.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE: If heated above the boiling point of water [100°C (212°F)] large amounts of steam is generated. Hydrogen sulfide that is released during a fire can accumulate in confined spaces or low-lying areas causing an increased fire hazard, as well as a toxic environment.
Explosion Sensitivity to Mechanical Impact or Static Discharge: Not sensitive.

NFPA RATING



Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. Withdraw immediately from the area if there is a rising sound from venting safety device or discoloration of vessels, tanks, or pipelines.

Section 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Do not touch or walk through spilled asphalt. Proper protective equipment should be used. In the event of a spill, clear the area and protect people. Eliminate all sources of ignition. Non-sparking tools should be used. The atmosphere must have levels of components lower than those listed in Section 8, (Exposure Controls and Personal Protective Equipment) if applicable and have at least 19.5 percent oxygen before personnel can be allowed into the area without Self-Contained Breathing Apparatus (SCBA).Call CHEMTREC (1-800-424-9300) for emergency assistance.
PROTECTIVE EQUIPMENT:
Small Spills: Wear chemical resistant gloves, splash goggles with a shield, respirator protecting against asphalt fumes and appropriate body protection.
Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.**
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Hydrogen sulfide fumes are heavier than air and can collect in low-lying areas creating a fire and toxicity hazard.
Methods for Containment: Stop source of spill if possible to do so without endangering responders. A vapor-suppressing foam may be used to control hazardous vapors.
Methods for Clean-Up: Absorb or cover with dry earth, sand or other noncombustible material and transfer to containers for disposal or recovery.
ENVIRONMENTAL PRECAUTIONS: Prevent spilled product from entering sewer or confined spaces, waterways, subsoil or public waters. Do not flush to sewer. For spills on water, contain, minimize dispersion and collect.
OTHER INFORMATION-NOTIFICATIONS: Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.
REFERENCE TO OTHER SECTIONS: See Section 13, Disposal Considerations for more information.

Section 7. HANDLING and USE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors generated by this product. Use only in well-ventilated areas. The product should only be used in areas where electrical classification meets the product rating for this product, e.g., intrinsically safe. Use only in area provided with appropriate exhaust ventilation. Vapors may form explosive mixtures with air. Remove contaminated clothing immediately. Skin contact should be minimized. If any skin contact occurs, clean asphalt from skin with waterless hand cleaner and follow with a soap and water wash. Do not use solvents to clean product from skin. Solvents may contain ingredients that are carcinogenic and/or cause skin irritation. Launder or discard contaminated clothing. Discard contaminated leather material.

Section 7. HANDLING and USE (Continued)

PRECAUTIONS FOR SAFE HANDLING (continued):

GHS Statements for Safe Handling: Obtain, read and follow all safety instructions before use. Do not breathe vapors, spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves, protective clothing, eye protection or face protection.

HANDLING OF BULK SHIPMENTS: Bulk shipments of this product should be loaded and unloaded in strict accordance with truck manufacturer recommendation and all established onsite safety procedures. Appropriate personal protective equipment must be used (see Section 8). All loading and unloading equipment must be inspected prior to each use. Loading and unloading operations must be attended at all times. Truck and material-handling equipment must be verified to be correct for receiving this product and be properly prepared prior to starting the transfer operations. Hoses must be verified to be free of incompatible chemicals prior to connection to the truck. Valves and hoses must be verified to be in the correct positions before starting transfer operations. Product may be under pressure after transporting or storage - open with caution. Follow local standard operating procedures for loading and unloading.

CONDITIONS FOR SAFE STORAGE: Store away from incompatible materials (see Section 10, Stability and Reactivity) and moisture. Use in a well-ventilated location, segregated from other materials and operations. Have appropriate extinguishing equipment in the storage area (e.g., sprinkler system, portable fire extinguishers). Storage facilities should be made of fire resistant materials. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Do not allow material to freeze. Consult API Recommended Practice 2023 for additional guidance. Store distant from fire and ignition sources. No smoking near areas where material is stored or used. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

SPECIFIC END USE(S): These products anionic emulsified asphalts used in road paving and resurfacing. Follow all industry standards for use of these products.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: CAUTION: When solvents (e.g., diesel fuel, fuel oil, naphtha, etc.) are used to clean out the container, tank, transport, pump, or piping system and are therefore introduced into the container with asphalts, the solvent may float to the surface. The vapor space above the liquid surface may have the same fire hazards as a container of the solvent. The container or tank should be labeled and treated in accordance with the hazards of the solvent in addition to the hazards of the asphalt.

During maintenance and cleaning operations, appropriate personal protective equipment must be used as described in Section 8. Collect all rinsates and dispose of according to applicable Federal, State, and local procedures standards.

Section 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

CONTROL PARAMETERS, INCLUDING OCCUPATIONAL EXPOSURE GUIDELINES OR BIOLOGICAL EXPOSURE LIMITS AND THE SOURCE OF THOSE VALUES:

Ventilation and Engineering Controls: Asphalts are normally used and applied outdoors; mechanical or other type of ventilation should not be needed.

If this product is used in an area which does pose an inhalation hazard, use adequate ventilation to ensure exposure levels are maintained below the limits provided in this Section, as applicable. Ensure eyewash/safety shower stations are available near areas where these products are used.

Occupational/Workplace Exposure Limits/Guidelines: Note: Heated asphalts can release hydrogen sulfide, which causes adverse effects or be fatal at 50 to 500 ppm levels if exposure is prolonged.

Chemical Name	CAS #	Guideline	Value
Asphalt Fumes (bitumen)	8052-42-4	ACGIH TLV TWA NIOSH REL TWA NIOSH REL STEL NIOSH IDLH	0.05 mg/m³ (inhalable fraction) as benzene soluble aerosol See Pocket Guide Appendices A and C 5 mg/m³ (ceiling) 15 minutes; See Pocket Guide Appendices A and C Ca (NIOSH Carcinogen)
Hydrogen Sulfide	7783-06-4	ACGIH TLV TWA ACGIH TLV STEL OSHA PEL TWA OSHA PEL STEL NIOSH REL STEL NIOSH IDLH	1 ppm 5 ppm 100 ppm (vacated 1989 PEL) 20 ppm (ceiling); 50 ppm 10-min. Peak, once per 8-hr shift; 15 ppm (vacated 1989 PEL) 10 ppm (ceiling) 100 ppm

ACGIH Biological Exposure Indices (BEIs): Currently, ACGIH Biological Exposure Indices (BEIs) have been determined for components.

CHEMICAL: DETERMINANT	SAMPLING TIME	BEI
Asphalt (bitumen) Fumes (as a Polycyclic Aromatic Hydrocarbons-PAHs) • 1-Hydroxypyrene in Urine • 3-Hydroxybenzo(a)pyrene in Urine	• End of Shift at End of Workweek • End of Shift at End of Workweek	• 2.5 µg/L* * Adjusted for the Pyrene to Benzo(a)pyrene ratio of the PAH mixture to which workers are exposed

Section 8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT: The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132), U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), 29 CFR 1910.133 for eye protection, 29 CFR 1910.138 for hand protection, 29 CFR 1910.136 for foot protection. Please reference applicable regulations and standards for relevant details. Local jobsite or facility requirements for PPE shall be followed and in many cases may be more stringent than NIOSH or OSHA recommendations. Please reference applicable regulations and standards for relevant details.

Respiratory Protection: Maintain airborne contaminant concentrations below limits listed above, if applicable. In instances where inhalable aerosols may be generated and respiratory protection is necessary, use only respiratory protection authorized under appropriate regulations. In the U.S., oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998). Do not use air-purifying respiratory protection when considering elevated hydrogen sulfide gas concentrations. Supplied air respiratory protection may be necessary especially if hydrogen sulfide is present when entering a confined space or enclosed space. The following are NIOSH respiratory guidelines for Asphalt Fumes in air:

ASPHALT FUME

CONCENTRATION	RESPIRATORY EQUIPMENT
At Concentrations Above the NIOSH REL, or Where There is no REL, at Any Detectable Concentration:	Any Self-Contained Breathing Apparatus (SCBA) that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any Supplied-Air Respirator (SAR) that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.
Escape	Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having a high-efficiency particulate filter, or any appropriate escape-type, SCBA.

Where there is potential for airborne exposure to hydrogen sulfide (H2S) above exposure limits, the following respiratory equipment is recommended by NIOSH.

HYDROGEN SULFIDE

CONCENTRATION	RESPIRATORY EQUIPMENT
Up to 100 ppm	Any Powered, Air-Purifying Respirator (PAPR) with cartridge(s), or any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted canister, or any Supplied-Air Respirator (SAR), Self-Contained Breathing Apparatus with a full facepiece.
Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions	Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode.
Escape	Any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted canister, or any appropriate escape-type, SCBA.

When H2S vapors exceed permissible limits, e.g., in confined spaces or bulk transport loading/unloading, a positive-pressure atmosphere supplying respirator is recommended. Self-contained breathing apparatus should be used for fire-fighting.

Eye Protection: With product at ambient temperatures, safety glasses with side shields should be worn as minimum protection. Use a full-face shield with chemical safety goggles underneath if handling heated material. Dust goggles should be worn when excessively (visible) dusty conditions are present or anticipated. There is a potential for severe eye irritation if exposed to excessive concentrations of dust for those using contact lenses. An eye wash station should be immediately available at the work area. If necessary, refer to appropriate regulations and standards for further information.

Body Protection: Use body protection appropriate for task. Pants and long-sleeved shirt or coveralls that fully cover the arms and legs should be used during normal paving and resurfacing operations to protect personnel from heated product and exposure to irritating fumes. Boots with tops at least 6 inches high and laced without opening are recommended. Pants without cuffs which extend over the tops of the boots are also recommended. Full-body chemical protective clothing is recommended for emergency response procedures. Refer to appropriate regulations and standards for further information.

Hand Protection: When handling heated material, avoid direct contact with skin by using long leather or heat resistant gloves that extend up the arm and worn loosely so that they can easily be flipped if covered with hot asphalt. When product is at ambient temperatures, use gloves constructed of chemical resistant materials such as heavy nitrile rubber if frequent or prolonged contact is expected. If necessary, refer to applicable regulations.

HYGIENE MEASURES: Wash dust-exposed hands, face or other contaminated areas with soap and water before eating, drinking, smoking, applying cosmetics or using toilet facilities. Do not use solvents or thinners (e.g., gasoline, kerosene) or harsh abrasive skin cleaners to remove material from skin. Avoid breathing dust or fumes. Promptly removed all contaminated clothing and wash prior to reuse.

OTHER CONTROL MEASURES: A fresh potable water supply for emergency first aid should be readily available. An oil-dissolving skin cleaner should be available. Workers should station themselves upwind of asphalt emissions when possible.

Section 9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Viscous liquid.
COLOR: Brown to black.
MOLECULAR WEIGHT: Mixture.
MOLECULAR FORMULA: Mixture.
SPECIFIC GRAVITY @ 15.6°C (60°F): 0.95-1.03
pH: Solutions will be slightly basic.
ODOR: Mild hydrocarbon characteristic of asphalt.
ODOR THRESHOLD: Not available.
VAPOR DENSITY (air= 1): >1
EVAPORATION RATE (n-BuAc = 1) : <1
SATURATION VAPOR CONCENTRATION: Not applicable.
VAPOR PRESSURE (air = 1): Not available.
BOILING POINT: > 100°C (> 212°F)
MELTING POINT: Not determined.
OXIDIZING PROPERTIES: Not an oxidizer.
VISCOSITY @ 60°C (140°F): < 2000 mPas
FLASH POINT: Not determined.
AUTOIGNITION TEMPERATURE: Not determined.
FLAMMABILITY LIMITS IN AIR: Not determined.
DECOMPOSITION TEMPERATURE: Not determined.
AUTOINGNITION TEMPERATURE: Will not auto-ignite.
PERCENT SOLIDS: Not determined.
EXPLOSION POTENTIAL: Not applicable.
VISCOSITY (dynamic or kinematic): Not applicable.
SOLVENT CONTENT: Not determined.
PARTITION COEFFICIENT (n-octanol/water): Not determined.
SOLUBILITY IN WATER: Insoluble.
COEFFICIENT WATER/OIL DISTRIBUTION: Not determined.
OTHER SOLUBILITIES: Not known.
HOW TO DETECT THIS SUBSTANCE (identification properties): The appearance and odor of these products may be an identifying property in event of accidental release.

Section 10. STABILITY and REACTIVITY

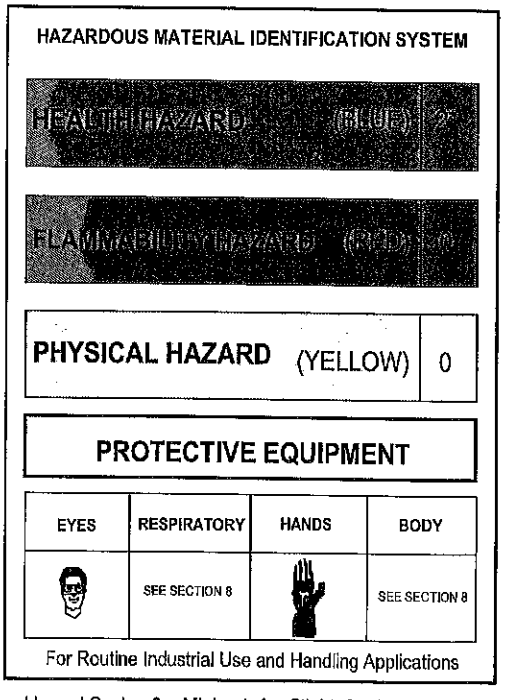
CHEMICAL STABILITY: Heating above 100°C (212°F) may cause a violent eruption of the product as water in the product rapidly converts to vaporous steam.
POSSIBILITY OF HAZARDOUS REACTIONS OR POLYMERIZATION: None known.
DECOMPOSITION PRODUCTS: Combustion: Thermal decomposition of the material may release carbon monoxide, carbon dioxide, hydrogen sulfide, nitrogen dioxide, sulfur dioxide, and other organic and inorganic compounds (e.g., aldehydes, aromatics, etc.). Some thermal decomposition may occur during paving operating using Anionic asphalt emulsions. Hazardous vapors may collect in enclosed vessels or areas if not properly ventilated. **Hydrolysis:** Heating above 100°C (212°F) will produce steam and can cause spattering of the product.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Incompatible with strong acids and strong oxidizers. Avoid freezing. Hydrogen sulfide from the product can react with iron in asphalt storage tank to form iron sulfide, a pyrophoric (a material which ignites spontaneously in air below 130°F) material.
CONDITIONS TO AVOID: Avoid extreme temperatures, ignition sources, and incompatible chemicals.

Section 11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE: The health hazard information provided below is pertinent to employees using these products in an occupational setting. The following paragraphs describe the symptoms of exposure by route of exposure.

Inhalation: Anionic asphalt emulsions may produce emissions that irritate the nose, throat, mucous membranes, and upper respiratory tract by mechanical abrasion. Coughing, sneezing, chest pain, shortness of breath, inflammation of mucous membrane, nasal discharge, headache, hoarseness, and nose and throat pain and flu-like fever may occur following exposures in excess of applicable exposure limits. Chronic exposure to elevated levels of asphalt emissions may result in chronic respiratory irritation and/or other lung diseases. Chronic exposure to fumes may cause symptoms such as coughing and wheezing, which may take a prolonged time to disappear after the overexposures has ended. Asphalt fumes are considered to be carcinogenic.

Asphalts contain trace amounts of Hydrogen Sulfide which may accumulate in confined spaces. In humans, inhalation of hydrogen sulfide at as low as 50-250 ppm for only a few minutes can result in incoordination, memory and motor dysfunction, and anosmia (so-called olfactory paralysis). Symptoms become more with longer exposure and sometimes lead to pulmonary edema. Inhalation of Hydrogen Sulfide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within 1 to 4 hours of continuous exposure. At 100-500 ppm of Hydrogen Sulfide the respiratory system is paralyzed, the victim collapses almost instantaneously, and death can occur after exposure of only 30 to 60 minutes.



Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate
3 = Serious 4 = Severe * = Chronic hazard

Section 11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE (continued):

Inhalation (continued): Above 500 ppm Hydrogen Sulfide may cause immediate loss of consciousness; death is rapid, and possibly immediate.

Contact with Eyes: Vapors generated by Anionic asphalt emulsions can redden and irritate the eyes. Direct eye contact may cause serious irritation.

Contact with Skin: Skin contact with this product, if hot, can cause pain, irritation, and tissue damage. Vapors generated during use can irritate, redden, and dry the skin. Repeated or prolonged exposure to the vapors caused by heating, can cause dermatitis (dry, red skin). Some components of this product are suspect skin sensitizers; subsequent exposure to very small amounts may cause allergic reaction in susceptible individuals.

Skin Absorption: Multiple components are known to be absorbed via intact skin and can contribute to adverse effects from skin exposure.

Ingestion: Ingestion is not anticipated to be a likely route of occupational exposure for Anionic asphalt emulsions. Accidental ingestion may cause severe irritation or damage to the digestive system or produce toxic effects.

Injection: Injection is a not likely route of exposure for asphalts.

Other Effects: May cause cancer; risk of cancer depends on concentration and duration of exposure. The Extracts (Petroleum) Heavy Naphthenic component has been shown to be a suspected endocrine disruptor that has caused adverse effects on the thymus and adrenal system. This compound has also shown adverse effects on the bone marrow and bones.

DELAYED AND IMMEDIATE EFFECTS AND CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE:

Acute (Short-Term): Inhalation, eye contact and skin contact may cause irritation. Direct contact with heated Anionic asphalt emulsions can cause burns and scarring.

Chronic (Long-Term): Chronic skin exposure may result in dermatitis or skin sensitization and allergic reaction. Contains a compound that may cause respiratory sensitization. Chronic inhalation of asphalt fumes may cause reduced lung function. Asphalt fumes and other components are suspected carcinogens. Several components are suspected reproductive toxins. In animal tests, the Extracts (Petroleum) Heavy Naphthenic component has shown adverse effects by the dermal route to the following body systems: cardiovascular and hematological systems, digestive system, adrenal gland and skin.

IRRITANCY OF PRODUCT: Asphalt fumes may cause chemical irritation to the skin, eyes and respiratory system. Studies concerning the acute toxic effects of exposure to asphalt fumes have repeatedly found symptoms of irritation of the serious membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation) among workers.

Skin Irritation: Skin irritation, pruritus, and occasionally rashes have been reported from workers of asphalt paving operations. Given the presence of confounding co-exposures (e.g.,, diesel fuel, coal tar) and environmental conditions (wind, heat and humidity, UV radiation), the extent to which asphalt fumes may be associated with these skin problems is unclear. Hydrogen Sulfide fumes are regarded as irritating to skin. In accordance with Regulation (EC) No 1272/2008 H_2S shall be classified as Category 2, skin irritant (H315: Causes skin irritation).

Eye Irritation: Hydrogen Sulfide are regarded as irritating to the eyes. In accordance with Regulation (EC) No 1272/2008 H_2S shall be classified as Category 2 (irritating to eyes) (H319: Causes serious eye irritation).

Respiratory Irritation: Hydrogen Sulfide is regarded as irritating to the mucous membranes of the respiratory tract. In accordance with Regulation (EC) No 1272/2008 H_2S shall be classified as STOT Single Exp. 3 (H335: May cause respiratory irritation). Unrefined/acid treated petroleum base oils are assigned the supplemental hazard phrase (EUH066), but do not meet the EU CLP Regulation (EC No. 1272/2008) criteria for classification as a skin irritant.

SENSITIZATION TO THE PRODUCT:

Respiratory Sensitization: No component is known to cause human or animal respiratory sensitization effects. No data have been found for components for human or animal data on respiratory sensitization.

Skin Sensitization: Anecdotal information has shown that chronic exposure to asphalts and asphalt fumes has caused sensitization and allergic reaction effects, such as rash, itching, and skin eruptions. If asphalt-related dermal photosensitization is occurring, such as seen with coal tar, it has not been described in the literature and so needs to be further investigated, as do the other reported skin problems. This product also contains several components that are known or suspected to cause skin sensitization effects. If sensitized, exposure to very small amount can trigger an allergic reaction.

The Crude Tall Oil component is classified as a skin sensitizer on the basis of a reliable (reliability 1) murine local lymph node assay (LLNA) that was carried out in accordance with OECD Test Guideline 429 and in compliance with GLP. CTO is therefore classified Skin Sensitizer Category 1 according to Regulation 1272/2008.

The Proprietary Tall Oil component has been given a classification of a skin sensitizer; this classification cannot be checked due to lack of compound identification.

SYNERGISTIC MATERIALS: None known.

OVERALL ACUTE TOXICITY ESTIMATES (ATE) FOR PRODUCT:

Oral ATE: > 5600 (50-86% unknown)

Dermal ATE: > 2400 mg/kg (14-46% unknown)

Inhalation Vapor ATE: 70-104 mg/L (20-52% unknown)

ACUTE TOXICITY: These products have not been tested for toxicity by any route. No human data are available. The following are acute toxicity data from animal studies (e.g., LD50 or LC50 data) for components over 1% concentration, if data.

Acute Oral Toxicity:

Asphalt: LD_{50} (Oral-Rat) > 5000 mg/kg; Method: OECD Test Guideline 401

Section 11. TOXICOLOGICAL INFORMATION (Continued)

ACUTE TOXICITY (continued):

Acute Oral Toxicity (continued):

Crude Tall Oil: LD_{50} (Skin-Rabbit) > 2000 mg/kg; Method: OECD Test Guideline 401
Diesel Fuel #2: LD_{50} (Oral-Rat) > 5000 mg/kg; Method: OECD Test Guideline 401
Distillates (Petroleum) Heavy Naphthenic: LD_{50} (Oral-Rat) > 5000 mg/kg; Method: OECD Test Guideline 401
Extracts (Petroleum) Heavy Naphthenic: LD_{50} (Oral-Rat) > 5000 mg/kg; Method: OECD Test Guideline 401 (read across from similar compound)
Kerosine: LD_{50} (Oral-Rat) > 5000 mg/kg; Method: OECD Test Guideline 401
Multiple Components: No data.

Acute Dermal Toxicity:

Asphalt: LD_{50} (Skin-Rabbit) > 2000 mg/kg; Method: OECD Test Guideline 402
Crude Tall Oil: LD_{50} (Skin-Rabbit) > 2000 mg/kg; Method: OECD Test Guideline 402
Diesel Fuel #2: LD_{50} (Skin-Rat) > 2000 mg/kg; Method: OECD Test Guideline 401
Distillates (Petroleum) Heavy Naphthenic: LD_{50} (Skin-Rabbit) > 2000 mg/kg; Method: OECD Test Guideline 402
Kerosine: LD_{50} (Skin-Rabbit) > 2000 mg/kg; Method: OECD Test Guideline 402
Extracts (Petroleum) Heavy Naphthenic: LD_{50} (Skin-Rabbit) > 3000 mg/kg; Method: OECD Test Guideline 402 (read across from similar compound)
Multiple Components: No data.

Acute Inhalation Toxicity:

Asphalt: LD_{50} (Inhalation-Rat) 4 hrs: > 94.4 mg/L; Method: OECD Test Guideline 403
Diesel Fuel #2: LD_{50} (Inhalation-Rat) 4 hrs: > 1-5 mg/L (no test method available)
Distillates (Petroleum) Heavy Naphthenic: LD_{50} (Inhalation-Rat) 4 hrs: > 5 mg/L OECD Guideline 403
Extracts (Petroleum) Heavy Naphthenic: LD_{50} (Inhalation-Rat) 4 hrs: 5 mg/L OECD Guideline 403 (read across from similar compound)
Kerosine: LD_{50} (Inhalation-Rat) 4 hrs: > 5.48 mg/L OECD Guideline 403
Multiple Components: No data.

CHRONIC TOXICITY: No specific chronic toxicity data from human studies (e.g., LDLo or TDLo data) are available for these products. The following animal repeated dose toxicity data are available.

Extracts (Petroleum) Heavy Naphthenic: Repeated Dose Toxicity: via oral route: caused systemic effects (target organ) cardiovascular / hematological: bone marrow; cardiovascular / hematological: thymus; digestive: liver; digestive: stomach; glandular: adrenal gland; urogenital: prostate; urogenital: seminal vesicle; urogenital: testes; Repeated Dose Toxicity: via dermal route: caused systemic effects (target organ) cardiovascular / hematological: bone marrow; cardiovascular / hematological: lymph nodes; cardiovascular / hematological: thymus; digestive: liver; glandular: adrenal gland; urogenital: kidneys; other: skin

SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE: This product may cause respiratory irritation by inhalation and can cause eye and skin irritation from acute exposure.

SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE: This product may cause adverse effects to the adrenal glands, thymus and endocrine system with repeated exposure. Chronic inhalation of asphalt fumes has been shown to cause cancers of multiple organs. Chronic skin contact with asphalts may cause skin sensitization and allergic reactions, including photosensitization (sensitization to UV). Other organs that have shown adverse effects from chronic exposure to the Extracts (Petroleum) Heavy Naphthenic include skin, lungs, bones, cardiovascular system, bone marrow, lymph nodes, liver, kidneys.

ASPIRATION DATA: Does not pose a hazard of aspiration due to high viscosity.

ENDOCRINE TOXICITY: The Extracts (Petroleum) Heavy Naphthenic component has been shown to be a suspected endocrine disruptor that has caused adverse effects on the thymus and adrenal system.

CARCINOGENIC DATA: The following components are listed by agencies tracking the carcinogenic potential of chemical compounds (U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, and ACGIH).

Asphalt: ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen); IARC-2B (Possibly Carcinogenic to Humans): Applies to hard bitumens and emissions during mastic asphalt work; straight run bitumens emissions during road paving):; MAK-3B (Substances Which Cause Concern the They Could Be Carcinogenic for Man-Substances for which in vitro tests or animal studies have yielded evidence of carcinogenic effects that is not sufficient for classification of the substance in one of the other categories); NIOSH-Ca (Potential Occupational Carcinogen with No Further Categorization)

Note: Asphalt may contain trace amounts of benzene, which is listed as follows: ACGIH TLV-A1 (Confirmed Human Carcinogen); EPA-A (Human Carcinogen); EPA-K (Known Human Carcinogen); IARC-1 (Carcinogenic to Humans); MAK-1 (Substances that Cause in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk); NIOSH-Ca (Potential Occupational Carcinogen with No Further Categorization); NTP-K (Known to Be a Human Carcinogen); OSHA-Ca (Carcinogen Defined with No Further Categorization)

Distillates (Petroleum) Heavy Naphthenic: Based on the study results, and the EU harmonized classification, unrefined/acid treated oils are classified as Carcinogenic Category 1A (H350), according to the EU CLP Regulation (EC No.1272/2008).

Extracts (Petroleum) Heavy Naphthenic: Based on the incidence of cancer after dermal exposure, distillate aromatic extracts are classified as Carcinogenic, Category 1B (H350) according to the EU CLP Regulation (EC No. 1272/2008).

Hydrogen Sulfide: EPA-I (Measured as Inhalable Fraction)

REPRODUCTIVE TOXICITY DATA: Components have no known human mutagenic, embryotoxic, teratogenic or reproductive toxicity effects. The following information is available for the Extracts (Petroleum) Heavy Naphthenic component.

Extracts (Petroleum) Heavy Naphthenic: A key developmental toxicity study was conducted on DAE and produced maternal, reproductive and fetal toxicity in rats when administered dermally at doses up to 125 mg/kg/day. The NOAEL for reproductive and developmental toxicity was 30 mg/kg/day. Based on the study results, DAEs are classified as Reproductive Toxicants Category 2 (H361d) according to the EU CLP Regulation (EC No. 1272/2008).

Section 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY IN SOIL: Asphalt materials are complex hydrocarbon mixtures with molecular weights ranging from approximately 500 to 2,000 and carbon numbers predominantly higher than C25. These complex mixtures are viscous semi-solid to solid materials possessing low to negligible water solubility and moderate to negligible vapor pressure. They are expected to possess low mobility in soil. Although hardened product does not itself present a hazard of mobility in the soil, leaching of PAHs and other hydrocarbons found in asphalt has been demonstrated. Fluorometry studies, HPLC, and TPH data, have indicated that Polycyclic Aromatic Hydrocarbons (PAHs) have the capacity to leach from asphalt and into groundwater. Research indicates that PAHs may be bound to particulate matter within the asphalt and leach out over time due to surface wear and water exposure.

As so little is known about asphaltenes, and the extreme difficulty of isolating asphaltenes, the extent of this leaching process is still not clearly known or understood. Significant concentrations of PAHs and hydrocarbons have been recorded in soil, directly beneath an asphalt cover. PAH concentration in the soil samples has been positively correlated with the moisture content at the site. A direct logarithmic relationship can be demonstrated between soil content of a particular PAH and molecular properties such as water solubility. Through studies of ratios between individual PAH concentrations at sites which had undergone different degrees of leaching a linear logarithmic relationship to molecular descriptors such as connectivity index has been demonstrated. This suggests that a significant amount of PAH can enter the environment through leaching from asphalt surfaces, but is dependent upon local environmental conditions, such soil moisture content.

PERSISTENCE AND BIODEGRADABILITY: Volatilization is considered low-to-high for Asphalt materials based on estimated Henry's Law constants for representative components of these mixtures; however, the strong tendency to adsorb to soil or sediment is likely to attenuate volatilization for most constituents of these complex mixtures. The rate of hydrolysis is considered negligible for the components of these complex mixtures. The rate of atmospheric photooxidation is considered rapid to moderate; however, most of the components of these mixtures are not expected to exist in the vapor phase in the ambient atmosphere.

Some amount of microbial biodegradation can occur with some elements of asphalt based on studies of the Canadian Athabascan Tar Sands. Carboxylated cycloalkanes were biodegraded within oil sand tailings, although compounds with methyl substitutions on the cycloalkane ring were more resistant to microbial degradation. Microbial activity against hexadecane and certain carboxylated cycloalkanes was found to be nitrogen and phosphorus limited.

The components of the asphalt category are expected to possess high (P3) persistence potential.

BIO-ACCUMULATION POTENTIAL: The components of the asphalt category are expected to possess low (B1) bioaccumulation potential.

The Proprietary Tall Oil component is indicated by the manufacturer to have a high potential of persistence with a Log Pow of 4.5 to 7.7.

ECOTOXICITY: These products have not been tested for toxicity to aquatic or terrestrial toxicity. The following data are available for a components that meets the classification as toxic to aquatic organisms.

Extracts (Petroleum) Heavy Naphthenic:

LL_{50} (*Oncorhynchus mykiss* Rainbow trout) 96 hrs: > 1000 mg/L OECD 203; KS=1 Read Across

EL_{50} (*Daphnia magna* Giant water flea) 48 hrs: 35.9 mg/L OECD 202; KS = 2 Read Across

EL_{50} (*Pseudokirchneriella subcapitata* Green algae) 72 hrs: 18.8 mg/L OECD 201; KS = 2 Read Across

ENDOCRINE DISRUPTING PROPERTIES: The Extracts (Petroleum) Heavy Naphthenic component has been shown to be a suspected endocrine disruptor. Because this product contains a compound that is a possible endocrine disruptor, adverse hormonal effects to terrestrial and aquatic organisms may occur.

OTHER ADVERSE EFFECTS: Components are not known or expected to have having ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT/DISPOSAL METHODS: Recover as much spilled material as possible for reuse or recycling. Disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271).

METHODS OF CONTAMINATED PACKAGING DISPOSAL: Empty containers should be completely drained and then discarded or recycled, if possible. Dispose of in accordance with federal, state and local regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials. Dispose of in accordance with applicable Federal, State, and local procedures and standards.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in appropriate containers for disposal. Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

Section 13. DISPOSAL CONSIDERATIONS (Continued)

EPA WASTE NUMBER: Not applicable for wastes consisting only of this product. NOTE: If solvents are used to clean piping and/or pumps and are therefore introduced into the tank of asphalt, the resulting mixture may be regulated as a flammable material. See Section 7, Handling and Storage, for further information.

Section 14 . TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: Not regulated by the U.S. DOT. Anionic Emulsified Asphalts are not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): Anionic Emulsified Asphalts are not classified as dangerous goods per rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): Anionic Emulsified Asphalts are not classified as dangerous goods, per the International Maritime Organization.

ENVIRONMENTAL HAZARDS: These products do not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN) and is not specifically listed in Annex III under MARPOL 73/78.

Section 15. REGULATORY INFORMATION

UNITED STATES FEDERAL REGULATIONS:

U.S. SARA Reporting Requirements: The following components of this product may have reporting requirements under SARA (see information below on possible exceptions to SARA requirements.

U.S. SARA Section 302 Threshold Planning Quantity (TPQ): Hydrogen Sulfide: 500 lb (227 kg)

U.S. SARA Section 304 Reportable Quantity (TPQ): Hydrogen Sulfide: 100 lb (45.4 kg)

U.S. SARA Section 311/312: The following EPA hazard categories apply to this product: Acute Health Hazard; Chronic Health Hazard

U.S. SARA Section 313: The Hydrogen Sulfide trace compound is listed as a Section 313 compound.

U.S. CERCLA Reportable Quantity (RQ): Hydrogen Sulfide: 100 lb (45.4 kg)

Section 103 and SARA Section 304 (Release to the Environment). THE CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA section 103 reporting requirements. However, other federal reporting requirements, including SARA 304, as well as the Clean Water Act may still apply.

U.S. TSCA Inventory Status: Components with CAS#s given in Section 2 (Composition and Information on Ingredients) are listed on the TSCA Inventory.

U.S. Clean Air Act (112(r) Threshold Quantity (TPQ): Hydrogen Sulfide: 10,000 Kg (4536 kg)

Other U.S. Federal Regulations: 40 CFR Subpart UU - Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture is a standard that implements Section III of the Clean Air Act and are based on the Administrator's determination that asphalt processing causes or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare. The intended effect is to require all new, modified, and reconstructed asphalt processing facilities to use the best demonstrated system of continuous emission reduction considering costs non-air quality health and environmental impacts, and energy requirements. Effective August 6, 1982. This regulation in includes: § 60.470 Applicability and Designation of Affected Facilities; § 60.471 Definitions; § 60.472 Standards for Particulate Matter; § 60.473 Monitoring of Operations; § 60.474 Test Methods.

STATE REGULATIONS:

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): Two Polycyclic Aromatic Hydrocarbons that may be in asphalt in trace quantities are listed California Proposition 65 lists as carcinogens. WARNING: This product can expose you to chemicals including PAHs which are known to the State of California to cause cancer. For more information go to P65Warnings.ca.gov. In addition, to the warning text provided above, the following symbol must be displayed. Where the sign, label or shelf tag for the product is not printed using the color yellow, the symbol may be printed in black and white. The symbol shall be placed to the left of the text of the warning, in a size no smaller than the height of the word "WARNING".



Section 16. OTHER INFORMATION

PREPARTION DATE: June 22, 2021 **REVISIONS DETAILS:** New

REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Criteria of the GHS Standard were used to classify the product.

PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc. • PO Box 1961, Hilo, HI 96721 • (808) 969-4846

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources which we believe reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness.

The conditions or methods of handling, storage, use and disposal of the products are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

The Tinton Road District Area is similarly impacted.

Noted runoff locations in Rapid Valley area.

1. 3852 Dawn Ln- Black streak down gravel drive
2. Intersection of Sherry Ln & Jolly ln- sheen in south gutter, black down both ditches
3. Intersection of Sweetbriar & Twilight- Black down east drive into storm sewer
4. Intersection of Sweetbriar & Macks- Black going down edge of east side of road into northeast corner culvert
5. Intersection of Sweetbriar & Avenue A near house# 4400- Black down east side of road into 4400 Avenue A yard and into culvert. Down east side of road and into northeast storm sewer
6. Sweetbriar to Neel to end of county maintenance- Black Running down north side of street from Neel to end of county maintenance. Black running into 4130 and 4134 yards and down into north storm sewer.
7. Intersection of Zinnia & Twilight- Black running down east side of road into storm sewer at twilight
8. 2481 Sweetbriar- Black down east side of road into storm sewer
9. 4053 Williams- Water with oil sheen south side
10. 4900 Williams- Black down north side of road into storm sewer
11. 5214 Williams- Oil in front of drive also tracked into drive
12. Intersection of Preston & Williams- Black running down street into northwest storm sewer
13. 5409/5407 Williams- Black running down both sides of road into drainage between addresses
14. Reservoir rd- Black coming off of Corbin onto Reservoir storm sewer
15. Lunar/Leroy- Black down into grass around mailboxes at road curve
16. 2440 Reservoir- Black coming down street into storm sewer in front of address
17. Uranus/Reservoir- Black coming down both sides of Uranus into corner lot yards and storm sewer on Uranus and Reservoir
18. 5647 Uranus- Black coming down road into yard
19. 5634 Uranus- Black coming down Eclipse into rock on east side of address
20. 1980 Eclipse- Black down east side of road into lawn on north side of driveway
21. Helios- Starting at 2133 going south to end of cul de sac, black down both sides of road into ALL lawns, culverts, driveways(BAD)
22. 1914 Helios- water standing on edge of road with sheen, driveway stained, water running into yard
23. Ennen Dr- Black down Ennen in west gutter to drainage across from 1515 Ennen. Down drainage into field
24. Meadow Ridge dead end- Black down both sides of road, east to end of road drainage
25. Intersection of Reservoir & North Pitch- Black running down east side of reservoir from Meadow ridge into storm sewer at corner of reservoir and n pitch


Rapid Valley Road Oil Spill
Impacted Locations
Legend
Action Required
No DANR Concern
Abock Services
D&C Auctions
Twilight Dr
Elk Vale Rd
Degeest Dr
Rapid Valley
Reservoir Rd
44
Google Earth
Image © 2025 Airbus
3000 ft
N

Dawn Lane #1 near 44.06514762147955, -103.15253501407065



Sherry Court near 44.064146015899276, -103.15130221686358



Twilight



Sweetbriar & Macks near 44.070657686282466, -103.14558298643428



Sweetbriar near 44.07179488024181, -103.14551896276204



Twilight



Reservoir maybe



Williams Street



Reservoir



Luner & Leroy









Eclipse



Helios



Helios



Helios



Helios



Ennen near 44.071164515368274, -103.12810719404209



Ennen near 44.07116949309673, -103.12767995675509



Ennen



Ennen



Ennen



Reservoir & North Pitch near 44.07481573866295, -103.13112958133755



PHOTOGRAPHS



Photo 1:	**Location 1. Staining on gravel drive looking west**
Photo 2:	**Location 4. Culvert outfall**



PHOTOGRAPHS



Photo 3:	**Location 5. Staining in lawn and culvert inlet at with areas of removal marked**
Photo 4:	**Location 5. Culvert outfall**



PHOTOGRAPHS



Photo 5:	**Location 6. Storm sewer inlet**
Photo 6:	**Location 6. Storm sewer outfall**



PHOTOGRAPHS



Photo 7:	**Location 8. West storm drain**
Photo 8:	**Location 8. East storm drain**



PHOTOGRAPHS



Photo 9:	**Location 10.**
Photo 10:	**Location 11.**



PHOTOGRAPHS



Photo 11:	**Location 12.**
Photo 12:	**Location 13. Concrete drainage**



PHOTOGRAPHS



Photo 13:	**Location 13. Areas of stained sediment marked for removal.**
Photo 14:	**Location 13. Inlet at end of concrete drainage**



PHOTOGRAPHS



Photo 15:	**Location 14.**
Photo 16:	**Location 15.**



PHOTOGRAPHS



Photo 17:	**Location 16.**
Photo 18:	**Location 17. Uranus storm sewer drain**



PHOTOGRAPHS



Photo 19:	**Location 17. Reservoir storm sewer drain**
Photo 20:	**Location 19. 5634 Uranus lawn and driveway**



PHOTOGRAPHS



Photo 21:	**Location 19. Culvert inlet**
Photo 22:	**Location 19. Culvert outfall**



PHOTOGRAPHS



Photo 23:	**Location 20. Lawn and culvert inlet on north side of 1980 Eclipse driveway**
Photo 24:	**Location 20. Culvert outfall south of 1980 Eclipse driveway**



PHOTOGRAPHS



Photo 25:	**Location 21. 2150 Helios driveway**
Photo 26:	**Location 21. 2152 Helios driveway**



PHOTOGRAPHS



Photo 27:	**Location 21. 2152 Helios lawn south of driveway**
Photo 28:	**Location 21. 2152 Helios culvert outfall south of driveway**



PHOTOGRAPHS



Photo 29:	**Location 21. Staining across 2152 Helios southern property boundary**
Photo 30:	**Location 22.**



PHOTOGRAPHS



Photo 31:	**Location 23. Staining on concrete drainage**
Photo 32:	**Location 23. Stained vegetation and soil at end of concrete**



PHOTOGRAPHS



Photo 33:	**Location 23. Staining across eastern property boundary**
Photo 34:	**Location 24. Mild sheen on standing water at end of road**



PHOTOGRAPHS



Photo 35: **Location 24.**

Photo 36: **Location 25.**



PHOTOGRAPHS



Photo 37:	**Location 27.**
Photo 38:	**NA**