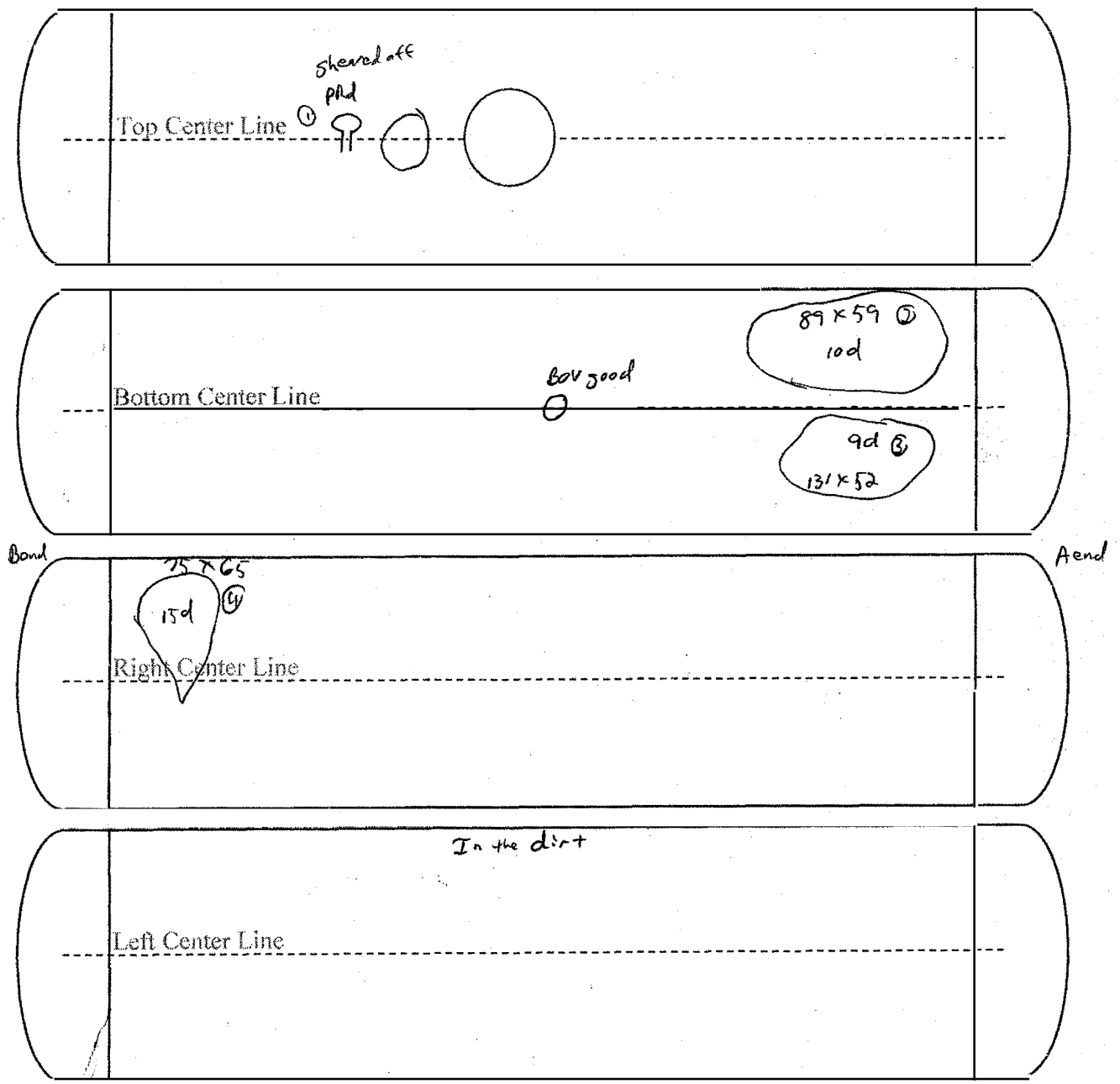
Submit by Email | Print Form

Federal Railroad Administration
Tank Car Damage Assessment Form

Reporting Marks	UTLX 661234	Car Location City/State	Reed Point, Montana
Date inspected	06292023 Railroad MRL	DOT Specification	111A100W1
Last Contained	UN3257 Class 9	Was product released?	Yes
(Jacket thickness)	Jacket 11 gauge Non-jacketed	Does car contain product	Yes
Car builder	Union Tank C Stub Sill Design	UTLZBG	Built Date 4/29/1998
Capacity (GAL)	23,382	LD Limit (LB)	191,000

Indicate number on figures below within damaged areas. (sketched in by inspector)

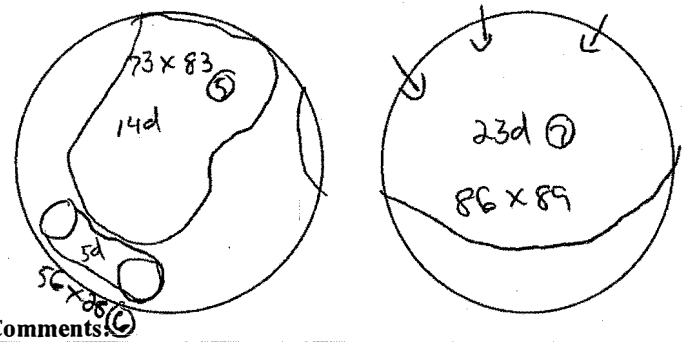
A-END



Revi sed 03-0514

Federal Railroad Administration
Tank Car Damage Assessment Form

B-Head **A-Head**



	Station Stencil	Qual.	Due
Tank Qual.	UTCW	2018	2028
Thickness	UTCW	2018	2028
Serv. Equip.	UTCW	2018	2028
PRD	UTCW	2018	2028
Valve - 75psi			
Lining	UTCW	2018	2028
Rule 88	UTCW	2018	2028
Stub Sill	UTCW	2018	2028

Comments:

TANK OR JACKET DAMAGE

1. **Document estimated location of damage on Figures located on page 1 of this report and document dimensions coinciding with number below. (photos should be numbered and attached to coincide with numbers below)**

1.	**Affected?**	PRD	**Location?**	Top, Middle	**Dimensions:**	**Length**	4	**Width**	4	**Depth**	
-	**Defect type?**	Shear	**Shape?**	circle	**Possible Cause?**	Derailment, Venting of product					
2	**Affected?**	Tank	**Location?**	Bottom, B end	**Dimensions:**	**Length**	89	**Width**	59	**Depth**	10
-	**Defect type?**	Dent	**Shape?**	oval	**Possible Cause?**	Derailment					
3	**Affected?**	Tank	**Location?**	Bottom, B end	**Dimensions:**	**Length**	131	**Width**	52	**Depth**	9
-	**Defect type?**	Dent	**Shape?**	oval	**Possible Cause?**	Derailment					
4	**Affected?**	Tank	**Location?**	Right side B end	**Dimensions:**	**Length**	75	**Width**	65	**Depth**	15
-	**Defect type?**	Dent	**Shape?**	oval	**Possible Cause?**	Derailment					
5	**Affected?**	Tank	**Location?**	B head	**Dimensions:**	**Length**	73	**Width**	83	**Depth**	14
-	**Defect type?**	Dent	**Shape?**	Rectangle	**Possible Cause?**	Derailment					
6	**Affected?**	Tank	**Location?**	B head	**Dimensions:**	**Length**	56	**Width**	28	**Depth**	5
-	**Defect type?**	Dent	**Shape?**	Rectangle	**Possible Cause?**	Derailment					
7	**Affected?**	Tank	**Location?**	A head	**Dimensions:**	**Length**	86	**Width**	89	**Depth**	23
-	**Defect type?**	Dent	**Shape?**	Semicircle	**Possible Cause?**	Derailment					
8	**Affected?**		**Location?**		**Dimensions:**	**Length**		**Width**		**Depth**	
-	**Defect type?**		**Shape?**		**Possible Cause?**						

2. **Was this tank car exposed to fire? (Indicate one)** **Yes** No X
3. **How long was the car exposed to fire?** _____ N/A
4. **What percentage/locations of the tank were exposed to fire?** _____ **% Indicate location in figures on page 1.**
5. **What material burned to create the fire that the car was exposed to?**
6. **To what degree did the car roll? Initially** _____ **degrees and stopped at** _____
7. **Distance traveled from track center? B-end?** _____ **A-end?** _____ **Center?** _____
8. **Brief description of details of surfaces tank was exposed to in transit to present location? E.g. mud, track, rocks, etc...**

Recovered from river and dragged to shore. Exposed to mud, rocks and river.

Federal Railroad Administration
Tank Car Damage Assessment Form

VALVE DAMAGE

Utilize Form TCAD-1.2 and supplement description as indicative of damage below:

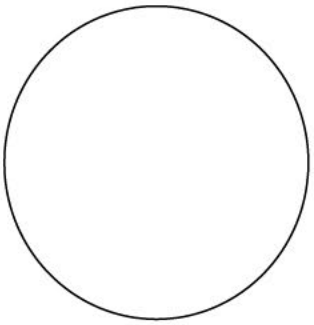
TOP

1. **Number of damaged valves?**_____ **Document station stencil if other than qual. Decal** _____

a	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
b	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
c	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
d	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
e	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
	Gasket Type?		**O-ring type?**		**Serial Number**	

Sketch in dome or dual housing arrangement information in relation to valve location in provided figure. Valve Lettering should coincide with lettering above, along with any attached pictures.

A-End



BOTTOM

2. **Description of damage? Valve, Coils etc…** N/A **Document station stencil if other than qual. Decal**_____

a	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
b	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
c	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
d	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
-	**Gasket Type?**		**O-ring type?**		**Serial Number**	
e	**Type of damaged valve?**		**Manufacturer?**		**Cause?**	
	Gasket Type?		**O-ring type?**		**Serial Number**	

Other information or description deemed pertinent by inspector:

PRD sheared off and both heads show signs of sever impact 14-23 inch dents.

Inspector's Name (print Anthony W. Emery II **Inspector's Signature** [redacted]

UTLX 661234 B end.

UTLX 661234 A end.

UTLX 661234 top.

UTLX 661234 bottom on the B end.

Message Header			
Partner: AWI	Control #: 19731104	Type: 404	Date/Time: 2023-06-21 15:07:36.0
Correlation Id: 1687378056857.133654363AX	Base Correlation Id:	Interface: E	Message Source Cd: A3
Protocol Cd: MQ	App Data Format:	Transmit Cd: O	From Env Cd:
Message Size: 1135			

Message Detail

ISA*00* *00*RMENDENH *02*AWI *02*BNSF *230621*1507*U*00503*019731104*1*P*~

GS*SR*AWI*BNSF*20230621*1507*19731104*X*005030

ST*404*19731104

BX*00*R*PP**BNSF*L*B*S

BNX*A

M3*B*20230621*1507*CT

N9*RP*AWI1107684**20230621*1507*CT

N9*6O*AWI-UNIQUE-19731104**20230621*1507*CT

N9*BM*411664**20230621*1507*CT

N7*UTLX*644859*178554*E*******RR

N7*UTLX*661234*178379*E*******RR

N7*UTLX*641341*179340*E*******RR

N7*UTLX*664879*179892*E*******RR

N7*UTLX*644827*178898*E*******RR

N7*UTLX*665072*179966*E*******RR

F9**LAUREL*MT

D9**COLLINS*ID

N1*SH*CHS INC*C5*143597859

N3*803 US HWY 212 S

N4*LAUREL*MT*59044-8731

PER*NT*RAIGAN MENDENHALL*TE*406[redacted]

N1*CN*IDAHO ASPHALT SUPPLY CO

N3*75 N. 550 W.

N4*COLLINS*ID*83221

N1*PF*IDAHO ASPHALT SUPPLY CO

N3*PO BOX 50538

N4*IDAHO FALLS*ID*834050538

R2*BNSF*S*SVRBO***R

R2*UP*1***R

LX*1

L5*1*ELEVAT*4961605*T

L0*1***0* ***6*TKR

LS*1

LH1*TK*1*UN3257**4961605*****III

LH2*9*P

Message Detail

LH3*ELEVATED TEMPERATURE LIQU*D*NOS

LH3*ID, N.O.S.*D

LFH*TEC*((ASPHALT PETROLEUM LIQUI*D))

PER*HM*CHEMTREC CCN23163*TE*800−424−9300

LE*1

LH6*BRANDON GAUTHIER

SE*40*19731104

GE*1*19731104

IEA*1*019731104

Waybill Copy BNSF 06/25 05:01:46 WME
777 - BNSF RAILWAY COMPANY - 777

****
* H A Z M A T *
****

UTLX 661234 T98 125 36 89 062114 06/21/23 886486 UP

AND 5 OTHERS

04501 COLLINS ID 30855 LAUREL MT

MISSOULA MT

S

BNSF SVRBO UP CHS 411664

803 US HWY 212 S

0000

IDAHO ASPHALT SUPPLY CO
75 N. 550 W.

COLLINS ID

MULTIPLE CAR SHIPMENT WWIB WEIGHT AGREEMENT

YES
TO BE PREPAID

4961605

HAZARDOUS SHIPMENT TOTAL LADING WT 178379
1 TK // 178554 LB
UN3257 // ELEVATED TEMPERATURE LIQUID, N.O.S.
(ASPHALT PETROLEUM LIQUID)
9 // PG III
EMERGENCY CONTACT: 800-424-9300
SHIPPER CONTACT: CHEMTREC CCN23163
HAZMAT STCC=4961605
NATURAL KEY WB-ID 8006-06-21-11.27.29.482023 WB-VRSN 002
EDI 404 WGHT CD: A
ELEVAT
VOLUME LB
HAZ CERT BRANDON GAUTHIER
EDI 404 RECVD FROM AWI MSG SEQ# 19731104 ON 20230621 AT 1507 BILL CD
Spec Cond Codes N9 TN overridden by WBMSPLAC 06/21/23 15:07
PROJ RT I BNSF SVRBO I UP

HOLD EQUIPMENT INSTRUCTION
HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.
MULTIPLE CAR SHIPMENT
WEIGHT AND CHARGE TO FOLLOW PREPAID
TP IDAHOASPSUPP 2535 N 15TH E IDAFALLS ID 0753850002
ZS INTELLITRANS
ZS SHIPXPRESS
SERVICE SCHEDULING
2023-06-21 10.27.00 2023-06-21 14.07.00

```
    YRDPDRCR                    ***** Yard System *****              06/25/23
    S B JOINER                        - Car Inquiry -                03:01:48PT 4  >
UTLX 661234 <T98/T50> on trn M-LAUMIS1-23A seq 45 departed LAURMT 06/24 0505 2
IN POOL P0000 LENGTH =  55 FT  5 in                                  STCC:    4961605

L Online J RAJP/  Offline Dest          Evnt                          Station
E Destin T IndNum Care of/Cust Contents CdSt Trk  Date Time Train
- ------ - ------ ------------ -------- ---- ---- ---- ---- -------------------
L SILBOW   UP     SILBOWMT     HAZMAT   TD    207 0624 0505 M-LAUMIS1-23ALAURMT
L SILBOW   UP     SILBOWMT     HAZMAT   SWWE  207 0622 1849 Y-LAU2242-22GLAURMT
L SILBOW   UP     SILBOWMT     HAZMAT   SWWE  203 0622 0410 Y-LAU3362-21GLAURMT
L SILBOW   UP     SILBOWMT     HAZMAT   SWWE  210 0622 0210 Y-LAU2151-21ILAURMT
L SILBOW   UP     SILBOWMT     HAZMAT   RIPR  300 0621 2020 Y-LAU2151-21ILAURMT
L SILBOW   UP     SILBOWMT     HAZMAT   WBMA 1201 0621 1407 LAUREL MT
L LAURMT          T/BLAUCHS    HAZMAT   MEEI 1201 0621 1027 LAUREL MT
Car placed in Equip Instruction status (EI0001)
L LAURMT          T/BLAUCHS    HAZMAT   RIRL 1201 0621 1027 LAUREL MT
E LAURMT   120105 CHS          HAZMAT   PNFN 1201 0621 0506 LAUREL MT
E LAURMT   120105 CHS          HAZMAT   APPL 1201 0621 0506 Y-LAU3151-21GLAURMT
E LAURMT   120105 CHS          HAZMAT   OT    127 0621 0505 LAUREL MT
Car is ordered using-CISS
E LAURMT   120201 CHS          HAZMAT   SWWE  127 0620 1606 INV ADJUST   LAURMT
E LAURMT   120201 CHS          HAZMAT   SWWE  128 0620 1603 Y-LAU1161-20GLAURMT
E LAURMT   120201 CHS          HAZMAT   SWWE  117 0618 1946 Y-LAU2232-18GLAURMT
E LAURMT   120201 CHS          HAZMAT   SWWE  113 0618 1928 INV ADJUST   LAURMT
E LAURMT   120201 CHS          HAZMAT   CPFX  212 0614 1006 LAUREL MT
E LAURMT   120201 CHS          HAZMAT   PNFN  212 0614 1006 LAUREL MT
E LAURMT   MRL    LAURELMT     HAZMAT   DD        0614 0949 H-DILLAU3-12ALAURMT
This transaction recorded for accounting purposes.
E LAURMT   120201 CHS          HAZMAT   TA    212 0614 0948 H-DILLAU3-12ALAURMT
E LAURMT   120201 CHS          HAZMAT   TD   2106 0613 0257 H-DILLAU3-12AMANDAN
E LAURMT   120201 CHS          HAZMAT   RIPR 2108 0612 1000 Y-MAN1012-12IMANDAN
E LAURMT   120201 CHS          HAZMAT   WBMA 2189 0608 0918 MANDAN ND
E LAURMT          CHS          HAZMAT   MEEI 2189 0608 0918 MANDAN ND
Car placed in Equip Instruction status (EI0001)
E LAURMT          CHS          HAZMAT   RIRE 2189 0608 0918 MANDAN ND
L MANDAN   218901 CHS          HAZMAT   PNFN 2189 0607 1305 MANDAN ND
L MANDAN   218901 CHS          HAZMAT   APPU 2189 0607 1304 Y-MAN1012-07IMANDAN
L MANDAN   218901 CHS          HAZMAT   PNFN 2106 0606 1406 MANDAN ND
L MANDAN   218901 CHS          HAZMAT   OT   2101 0606 1227 MANDAN ND
Car is auto ordered for SOA condition
L MANDAN   218901 CHS          HAZMAT   TA   2101 0606 1227 H-LAUDIL1-03AMANDAN
L MANDAN   MRL    CHS          HAZMAT   RRRT      0605 1112 H-LAUDIL1-03ALAURMT
This transaction recorded for accounting purposes.
L MANDAN   218901 CHS          HAZMAT   TD    104 0605 1113 H-LAUDIL1-03ALAURMT
L MANDAN   218901 CHS          HAZMAT   RIPR  900 0601 1900 Y-LAU2151-01ILAURMT
L LAURMT          T/BLAUCHS    HAZMAT   MEEI 1202 0601 1109 LAUREL MT
Car placed in Equip Instruction status (EI0001)
L LAURMT          T/BLAUCHS    HAZMAT   RIRL 1202 0601 1109 LAUREL MT
E LAURMT   120204 CHS          HAZMAT   PNFN 1202 0601 0505 LAUREL MT
E LAURMT   120204 CHS          HAZMAT   APPL 1202 0601 0505 Y-LAU3151-01GLAURMT
E LAURMT   120204 CHS          HAZMAT   OT    127 0531 2225 LAUREL MT
Car is ordered using-CISS
                          ****** End of Data ******
```

06/21/2023 CHS INC B/L # 411664

Shipper	CHS INC 803 US HWY 212 S	LAUREL	MT 59044-8731
Consignee	IDAHO ASPHALT SUPPLY CO 75 N. 550 W.	COLLINS	ID 83221
Third Party Pay	IDAHO ASPHALT SUPPLY CO PO BOX 50538	IDAHO FALLS	ID 834050538

Origin:	LAUREL MT	Prepared by:	RAIGAN MENDENHALL
Destination:	COLLINS ID	Phone Number:	4066285214
Sec 7 (Y/N):	Yes		
Freight Charges:	"To Be Prepaid"		

Route Details:

Origin Switch Road:	Junction:		Delivery Switch Road:	Junction:	
Route: BNSF SVRBO UP					
Rule 11 (Y/N):	No				
Contract(s) #:	- -				
ELEVAT	4961605	Loaded 6	Tank Car	Agreement Weights Estimated Weights 1,075,029 Pounds	

HAZARDOUS MATERIALS
1 Tank
UN3257 // ELEVATED TEMPERATURE LIQUID, N.O.S.
(ASPHALT PETROLEUM LIQUID)
9 // PG III

Emergency Telephone : 800-424-9300
Emergency Offeror & Contract# or Holder : CHEMTREC CCN23163
HAZMAT STCC = 4961605

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the department of transportation.

BRANDON GAUTHIER

PG 58-28

INIT NUMBER	WEIGHT	SEALS	DUNNAGE REFERENCE
UTLX 644859	178554		0
UTLX 661234	178379		0
UTLX 641341	179340		0
UTLX 664879	179892		0
UTLX 644827	178898		0
UTLX 665072	179966		0

STATUS: Accepted-824 Date: 06/21/2023 Time: 15:07 CST WAYBILL #: 886485

Track 1201 Spot 5

Load Message: Load Cleared

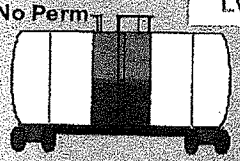
Reason For Load Stop: Volume Set Point Reached

Products Available: Asphalt

-0.3

020L0H1142: LVL OK

No Perm



020FI2092: 1002.6GPM

020TI2092: 343.0°F

TK148

009PIC2013
AUTO
PV: 32.9psig
SP: 20.0psig
OUT: 100.0%

99.6

009LI2012: 31.20ft

009HIC2013: 60.0%

TK149

009PIC2033
AUTO
PV: 78.5psig
SP: 150.0psig
OUT: 0.0%

-0.6

009LI2032: 42.50ft

009HIC2033: 100.0%

TK150

009PIC2053
AUTO
PV: 49.5psig
SP: 20.0psig
OUT: 100.0%

98.9

009LI2052: 48.03ft

009HIC2053: 60.0%

Load Setup

Car Number
Product
Gallons Capacity
Load Limit
Order Number
Safety Margin

Current Load		BOL Transaction Summary	
Timestamp	2022-03-09T09:44:08	2023-06-21T10:28:58	
Order Number	0	22419	Order Number
Car Number	UTLX 0	UTLX 661234	Car Number
Product	None	TK149	
Target Volume	21511.4	21511.4	Target Volume
Target Weight	175720.0	175720.0	Target Weight
Avg. Temperature	0.0	342.8	Average Temperature
Total Volume	0.0	21518.0	Gross Gallons Loaded
Total Weight	0.0	169104.4	Total Weight Loaded
Duration	0h, 0m, 0s	0h, 25m, 44s	Loading Duration
Weight Left in Load	175720.0	19552.5	Net Gallons Loaded
Volume Left in Load	21511.4	58.8	API Gravity

CHS

Attention Needed ☐

9" out

Asphalt Tank Car Inspection

Car Number UTLX 661234 **Track/Spot** 1201 Spot 5 **Date** Wednesday, June 21, 2023

Placard UN3257 **Product** PG 58-28 **Tank car Capacity** 23382

Order # 22419 **Manway Style** AAR 1 **RR Load Limit** 191000

Pre-Loading Inspection

All information above is accurate with the Car and the Loading HMI/Accuload, the Car has sufficient capacity, by weight and volume to contain the product being loaded	✓
Qualification stencils have been reviewed, and the Car is not overdue for any tests, qualifications, or inspections	✓
The Car has good overall integrity with no damage or visible defects and shows no signs of leakage	✓
All placard holder, ladders, handrails, running boards, and platforms are not corroded or damaged	✓
All safety appliances are in proper condition and have no residue or corrosion	✓
The Car has no items attached that may indicate a security breach	✓
All Fittings, valves, gaskets and fasteners are in proper condition • Materials are not corroded, torn, worn, stripped or damaged	✓
Any residue in the car is less than 3" and compatible with the product being loaded	✓
All wheels, trucks, brakes, springs in good condition. • Materials are not corroded, torn, worn, stripped or damaged	✓
Both couplers are Double Shelf Couplers	✓
All caps, plugs or removable components are properly chained to the tank car	✓
The bottom outlet caps, valves, gaskets and plugs are in proper condition and have no signs of leakage from bottom unloading components	✓
The bottom outlet valve is confirmed to be fully closed	✓
The manway and cover assembly is functional, properly aligned, and centered on the manway nozzle	✓
The manway cover and area adjacent to the gasket sealing surface is free of commodity or other build up	✓
The manway nozzle sealing surface is free of gouges, nicks, corrosion, displaced metal, residual commodity and remnants of old gaskets	✓
The Manway hinge pins and eyebolts are in place and in proper condition • Hing pins operate freely and are not bent, cut, or damaged • Safety eyebolts are present at the proper location across from the nozzle hinges • Eyebolt slots and ears are not bent, warn, damaged, or deformed • Eyebolt, nuts and washers are not bent, damaged, corroded, and are free of excessive paint. or commodity • Eyebolt nuts are sized fully to bridge the eyebolt slots and washers are not cupped/deformed	✓
The Manway gasket is designed and approved by CHS for the Car and commodity, is in place, fully intact, and has not taken a permanent compression set that interferes with the sealing	✓
The Car is properly placarded	✓

	Print Inspectors Name	Date
Car is ok to Load	[redacted]	6/21

CHS

Asphalt Tank Car Inspection

Car Number UTLX 661234 **Track/Spot** 1201 Spot 5 **Date** Wednesday, June 21, 2023

Placard UN3257 **Product** PG 58-28 **Tank car Capacity** 23382

Order # 22419 **Manway Style** AAR 1 **RR Load Limit** 191000

Final Inspection

	Initials
ALL valves, fittings, closures, plugs, caps and fasteners verified closed and tool tight with a 36" pipe wrench	[redacted]
Manway cover is properly secured per CHS manway procedures.	[redacted]
Car shows no signs of vapor or liquid leaking	[redacted]
Car is clean and free of spillage	[redacted]

Car Seal Numbers	
Final Torque on Manway Bolts	110
Bottom Outlet Valve Handle	2726251
Protective Housing	
Manway Cover	2726197
Date Completed if other than Pre-inspection	

Petroleum Asphalt Cements

Safety Data Sheet

Version 002 — Last revision on 2014-05-29

SECTION 1 — IDENTIFICATION

Product Name:	Petroleum asphalt cements
Product ID:	CNX-003
Synonyms:	Bitumen; paving asphalt; penetrating asphalt cements; roofing flux; viscosity graded asphalt
Molecular Formula:	Mixture
Chemical Family:	Petroleum hydrocarbon
Manufacturer:	CHS, Inc. P.O. Box 909 Laurel, Montana 59044, USA
Telephone:	406.628.5200 (*General*) 800.424.9300 (*Emergency – Within USA & Canada*)

SECTION 2 — HAZARD(S) IDENTIFICATION

Emergency Overview

WARNING

Harmful if inhaled (H332).
Suspected of causing cancer (H351).

PREVENTION

Obtain special instructions before use (P201).
Do not handle until all safety precautions have been read and understood (P202).
Avoid breathing fume, gas, or vapors (P261).
Use only outdoors or in a well-ventilated area (P271).
Wear gloves and eye protection (P280).
Use personal protective equipment as required (P281).

RESPONSE

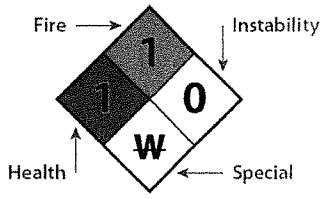
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

(P304 + P340).
IF EXPOSED OR CONCERNED: Get medical advice/attention (P308 + P313).
Call a poison center or doctor/physician if you feel unwell (P312).
Wash contaminated clothing before reuse (P363).

Hazard Classifications (OSHA / GHS)

Acute toxicity, inhalation – Category 4
Carcinogenicty – Category 2

NFPA



Potential Health Effects

Eye Health Effects: Contact may cause mild irritation including stinging, watering and redness. Contact with heated material may cause thermal burns. Vapors or fumes may cause watering of the eyes.

Skin Health Effects: Contact may cause mild to moderate skin irritation. Prolonged or repeated contact may worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). Long-term skin exposure can increase sensitivity to the sun and cause discoloration. Contact with the heated material may cause thermal burns. Fumes from heated material can also cause irritation. No harmful effects from skin absorption are expected.

Inhalation Health Effects: Inhalation of high vapor concentrations may cause respiratory irritation, headaches, dizziness or nausea, unconsciousness, and possibly death.

Under certain conditions, sulfur compounds in hot product may liberate hydrogen sulfide (H_2S) gas. Cooling product may continue to emit traces of H_2S temporarily from entrapped or dissolved gases. Exposure to high concentrations of H_2S (> 1000 ppm) will cause immediate unconsciousness and death through respiratory paralysis. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere.

Ingestion Health Effects: Ingestion may cause irritation of the digestive tract, nausea, vomiting and diarrhea.

Carcinogenic Effects: Repeated and prolonged exposure may be harmful and may cause cancer.

Carcinogenic Effects			
Component	**NTP**	**IARC**	**OSHA**
Asphalt (8052-42-4)	Known to be a human carcinogen	Carcinogenic to humans (Group 2B)	May contain Benzene (CAS: 71-43-2), which is specifically listed in 29 CFR 1910 subpart Z

Polycyclic aromatic hydrocarbons (130498-29-2)	Reasonably anticipated to be a human carcinogen	Carcinogenic to humans (Group 1)	Not specifically listed in 29 CFR 1910 subpart Z

Potential Environmental Effects

Environmental Effects: Spills into watercourses may be harmful to organisms and bottom feeders.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients				
Name	**CAS #**	**RTECS #**	**EINECS #**	**% (Weight)**
Asphalt	8052-42-4	VV7330000	238-878-4	> 99 %
Polycyclic aromatic hydrocarbons	130498-29-2	---	---	< 5 %
Hydrogen sulfide	7783-06-4	BD1200000	215-691-6	< 0.1 %

SECTION 4 — FIRST-AID MEASURES

Eye Contact

Flush eyes immediately with clear water for at least 15 minutes. Remove contact lenses if present and easy to do. If irritation persists, seek medical attention.

Skin Contact

Remove contaminated clothing and shoes. Wash area of contact thoroughly with soap and plenty of water. If irritation persists, seek medical attention. Wash clothing separately before reuse. If hot material contacts skin, place affected area under cold water. For severe burns over a large area of the body, immediately seek medical attention.

It is not usually advisable to immediately remove asphalt material from skin, as underlying tissue may easily be torn away. Natural separation will occur in 48 - 72 hours. For small amounts of material on skin, use mineral oil, mineral oil ointment, or commercial products specific for asphalt removal (such as DESOLV-IT) may be applied to soften the asphalt to facilitate removal. For larger amounts, removal should only be attempted under the direction of a physician.

If skin is contaminated with cool, solid asphalt, the area should be cleaned with waterless skin cleanser followed by soap and water.

Inhalation

Move to fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. If victim is not breathing, clear airway and immediately begin artificial respiration. Seek immediate medical attention, if necessary.

Ingestion

Do not induce vomiting. Seek medical attention.

Notes to Physicians

Once it has cooled, adhered asphalt is not harmful to the skin and in fact provides a sterile cover over the affected area. The asphalt will detach itself, usually after a few days as healing occurs. If it is necessary to remove the asphalt, only medically approved solvents or warm paraffin should be used to prevent further skin damage.

If heated, this material may liberate hydrogen sulfide (H_2S). At high concentrations H_2S may produce pulmonary edema, respiratory depression, and/or respiratory paralysis. The first priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. Nitrite therapy (found in the cyanide antidote kit) has been suggested as a therapy for H_2S 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. The antidotal efficacy of nitrite therapy is controversial, but is currently recommended if it can be started within the first few minutes after exposure. Nitrite therapy should not be allowed to interfere with the establishment of adequate ventilation and oxygenation. (*Source: ATSDR Toxic Substances Portal – Hydrogen Sulfide*).

Medical Conditions Aggravated by Exposure

Pre-existing skin or eye problems may be aggravated by prolonged exposure.

Other Comments

Before attempting rescue, first responders should be alert to the possible presence of hydrogen sulfide (H_2S), a poisonous gas, and should consider the need for respiratory protection (see *Section 8*).

SECTION 5 — FIRE-FIGHTING MEASURES

NFPA 704 Hazard Classes:

Health:	1 (Slight)
Flammability:	1 (Slight)
Instability:	0 (Minimal)
Other Hazards:	May react violently with water

Unusual Fire and Explosion Hazards

This material is flammable at temperatures above 500 °F (260 °C), but will not ignite readily. Flammable and toxic hydrogen sulfide (H_2S) may form in closed tank headspaces. Flammability of headspace vapors containing H_2S

will differ appreciably from the values given for asphalt. Hot asphalt may ignite flammable mixtures on contact. If water is applied to heated asphalt, it can cause violent foaming and boil over.

Extinguishing Media

Foam, dry chemical, carbon dioxide, and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Do not use a water stream. Water stream may cause violent eruptions and spreading of asphalt. Further application of water may lead to boil over. Water or foam may cause frothing.

Protection of Firefighters

Wear eye protection. Structural firefighters must use a self-contained breathing apparatus and full protective equipment. In addition, wear other appropriate protective equipment as conditions warrant (see *Section 8*).

Firefighting Procedures

Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

Other Information

Combustion Products:	Fumes, smoke, carbon monoxide, and aldehydes. Hydrogen sulfide and oxides of sulfur may also be formed.
Flammable Properties:	See *Section 9* for Flash Point, Explosive Limits, etc.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions

Keep public away. Avoid skin contact. Avoid breathing vapors, fumes, or gas. Wear appropriate protective equipment as conditions warrant (see *Section 8*).

Environmental Precautions

Keep product out of sewers and watercourses. Assure conformity with applicable government regulations.

Containment Procedures

Shut off the source of the leak if possible to do so without hazard. Eliminate all ignition sources. Advise the National Response Center (800-424-8802) if the material has entered a watercourse. Advise local and state emergency services, if appropriate. Contain liquid with sand, soil, or other absorbent material. Dike and divert spill into natural containment areas.

Clean-up Procedures

Recover and return free material to source. Use suitable sorbents to clean up residual liquids.

SECTION 7 — HANDLING AND STORAGE

Handling

Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

A written hot work permit is required for any repair or maintenance operations on any equipment, piping, container, or tank containing or contaminated with this chemical material, when any open flame, burning, acetylene cutting, arc welding, brazing, grinding, sand blasting, use of electrical power tools, or any spark producing operations are required for said repair and maintenance. The equipment, piping, container, or tank to be worked on should be drained, steamed, water washed, isolated and/or blinded, ventilated, or any combination of these, as deemed necessary to provide a safe hot work environment. The equipment, piping, container, or tank, and the surrounding area, should be inspected and tested for the percent of the lower explosive limit (LEL) and for toxic gas concentrations. Combustible material in the area should be protected or removed. Proper lockout/tagout and confined space entry procedures should be observed at all times. Each situation should be evaluated on an individual basis by competent safety personnel, who shall make all final determinations as to safety, proper personal protective equipment (PPE), and issuance of hot work permits.

For work on tanks, refer to Occupational Safety and Health Administration (OSHA) regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

Because hydrogen sulfide (H_2S) may accumulate in tanks and bulk transport compartments, personnel should stand upwind, keep their faces at least two feet from compartment openings, and avoid breathing vapors when opening hatches and dome covers. Prolonged breathing of 50 - 100 ppm of H_2S may produce eye and respiratory tract irritation, headache, nervousness, and nausea. Very short exposures to high concentrations of H_2S (e.g., 700 - 1000 ppm) may lead to unconsciousness, respiratory paralysis, and death.

Storage

This material is typically stored, transported, and used at temperatures above 275 °F (135 °C). Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flame, or strong oxidants.

Hot asphalt must never be added to a tank or other container that is not completely dry. Contact with water results in violent expansion as the water turns to steam. This can lead to dangerous boil over and may cause damage or rupture of the tank or container. Keep away from any incompatible material (see *Section 10*).

Toxic quantities of hydrogen sulfide (H_2S) may be present in storage tanks and bulk transport vessels, which contain or have contained this material. Persons opening or entering these compartments should first determine if H_2S is present.

SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, and/or engineering professionals.

Personal Protective Equipment

Respiratory Protection: Minimize breathing vapors, fumes, or gases. Ensure adequate ventilation. Use supplied-air respiratory protection in confined or enclosed spaces, or when hydrogen sulfide (H_2S) exceeds permissible limits.

Eye/Face Protection: The use of eye protection (such as safety glasses) that meets or exceeds ANSI Z.87.1 is recommended. Depending on conditions of use, a face shield may be necessary.

Skin Protection: Avoid skin contact. Wear gloves to protect against skin contact. The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on conditions of use, additional protection may be necessary to prevent skin contact, such as face shield, apron, body suit, long sleeves, etc.

General Considerations: When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls

Use local exhaust to capture vapor, mists, or fumes when handling hot product, if necessary. Provide ventillation sufficient to prevent exceeding recommended exposure limits or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment.

Exposure Limits / Guidelines

Component	ACGIH TLV	NIOSH REL	OSHA PEL
Asphalt (8052-42-4)	TWA: 0.5 mg/m^3	STEL: 5 mg/m^3	---
Polycyclic aromatic hydrocarbons (130498-29-2)	TWA: 0.2 mg/m^3 (as coal tar pitch volatiles)	TWA: 0.1 mg/m^3 (as coal tar pitch volatiles, cyclohexane-extractable fraction)	TWA: 0.2 mg/m^3 (as coal tar pitch volitiles, benzene-soluble fraction)
Hydrogen sulfide (7783-06-4)	TWA: 1 ppm STEL: 5 ppm	CEIL: 10 ppm	CEIL: 20 ppm Maximum: 50 ppm (for 10 minutes)

Note: State, local, or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Supplemental Information

Notations			
Component	**NIOSH IDLH**	**Skin Notation**	**Sensitization**
Polycyclic aromatic hydrocarbons (130498-29-2)	80 mg/m^3 (as coal tar pitch volatiles)	---	---
Hydrogen sulfide (7783-06-4)	100 ppm	---	---

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical Form	Solid at ambient temperature, viscous liquid when heated
Appearance	Black
Odor	Characteristic sour, tar-like odor
Odor Threshold	*Not available*
pH	*Not available*
Freezing Point	131 °F (55 °C)
Boiling Point	> 650 °F (> 340 °C)
Flash Point	> 450 °F (> 232 °C) by open cup
Flammability	Non-combustible
Explosive Limits	0.9 % (LEL) – 7.0 % (UEL)
Evaporation Rate	*Not available*
Vapor Pressure	< 0.1 mmHg at 68 °F (20 °C)
Vapor Density	> 5
Specific Gravity	1.0 – 1.1
Density	8 – 9.5 lbs/gal
Solubility	Negligible
Partition Coefficient	*Not available*
Auto-ignition Temperature	> 905 °F (485 °C)
Decomposition Temperature	*Not available*
Viscosity	*Not available*
Molecular Formula	*Not available*
Molecular Weight	*Not available*

SECTION 10 — STABILITY AND REACTIVITY

Stability:	Stable under normal temperature conditions and recommended use.
Conditions to Avoid:	Hydrogen sulfide (H_2S) from the material can react with the iron in an asphalt storage tank to form ferous sulfide, which is pyrophoric. Water in contact with hot asphalt may result in a violent reaction causing an increase in tank pressure and substantial foaming and frothing of the product.
Incompatible Materials:	Strong oxidants; concentrated oxygen; sodium hypochlorite; calcium hypochlorite.
Hazardous Polymerization:	Not known to occur.

SECTION 11 — TOXICOLOGICAL INFORMATION

General Toxicity

Signs and Symptoms:	Effects of over-exposure may include irritation of the digestive tract, irritation of the respiratory tract, nausea, vomiting, diarrhea and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue).
Aspiration Hazard:	*Not available.*
Sensitization:	Not expected to be a skin or respiratory sensitizer.
Specific Target Organs:	Acute exposure: eyes, respiratory system, skin. Chronic exposure: respiratory system.
Carcinogenicity:	Skin application of asphalt fume condensate fractions has caused tumors in laboratory mice. However, animal studies in which high concentrations of asphalt fumes were breathed for extended periods of time did not cause carcinogenic effects.
Germ Cell Mutagenicity:	*Not available.*
Reproductive Toxicity:	*Not available.*

Toxicological Effects of Components

Toxicological Information		
Component	**Category**	**Data**
Asphalt (8052-42-4)	Exposure Routes	Inhalation; skin absorption; skin and/or eye contact.
	Symptoms	Irritation of eyes and/or respiratory system; potential occupational carcinogen.
	Target Organs	Eyes; respiratory system.
	Short-Term Exposure	The substance is irritating to the eyes and the respiratory tract. The substance when heated causes burns on the skin.
	Long-Term Exposure	Fumes of this substance are possibly carcinogenic to humans.

Polycyclic aromatic hydrocarbons (130498-29-2)	Exposure Routes	Inhalation; skin absorption; ingestion; skin and/or eye contact.
	Symptoms	Dermatitis; bronchitis; potential carcinogen.
	Target Organs	Respiratory system; skin; bladder; kidneys.
	Short-Term Exposure	The substance is irritating to the eyes, the skin and the respiratory tract. Exposure to sun may enhance the irritating effect and lead to burns.
	Long-Term Exposure	Repeated or prolonged contact with skin may cause dermatitis and hyperpigmentation of skin. This substance is carcinogenic to humans.
Hydrogen sulfide (7783-06-4)	Exposure Routes	Inhalation; skin and/or eye contact.
	Symptoms	Irritation of the eyes: conjunctivitis, eye pain, lacrimation (discharge of tears), photophobia (abnormal visual intolerance to light), corneal vesiculation; irritation of the respiratory system; apnea, convulsions, or coma; dizziness, headache, lassitude (weakness, exhaustion), irritability, insomnia; gastrointestinal disturbance.
	Target Organs	Eyes; respiratory system; central nervous system.
	Short-Term Exposure	The substance is irritating to the eyes and the respiratory tract, and may cause effects on the central nervous system. Exposure may result in unconsciousness or death. Inhalation of gas may cause lung oedema. The effects may be delayed. Rapid evaporation of the liquid may cause frostbite.
	Long-Term Exposure	*Not available.*

Note: Data for Exposure Routes, Symptoms, and Target Organs were obtained from the NIOSH Pocket Guide to Chemical Hazards. Data for Short- and Long-Term Exposure were obtained from the International Chemical Safety Cards from the International Occupational Safety and Health Information Centre.

SECTION 12 — ECOLOGICAL INFORMATION

Toxicity: Spills into water ways may be harmful to organisms and bottom feeders.

Persistence & Degradability: This product is estimated to have a slow rate of biodegradation.

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

Mobility: *Not available.*

Other Adverse Effects: *Not available.*

SECTION 13 — DISPOSAL CONSIDERATIONS

The generator of a waste is always responsible for making proper hazardous waste determinations. The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with all applicable federal, state, and local requirements and regulations.

This material, when discarded or disposed of as produced, is not specifically listed as a hazardous waste in federal regulations; however it may be characteristically hazardous if it is considered toxic, corrosive, ignitable, or reactive according to federal definitions (40 CFR 261). Additionally, this material may be designated as hazardous according to state and/or local regulations.

SECTION 14 — TRANSPORTATION INFORMATION

DOT – United States – Department of Transportation

Shipping Name: Elevated Temperature Liquid, N.O.S., (Asphalt)

ID Number: UN3257

Hazard Class: 9

Packing Group: III

SECTION 15 — REGULATORY INFORMATION

United States Regulations

CERCLA/SARA Section 311/312 (Title III Hazard Categories)

Acute Health:	Yes
Chronic Health:	Yes
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

This material may contain one or more of the following chemicals identified by the EPA under Title 40 of the Code of Federal Regulations (CFR), including the CAA (40 CFR 50-97), CERCLA (40 CFR 302.4), SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), and/or TSCA (40 CFR 700-766).

Components Listed by Selected Parts of US 40 CFR					
Component	**EPCRA 302**	**EPCRA 304**	**EPCRA 313**	**CERCLA 102/103**	**CAA 112(r)**
Hydrogen sulfide (7783-06-4)	500 lbs TPQ	100 lbs RQ	Reportable	100 lbs RQ	---

This material may contain one or more chemicals identified on individual state hazardous substances lists. Contact each jurisdiction for more information.

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the State of California to cause cancer.

SECTION 16 — OTHER INFORMATION

Preparation & Version Information

Version 002 – Last revision on 2014-05-29.

Prepared by Certified Environmental Management, Ltd. (www.cemih.com).

Guide to Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
CAA	Clean Air Act (United States)
CAS	Chemical Abstracts Service
CEIL	Ceiling Exposure Limit
CERCLA	The Comprehensive Environmental Response, Compensation, & Liability Act (United States)
CFR	Code of Federal Regulations (United States)
EINECS	European chemical Substances Information System
EPA	Environmental Protection Agency (United States)
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
NFPA	National Fire Protection Association
NTP	National Toxicology Program (United States)
OSHA	Occupational Safety and Health Administration (United States)
PEL	Permissible Exposure Limit (OSHA)
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act (United States)
TLV	Threshold Limit Value (ACGIH)
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act (United States)
TWA	Time Weighted Average (8 hours)
UEL	Upper Explosive Limit
UN	United Nations

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