U.S Department of Transportation
Research and Special Programs Administration

Hazardous Materials Incident Report

Form Approval OMB No. 3137-0039

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 2137-0039. The filling out of this information is mandatory and will take 96 minutes to complete.

INSTRUCTIONS

Submit this report to the Information Systems Manager, U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Hazardous Materials Safety, DHM-63, Washington, D.C. 20590-0001. If space provided for any item is inadequate, use a separate sheet of paper, identifying the entry number being completed. Copies of this form and instructions can be obtained from the Office of Hazardous Materials Website at http://hazmat.dot.gov. If you have any questions, you can contact the Hazardous Materials Information Center at 1-800-HMR-4922 (1-800-467-4922) or online at http://hazmat.dot.gov.

PART I - REPORT TYPE

1. Incident Id: E-2013020168
2. This is to report: A

PART II - GENERAL INCIDENT INFORMATION

3. Date of Incident:
01/14/2013

4. Time of Incident (use 24-hour time):
06:00

5. Enter National Response Center Report Number (if applicable):
1035622

6. If you submitted a report to another Federal DOT agency, enter the agency and report number:

7. Location of Incident:
City: SLAUGHTERS
County: WEBSTER
State: KY
Zip Code: (if known): 42456
Street Address/Mile Marker/Yard Name/Airport/Body of Water/River Mile:
Pennyrile Pkwy Mile Marker 53

8. Mode of Transportation: Highway

9. Transportation Phase: In Transit

10. Carrier/Reporter:
Name: Brenntag Mid-South, Inc.
Street: 1405 Hwy 136 West
City: Henderson
State: KY
Zip Code: 42420
Federal DOT Id Number: 257819
Hazmat Registration Number: 050812550054U

11. Shipper/Offeror:
Name: Brenntag Mid-South, Inc.
Street: 1405 Hwy 136 West
City: Henderson
State: KY
Zip Code: 42420
Waybill/Shipping Paper: 171143-00
Hazmat Registration Number: 050812550054U

12. Origin (if different from shipper address)
Street:
City:
State:
Zip Code:

13. Destination:
Street: 455 US Hwy 95
City: Calvert City
State: KY
Zip Code: 42029-4165

14. Proper Shipping Name of Hazardous Material: HYDROCHLORIC ACID

15. Technical/Trade Name: Muriatic Acid 20 DEG

16. Hazardous Class/Division: Corrosive Material

17. Identification Number: (E.g. UN2764, NA 2020) UN1789

18. Packing Group: (if applicable) II

19. Quantity Released: (Include Measurement Units) 1878 Liquid - Pound

20. Was the material shipped as a hazardous waste? False
If yes, provide the EPA Manifest Number:

21. Is this a Toxic by Inhalation (TIH) material? False
If yes, provide the Hazard Zone:

22. Was the material shipped under an Exemption, Approval, or Competent Authority Certificate? False
If yes, provide the Exemption, Approval, or CA number:

23. Was this an undeclared hazardous materials shipment? False

PART III - PACKAGING INFORMATION

24. Check Packaging Type (check only one - if more than one, list type of packaging, copy Part III, and complete for each type:
Cargo Tank Motor Vehicle (CTMV)

25. See instructions and enter the appropriate failure codes found at the end of the instructions. Be sure to enter the codes from the list that corresponds to the particular packaging type checked above. Enter the number of codes as appropriate to describe the incident.
Enter the most important failure point in line 1. If there are more than two failure points, provide in this format in part VI.

What Failed: - 121-Gasket
How Failed: - 308-Leaked
Causes of Failure: - Fire, Temperature, or Heat

26a. Provide the packaging identification markings, if available.
Identification Markings: US DOT SP-10878/TC-412
(Examples: 1A1/Y1.4/150/92/USA/RB/93/RL, UN31H1/Y0493/USA/M9339/10800/1200, DOT - 105A - 100W (RAIL), DOT 406 (HIGHWAY), DOT 51, DOT 3-A)

26b. For Non-bulk, IBC, or non-specification packaging, if identification markings are incomplete or unavailable, see instructions and complete the following:

Single Package or Outer Packaging:	**Single Package or Inner Packaging (if any):**
Packaging Type:	Packaging Type:
Material of Construction:	Material of Construction:
Head Type (Drums only):	

27. Describe the package capacity and the quantity:

Single Package or Outer Packaging:		**Single Package or Inner Packaging (if any):**	
Package Capacity:	5400 Liquid - Gallon	Package Capacity:	
Amount in Package:	33520 Liquid - Pound	Amount in Package:	
Number in Shipment:	1	Number in Shipment:	
Number Failed:	1	Number Failed:	

28. Provide packaging construction and test information, as appropriate:

Manufacturer:	Tankcon FRP, Inc.	Manufacture Date:	07/10/2011
Serial Number:	2T9T21436CB08909	Last Test Date:	10/30/2012

Material of Construction: FRP/BALSA/FRP (if Tank Car, CTMV, Portable Tank, or Cylinder)
Design Pressure: 35 PSI (if Tank Car, CTMV, Portable Tank)
Shell Thickness: 1.2 INCH (if Tank Car, CTMV, Portable Tank)
Head Thickness: 0.63 INCH (if Tank Car, CTMV)
Service Pressure: (if Cylinder)
If valve or device failed:
Type: Gasket
Model: Not Legible
Manufacturer: Not Legible due to fire

29. If the packaging is for Radioactive Materials, complete the following:
Packaging Category:
Packaging Certification:
Certification Number:
Nuclide(s) Present: Transport Index:
Activity:
Critical Safety Index:

PART IV – CONSEQUENCES

30. Result of Incident (check all that apply):

- Spillage:	True	- Fire:	True
- Explosion:	False	- Material Entered Waterway/Storm Sewer:	False
- Vapor (Gas) Dispersion:	True	- Environmental Damage:	True
- No Release:	False		

31. Emergency Response: The following entities responded to the incident: (Check all that apply)

Fire/EMS Report #:	True	HVFD Run 004
Police Report #:	True	KSP 2013-0832
In-house cleanup:	True	
Other Cleanup:	True	

32. Damages Was the total damage cost more than $500? True

If yes, enter the following information: (If no, go to question 33.)

Material Loss:	$ 586.00
Carrier Damage:	$ 84,000.00
Property Damage:	$ 0.00
Response Cost:	$ 10,632.00
Remediation/Cleanup Cost:	$ 25,000.00

(See damage definitions in the instructions)

33a. Did the hazardous material cause or contribute to a human fatality? False

If yes, enter the number of fatalities resulting from the hazardous material:

Employees:	0
Responders:	0
General Public:	0

33b. Were there human fatalities that did not result from the hazardous material? False

If yes, how many? 0

34. Did the hazardous material cause or contribute to personal Injury? False

If yes, enter the number of injuries resulting from the hazardous material:

Hospitalized (Admitted Only):

Employees:	0
Responders:	0
General Public:	0

Non-Hospitalized:
(e.g.: On site first aid or Emergency Room observation and release)

Employees:	0
Responders:	0
General Public:	0

35. Did the hazardous material cause or contribute to an evacuation? False

If yes, provide the following information:

Total number of general public evacuated:	0
Total number of employees evacuated:	0
Total evacuated:	0
Duration of the evacuation:	0

36. Was a major transportation artery or facility closed? True

If yes, how many? 8

37. Was the material involved in a crash or derailment? False

If yes, provide the following information:

Estimated speed (mph):	0
Weather conditions:	
Vehicle overturned?	
Vehicle left roadway/track?	

PART V - AIR INCIDENT INFORMATION (please refer to S 175.31 to report a discrepancy for air shipments)

38. Was the shipment on a passenger aircraft?

If yes, was it tendered as cargo, or as passenger baggage?

39. Where did the incident occur (if unknown, check the appropriate box for the location where the incident was discovered)?

40. What phase(s) had the shipment already undergone prior to the incident? (Check all that apply)

- Shipment had not been transported
- Transported by air (first flight)
- Transport by air (subsequent flights)
- Initial transport by highway to cargo facility
- Transfer at sort center/cargo facility

PART VI - DESCRIPTION OF EVENTS & PACKAGE FAILURE

- Describe the sequence of events that led to the incident and the actions taken at the time it was discovered. Describe the package failure, including the size and location of holes, cracks, etc. Photographs and diagrams should be submitted if needed for clarification. Estimate the duration of the release, if possible. Describe what was done to mitigate the effects of the release. Continue on additional sheets if necessary.

Describe:
Incident and root cause analysis:

At approximately 0600 on January 14th, 2013, the tires on our fiberglass tanker 24957 allegedly caught on fire en route from Henderson to Calvert City near mile marker 53 while traveling Southbound on the Pennyrile Parkway. All eight tires on the rear of the tanker were destroyed in the fire. Moreover, the fire and heat did extensive damage to the outer shell of the Fiberglass tanker that was reinforced with balsa wood. The hose trays and transfer hoses were also burned up in the fire. Consequently, the gasket inside the bottom belly valve assembly on the tanker failed because of the fire damage and allowed Hydrochloric Acid (32%) to start dripping out at the rear of tanker.

Based on our interviews with our two drivers on board and our inspection of the tanker after it was returned and dismantled in our fleet maintenance shop by our lead mechanic, it led us to suspect that we must have had a tire failure that started with the back right inside tire and then possibly caused the brake system to start dragging due to a gradual release of air pressure on our brake system. After the tire caught fire, the situation continued to escalate until only the remnants of the steel cords and melted rubber remained on the rims. Therefore, we could not confirm for sure what may have caused the tire failure. Our drivers did not detect any tire problems when a pre-trip inspection was conducted.

Sequence of events leading up to the incident:

Our driver, Chris Reynolds, logged on duty at 0409 and proceeded to couple to Tanker 24957 loaded with Muriatic Acid (Hydrochloric Acid 32%). Mack Tinsley, designated trainer and passenger, was assigned to ride with Chris on this delivery. They conducted their Pre-Trip Inspection and did not detect any problems. However, Chris explained that as he proceeded to make a turn, the trailer brakes suddenly locked up. We had experienced a sudden drop in the ambient temperature overnight and it was below the freezing mark. We suspected the issue was related to ice crystals in the air line due to moisture in the system. Chris uncoupled from the tanker and contacted our Fleet Maintenance mechanic on duty. The mechanic used our spot truck and added some airline drying fluid and got the trailer into our wash bay that is equipped with hot air drying equipment. Our mechanic applied hot air to the back of the trailer and treated with the airline drying fluid to ensure the brakes were releasing properly. After the tanker was released, Chris coupled to the tanker and then proceeded to our Guard House Scale without incident. At approximately 5:30 a.m., they left the Henderson Facility and proceeded to the Pennyrile Parkway en route to Calvert City.

After traveling approximately 20 miles Southbound on the Pennyrile, they approached mile marker 54 (Calhoun exit) and noticed the truck was pulling hard while going up a hill. After topping the hill, the truck was still pulling hard. Mack stated that he saw sparks coming from under the trailer wheels on the passenger side and advised Chris to pull over on the shoulder.

Actions taken at the time it was discovered.

After our drivers pulled over and stopped, they saw that the trailer tires were indeed on fire. Chris grabbed the fire extinguisher and tried to put out the fire. The extinguisher went empty and Chris advised Mack to call 911 to report the trailer tires were on fire just 4 miles north of the Hansen Exit near mile marker 53. Chris uncoupled from the tanker and moved the tractor away from the trailer. Mack proceeded to call Brenntag Mid-South management personnel to report the problem and request assistance.

The Hanson Volunteer Fire Department arrived on the scene at 0619. Our drivers advised what was on the tanker and the firemen put the fire out using water and foam. (Report#: Run 004). During this process, fumes and black smoke were blowing across the southbound and northbound lanes. The Madisonville Fire Department arrived at 0732 to assist. (Report#: 2012-022).

At 0611, The KSP Post 2 Madisonville received the call to shut down the Pennyrile Parkway. They were advised to shutdown both NB and SB lanes. The state Hwy Dept. prepared to set up detour from the Slaughters Exit to the Hanson exit. The NB lane was reopened at approximately 1300. At approximately 1430, the southbound fast lane was reopened. The right lane remained blocked off while the remediation project was completed. Therefore, the northbound lanes were shut down for approximately 7 hours and the southbound lane was partially shut down for approximately 8 hours.

KSP CVE Officer arrived at 0715 and took statements and reviewed Shipping Papers and CDL. (Report#: KYBBBE000474). No Out of Service (OOS) or Citations were issued and the violations discovered were related to damage caused by the fire. The officer stated this roadside inspection would not impact our safety record.

We also worked with the EPA official on site to test the nearby drainage ditch that led to a stream. We verified the background pH values and hot zones where the soil and water was contaminated. Boardwalk provided resources for identifying nearby natural gas lines that were buried underground before any sump pits were dug using a back hoe for containment.

Describe the package failure, including the size and location of holes, cracks, etc.

The package failure related to the bottom belly valve assembly. The gasket failed due to the fire damage and allowed the product to start dripping from the bottom of the tanker onto the shoulder and ran down the hillside that led to a small drainage ditch. While the tanker was dripping product it had apparently created a natural vacuum inside the tanker. During the process to open the dome lid in order to insert a transfer hose, the leak started to increase to a small steady stream approximately ½ in diameter.

Estimate the duration of the release.

Based on our reports, the tanker started dripping hydrochloric acid at approximately 0640. After we completed the transfer of material from tanker 24957 to tanker 3450, the time was approximately 1215. Therefore, the duration of the release was approximately 5 hours and 35 minutes. Based on our weight tickets for the product shipped on Tanker 24957 and product returned on Tanker 3450, we show that we lost 5,860 lbs of 32.07% Hydrochloric Acid. To determine if this was a reportable quantity, we calculated the lbs of 100% active product. This equates to 1,878 lbs of 100% Hydrochloric Acid Active product. Therefore, we did not exceed the reportable quantity of 5,000 lbs of 100% active product.

Describe what was done to mitigate the effects of the release.

Brenntag Mid-South management personnel and emergency response team members started arriving at the scene from 0720 – 1045. Incident Commander Jimmy Epley agreed for Brenntag to take control of the response for containment, confinement, and neutralization. Brenntag Mid-South also made arrangements with CURA, 24 Hour Emergency Spill Management Services, to assist with providing resources for the remedial action. CURA contacted Evergreen AES and they arrived on the scene to assist with the response and remediation plans. Brenntag provided the floor dry and soda ash for the confinement and neutralization. Brenntag team members also provided the resources for transferring the Hydrochloric Acid into another tanker. We coordinated activities with the Fire Dept. and Cary Baldwin, Contractor, for a water source for manning a Decontamination Station and digging sump pits for collection of the run off of any spilled material and water. Throughout the process there were no personal injuries and efforts were made to minimize the environmental impact.

On February 15 – 17, 2013, Evergreen AES obtained assistance from Summit Contracting for excavation of the soil. A special waste profile was set up with Republic Services for spill cleanup of hydrochloric acid neutralized with soda ash. The contaminated soil was scraped up using a dozer and transferred to dump trucks for bulk shipments to an approved landfill. Fresh top soil was delivered and spread over the area. The area was re-seeded and straw netting was placed over the fresh dirt to prevent erosion. On February 18th, we followed up and tested several areas including the water in the drainage ditch. Everything was checking out as pH of 6 to 7 and this compared to the background of the area that had not been impacted.

PART VII - RECOMMENDATIONS/ACTIONS TAKEN TO PREVENT RECURRENCE

- Where you are able to do so, suggest or describe changes (such as additional training, use of better packaging, or improved operating procedures) to help prevent recurrence. Provide recommendations for improvement to hazardous materials transportation beyond the control of your individual company. Continue on additional sheets if necessary.

Describe:

Based on the sequence of events, we discussed the fact that when a combination unit appears to be pulling hard or losing power, we should not assume that it may be only engine related. It may indeed be related to damaged tires and brake issues. Therefore, if we are losing power, we should stop sooner and inspect the tires and brake system for any signs of damage or heat or anything else out of the ordinary.

During our investigation, we discussed possible causes such as the brakes out of adjustment, ice crystals in the airline due to moisture build up, brake hose failure, or brake valve failure. Since the trailer tires never locked up we suspect a contributing factor related to something that created a gradual release of air pressure to the brake system that allowed the brakes to drag and not lock up. It was very evident the right inside rear frame of the tanker showed signs of exposure to the greatest amount of heat.

This incident will be reviewed in our drivers safety meeting as a moment of high influence to ensure our operating procedures remain current and accurate and recurrent training requirements are conducted to support our hazmat training for general awareness, function specific, safety, and general security awareness and indepth security training of our site security plan for personnel security, physical security, and en route security.

Moreover, we will follow up with our emergency response team members to conduct a post-critique of our strengths and opportunities for improvement.

PART VIII – CONTACT INFORMATION

Contact's Name:	Lee Kincaid
Contact's Title:	Safety, Regulatory, and Quality Manager
Business Name and Address:	Brenntag Mid-South, Inc. 1405 Hwy 136 West Henderson KY 42420
E-mail Address:	lkincaid@brenntag.com
Telephone Number:	270-830-1272
Fax Number:	270-827-3990
Hazmat Registration Number:	050812550054U
Date:	02/12/2013

Preparer is:	Other - All three-Carrier, Shipper, & Facility

07/10/2011