



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-2017080619
2. This is to report: A

PART II - GENERAL INCIDENT INFORMATION

3. Date of Incident: 07/26/2017
4. Time of Incident (use 24-hour time): 09:45
5. Enter National Response Center Report Number (if applicable): 1185321
6. If you submitted a report to another Federal DOT agency, enter the agency and report number:
7. Location of Incident:
City: COTULLA
County: LA SALLE
State: TX
Zip Code: (if known): 78014
Street Address/Mile Marker/Yard Name/Airport/Body of Water/River Mile:
2630 Casa Lane (South I-35)
8. Mode of Transportation: Highway
9. Transportation Phase: Unloading
10. Carrier/Reporter:
Name: Refinery Specialties, Inc.
Street: 38106 FM 3346
City: Hempstead
State: TX
Zip Code: 77445
Federal DOT Id Number: 0610351
Hazmat Registration Number: 052416552054YA
11. Shipper/Officer:
Name: Reagent Chemical & Research
Street: 115 Route 202
City: Ringoes
State: NJ
Zip Code: 08551
Waybill/Shipping Paper: 208325
Hazmat Registration Number: 051115550032XZ
12. Origin (if different from shipper address)
Street: 2710 Appelt
City: Channelview
State: TX
Zip Code: 77530
13. Destination:
Street: 2630 Casa Lane (South I-35)
City: Cotulla
State: TX
Zip Code: 78014
14. Proper Shipping Name of Hazardous Material: HYDROCHLORIC ACID
15. Technical/Trade Name: HCL 32% (20 Baume)
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) 10000 Liquid - Gallon

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:

Tank Car

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: - 149-Tank Head; 159-Vent

How Failed: - 303-Burst or Ruptured; 306-Failed to Operate

Causes of Failure: - Human Error; Over-pressurized

26a. Provide the packaging identification markings, if available.

Identification Markings: DOT NC412

(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:
Material of Construction:
Head Type (Drums only):

Packaging Type:
Material of Construction:

27. Describe the package capacity and the quantity:

Single Package or Outer Packaging:

Single Package or Inner Packaging (if any):

Package Capacity:
Amount in Package:
Number in Shipment: 1
Number Failed: 1

Package Capacity:
Amount in Package:
Number in Shipment:
Number Failed:

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

Manufacturer:

Manufacture Date:

Serial Number:

Last Test Date:

Material of Construction: Aluminum Rubber-Lined (if Tank Car, CTMV, Portable Tank, or Cylinder)

Design Pressure: (if Tank Car, CTMV, Portable Tank)

Shell Thickness: (if Tank Car, CTMV, Portable Tank)

Head Thickness: (if Tank Car, CTMV)

Service Pressure: (if Cylinder)

If valve or device failed:

Type:

Model:

Manufacturer:

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

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

- Fire/EMS Report #: False
Police Report #: False
In-house cleanup: True
Other Cleanup: False

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: \$ 8,000.00
Carrier Damage: \$ 500.00
Property Damage: \$ 15,000.00
Response Cost: \$ 45,000.00
Remediation/Cleanup Cost: \$ 55,000.00
(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?

False

If yes, how many? 0

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:

The incident reported herein occurred at an unmanned Hydrochloric Acid Transfer and Storage facility which is owned and operated by Refinery Specialties, Inc. (RSI). The site is leased from a local property owner and has been in operation since 2014. The site consists of two (2) 9,041 gallon-capacity fiberglass reinforced plastic storage tanks, along with an approximately 450 gallon field tank which is used as a water scrubber to control emissions of HCl vapors during loading/unloading operations. All of the tanks sit within a bermed and lined containment area made of native caliche-type soils and gravel. Past practice at this facility has been for the chemical vendor (Reagent Chemical) to perform chemical deliveries without RSI personnel present on-site. On the date of the incident, a new delivery driver for Reagent who was unfamiliar with the site arrived to offload a 5,000 gallon shipment of 32% HCl. He was operating Tractor# 635980 and Trailer #634 when the incident occurred. The BOL did not indicate which of the two tanks was to be filled. The driver attempted to verify which of the two tanks was empty using level gauges but experienced some difficulty; he had been instructed to check sight glasses and unload into the tank with the lowest level, but the valve to one of the sight glasses was closed. After eventually confirming which tank had sufficient freeboard, he connected the transfer hoses and began transferring acid from the tanker to what he believed to be the empty (or nearly empty) tank. After approximately 20 minutes, the driver observed acid overflowing from the scrubber tank and in an effort to keep additional acid from spilling into the containment area, he closed one of two in-line valves on the vent lines from the acid tank to the scrubber instead of shutting off flow at the tank. Shortly after closing the vent valve, the operator heard a muffled explosion and the bottom of the tank being filled ruptured at the lower head, releasing acid into the containment area. While the majority of acid was confined within the containment, an unknown portion (50-100 gallons) escaped containment and impacted an approximately 10 square yard area on an adjacent property owned by the lease owner. Following the tank rupture and release, the driver shut down the transfer pumps and contacted dispatch, who then contacted RSI. RSI dispatched several personnel from the Cuero and Pleasanton yards to the site for initial assistance, as well as a spill response contractor (Mr. Eddie Lero with Cleaning Solutions of Bryan, TX). In addition, RSI personnel began searching for a lined vacuum truck capable of removing acid from the containment. Once on-scene, RSI personnel applied soda ash to the material outside of containment to limit life and property damage. By 11:00 the release of product from both the delivery trailer and the tank had ceased. Product recovery operations using an acid-rated vacuum truck began at approximately 13:00 but were terminated around 14:30 due to a leaking/corroded valve and the product in the truck was transferred back into containment to prevent further release and property damage. Mr. Lero then sourced an acid-rated pump truck which would transfer product from containment into acid tankers owned by RSI. This operation successfully recovered approximately 9,000 gallons of product, with an undetermined amount left in containment. Frac tanks and water were ordered, and upon their arrival, recovery and clean-up efforts resumed. Water was pumped through a one-inch hose to flush and dilute remaining product in containment before transfer to a frac tank for storage prior to waste disposal. Soda ash was introduced into the water stream to raise the pH and neutralize any remaining acid. Approximately forty (40) 50-lb bags of soda ash were used in this process. Water washing and neutralization activities continued until pH monitoring suggested (and all personnel agreed) that a safe and clean site had been achieved. The recovered product (approximately 9-10,000 gallons) was shipped back to RSI's Cuero Yard and diluted for use in oilfield fracing operations, where it was injected downhole into formation. The product accumulated in the frac tank (approximately 30,000 gallons of dilute acid) was disposed of by deep-well injection at a disposal well owned/operated by Basic Energy, located in Pearsall, TX. Excavation of impacted soil outside of containment was started and stopped when a visually-clear area was achieved. Lime was mixed with excavated soil to neutralize any remaining acid; at the conclusion of the neutralization and excavation activity, grab samples of soil were taken and sent to an off-site 3rd party laboratory for pH analysis. All samples indicated that neutralization had taken place. The neutralized soil was then returned to the excavated areas, seeded with Bermuda grass, and watered. Following the completion of product removal and washing at the tank storage area, loads of caliche soil were brought in to re-build the walls of the containment. The walls were built higher than previously to provide additional freeboard. As of the date of this report, the damaged tank has been repaired, hydrotested, and placed back into service and the Cotulla Acid Storage Facility is back in operation.

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:

As a result of this incident, Reagent Chemical and RSI have proposed the following corrective/preventative actions:

1. The practice of unsupervised bulk HCl deliveries will no longer be permitted. RSI will provide an attendant familiar with the site to supervise bulk acid deliveries.
2. Additional signage will be placed at site (on tanks, valves, etc.) clarifying tank and valve nomenclature and providing simplified off-loading instructions, as well as an RSI contact number for assistance.
3. Special instructions will be added to the Bill of Lading (BOL) that require driver/dispatch to contact RSI in the event of a question concerning tank selection or for any other question related to material transfer at the Cotulla facility.
4. The practice of placing additional valves in vent line will be reviewed to see if vent lines can be re-designed without them.
5. A design evaluation of the current scrubber system will be made to confirm that vent pipe sizing and head pressure of water scrubber does not exceed MAWP for tank. Delivery drivers will be instructed to off-load at a controlled, slow rate to reduce the likelihood of an overpressure.

PART VIII – CONTACT INFORMATION

Contact's Name:	Karl Mueller
Contact's Title:	Environmental Manager
Business Name and Address:	Refinery Specialties, Inc. 38106 FM 3346 Hempstead TX 77445
E-mail Address:	karl.mueller@rsichem.com
Telephone Number:	979-826-4961
Fax Number:	979-826-4935
Hazmat Registration Number:	
Date:	08/25/2017
Preparer is:	Facility owner/operator