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: I-2013050427
2. This is to report: A

PART II - GENERAL INCIDENT INFORMATION

3. Date of Incident:
02/18/2013

4. Time of Incident (use 24-hour time):
09:23

5. Enter National Response Center Report Number (if applicable):
1038788

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

7. Location of Incident:
City: BIRMINGHAM
County: JEFFERSON
State: AL
Zip Code: (if known): 35222
Street Address/Mile Marker/Yard Name/Airport/Body of Water/River Mile:
616 33RD PLACE NORTH

8. Mode of Transportation: Highway

9. Transportation Phase: Unloading

10. Carrier/Reporter:
Name: HARCROS CHEMICALS INC.
Street: 300 PEPI DR
City: MUSCLE SHOALS
State: AL
Zip Code: 35661-1260
Federal DOT Id Number: 980774
Hazmat Registration Number: 050510550051SU

11. Shipper/Offeror:
Name: HARCROS CHEMICALS INC.
Street: 300 PEPI DR
City: MUSCLE SHOALS
State: AL
Zip Code: 35661-1260
Waybill/Shipping Paper: 330411401
Hazmat Registration Number: 051313551010VX

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

13. Destination:
Street: 616 33RD PLACE NORTH
City: BIRMINGHAM
State: AL
Zip Code: 35222

14. Proper Shipping Name of Hazardous Material: CHLORINE

15. Technical/Trade Name: CHLORINE

16. Hazardous Class/Division: Poisonous Gas

17. Identification Number: (E.g. UN2764, NA 2020) UN1017

18. Packing Group: (if applicable)

19. Quantity Released: (Include Measurement Units) 30 Gas - 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? True
If yes, provide the Hazard Zone: B

22. Was the material shipped under an Exemption, Approval, or Competent Authority Certificate? True
If yes, provide the Exemption, Approval, or CA number: 980774KSHMSP

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:
Cylinder

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: - 161-Weld or Seam
How Failed: - 304-Cracked
Causes of Failure: - Defective Component or Device

26a. Provide the packaging identification markings, if available.
Identification Markings: ICC-106A500-X
(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): Non - Removable	

27. Describe the package capacity and the quantity:

Single Package or Outer Packaging:		**Single Package or Inner Packaging (if any):**	
Package Capacity:	2000 Gas - Pound	Package Capacity:	
Amount in Package:	2000 Gas - Pound	Amount in Package:	
Number in Shipment:	12	Number in Shipment:	
Number Failed:	1	Number Failed:	

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

Manufacturer:	COLUMBIANA BOLLER	Manufacture Date:	08/01/1966
Serial Number:	T5481	Last Test Date:	01/13/2013
Material of Construction:	STEEL (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:	500 (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:	False	- 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 #:	True
Police Report #:	True
In-house cleanup:	False
Other Cleanup:	False

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

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

Material Loss:	$ 0.00
Carrier Damage:	$ 0.00
Property Damage:	$ 0.00
Response Cost:	$ 0.00
Remediation/Cleanup Cost:	$ 0.00

(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? True

If yes, provide the following information:

Total number of general public evacuated:	5
Total number of employees evacuated:	39
Total evacuated:	44
Duration of the evacuation:	5

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

If yes, how many?

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

If yes, provide the following information:

Estimated speed (mph):	
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:

Harcros Chemicals driver, Dexter Austin, was off-loading full, one-ton containers of chlorine at Bermco Aluminum. Just before sitting one of the full containers on the ground, Dexter noticed what he thought was chlorine vapor coming from the end of the container. He sat it on the ground, then confirmed that it was indeed chlorine. At that point he shut the engine down and reported the leak to Bermco personnel. The leak was said to be on the rim of the container chime.

Bermco personnel then called the Birmingham Fire Dept. The fire dept. responded, evacuated Bermco personnel and set up an Incident Command and Control Zone.

The fire dept. accepted our offer to assist them in the efforts to contain the leak. Ken Trotter and I (Charles Haddock) departed the Bessemer branch and arrived on the scene at approximately 10:30 a.m. Upon arrival, we met up with the Incident Commander, EMA and Bermco personnel. They were in the process of determining their approach. They sent in a team of three, donned in level A protection and carrying a "B" Kit. They returned saying that the leak was coming from a small crack in the chime and emitting a small amount of vapor and there was nothing in the "B" Kit they could use.

After much discussion as to the next approach, it was decided the team would return with some clamps that might be applied, lead washers that might be driven into the crack and a hammer that might be used to hammer the area closed enough to stop the leak. When the team returned this time, they said they were successful in stopping the leak. They said they had stopped the leak by hammering the cracked area shut.

With this being reported, the Incident Commander sent two of his team members in with chlorine monitors to do air sampling. They returned and reported that the area was all clear.

At this point, the Incident Commander said that he would allow two Bermco employees and two Harcros employees into the area so that the container could be placed into the chlorine room to be hooked up to their process in order to empty the chlorine out of the container.

However, when we got to the area to proceed with lifting the container onto their forklift so it could be moved, we quickly realized that it was still leaking. There was indeed a two inch crack in the outer edge of the chime leaking chlorine but only in a small, pin-hole amount. We tried for some time to stop the leak with a hammer but were unsuccessful. This was reported to the Incident Commander and to Bermco's Safety Dept.

Travis Howard, Operations Manager for Harcros in Muscle shoals, was now at the site. Discussions were made as what would be the best option. We concluded that we should proceed with a plan that Travis Howard had already started in motion earlier in the day. This was to have the chlorine plant in Muscle Shoals prepare several empty ton containers with a vacuum on them, load them on another boom truck and have another driver bring them to the site so we could transfer the chlorine from the leaking container into the empties.

This plan was agreed upon by the Incident Commander and by Bermco. It was at this point that all agencies (Fire Dept., Police Dept., EMA, Bermco personnel (except for two operators),packed up and left the site.

Muscles Shoals driver, Freddie Linville, arrived at 4:30 p.m. with the empty ton containers. Travis, Freddie and I (Charles), began the transferring process which continued until the entire contents of the leaking container was completely emptied. This was completed with no problems at all. All containers, including the now empty "no longer leaking" container, were loaded on the trailer and Freddie departed for Muscle Shoals at about 7:30p.m.

Further evaluation and inspection of this container will take place at the Muscle Shoals facility. We sent the ton cylinder to the manufacturer and received the following report.

We have evaluated the sample you sent us and our only thoughts on it are that there was a lack of complete fusion in the forge weld area at time of construction. This was not a linear or fatigue crack. The fusion area in a forge weld is normally 2+ inches in length and your sample does not show that type of fusion. Apparently there was enough fusion towards the end of the tank head and shell (Chime area) for the container to make it from 1966 to present but something could of jarred it enough to cause the non-fusion line to open up and extend out to the end of the container allowing it to leak. It is possible that the only weld that sealed during fabrication was the initial manual seal weld that is put on the very end of the container to hold the head and shell securely in place before going into the forge. The leaking container is a very rare occurrence and usually we can tell, during forge welding, when non fusion could potentially occur. If we notice something we pull the container off the line and scrap it. The forge process back in 1966 is a little different than we use now and the potential for non- fusion is less than it was back then. We have only seen a handful of incidents similar to this over the years and with thousands of tanners in service we just don't have a history of issues in which we can study and determine exactly what caused a leak other than if they were damaged somehow or in an accident.

After receiving the above report from the cylinder manufacturer on May 9th, 2013, Columbiana Boiler, we put the cylinder out of service.

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:

Although the cylinder that leaked on 02/18/13 was last tested on 01/13/13, it was determined by the cylinder manufacturer, Columbiana Boiler on 05/09/13, that there was a lack of complete fusion in the forge weld area at time of construction. After this was reported to us, we put this cylinder out of service.

PART VIII – CONTACT INFORMATION

Contact's Name:	MIKE O'DELL
Contact's Title:	HAZARDOUS MATERIAL REGULATORY MANAGER
Business Name and Address:	HARCROS CHEMICALS INC.

	5200 SPEAKER ROAD KANSAS CITY KS 66106
E-mail Address:	MODELL@HARCROS.COM
Telephone Number:	913-621-7766
Fax Number:	913-621-7817
Hazmat Registration Number:	
Date:	05/29/2013
Preparer is:	Carrier

08/01/1966