

LASERFICHE FILE TRANSMITTAL FORM
DIVISION OF WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

Your Name: Richard Concepcion

Document Category: Facility

Document Group: Inspection/Investigation

Document Type: Compliance Assistance Visit (CAV)

EPA ID: NCR000154781

Facility Name/Subject: Catawba Valley Medical Center

Document Date: 09/06/2016

Description:

Compliance Assistance Visit Requested by Facility

Author: Richard Concepcion

Branch/Unit: Compliance Branch-Western Region

Facility/Site Address: 810 Fairgrove Church Road

Facility/Site City: Hickory

Facility/Site State: North Carolina

Facility/Site Zipcode: 28602

Facility/Site County: Catawba

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**NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WASTE MANAGEMENT
HAZARDOUS WASTE SECTION (HWS) / COMPLIANCE BRANCH**

CAV (Technical Assistance)

1. **Facility Information:** Catawba Valley Regional Medical Center (CVMC)
810 Fairgrove Church Road
Hickory, NC 28602
NCR 000 154 781,
2. **Facility Contact:** Mr. Mike Helton, CVMC-Emergency Management Coordinator
828.326.3620
3. **Survey Participants:** Mr. Mike Melton
4. **Inspectors:** Mr. Richard C. Concepcion, HWS-Environmental Chemist
5. **Date of Inspection:** September 06, 2016 – Arrived: 1:30am Departed: 2:15pm
Date of Report: September 16, 2016 – Prepared by: Richard C. Concepcion
6. **Purpose of Inspection:** Technical Assistance (Formaldehyde)
7. **Facility Description:**

On September 06, 2013 I conducted a technical assistance at Catawba Valley Medical Center located in Hickory, NC. Invited by Mr. Mike Helton, CVMC-Emergency Management Coordinator. He had some concerns of formaldehyde management for disposal and spill recovery.

The facility operates as a community based hospital that has been in operation at the current location for 42-years and is located on an approximately 10-acre tract of land. The facility currently has approximately 1600 employees and has 258 licensed beds. The facility is supplied with municipal water and sewer services. The facility notified as a conditionally exempt small quantity generator (CESQG) of hazardous waste on June 20, 2012.

The facility primarily generates hazardous waste solvents from their Histology & Pathology laboratories. Most all solvent waste generated in the laboratories is permitted for discharge to the City of Hickory's POTW. Solvents are poured into sinks as generated. The facility also operates a small xylene solvent distillation unit to recover and reuse xylene based solvents in laboratory processes. The distillation unit generates a small amount of still bottoms, which when dry is disposed as solid waste. The facility generates waste medicines at pharmacy's and patient care areas within the hospital. The facility has contracted with Stericylce to assist with hazardous waste management packaging and shipping to off-site disposal facilities. The facility participates in reverse distribution of off-specification / out of date medications and send appropriate medications to AmeriSource, located in Mooresville, NC, for credit.

Mr. Helton explained that he is working to enhance its response protocol for formalin spills; specifically, the clean-up process should this ever occur. His hope is to not only have a compliant process but a practical one as well. Their policy currently states, "After neutralization of formaldehyde (a minimum of 15 minutes), dispose of materials used to absorb spill as a hazardous waste." They are trying to make better sense of this, seeing how the hazard was just neutralized, yet still remains a "hazardous waste." For the recovery of formaldehyde spills they have an absorbent material specifically for aldehydes. The spill containment kit has the brand name of Tissue-Tek Neutra-Form. When referencing the SDS for Tissue-Tek Neutra-Form it states to dispose of, "in accordance with local/regional/national/international regulations."

That is when Mr. Helton call NCDENR to seek guidance.

His primary concerns where resumed in three questions.

- Question #1: Understanding that CVMC uses only 10% formalin (1st attachment); after neutralization has occurred using the Tissue-Tek product, is the by-product considered hazardous waste?
- Question #2: CVMC stores formalin in 20cc up to 2.5 gallon containers. If the answer to question #1 is "yes" then is that based on quantity? If so, would we treat a 20cc spill that has been neutralized any different than a 2.5-gallon spill that has been neutralized?
- Question #3: CVMC keeps Tissue-Tek Neutra-Form at numerous locations. In a majority of the cases the product expires before use. The SDS again states to, "dispose of waste and residue in accordance with local authority requirements." How should CVMC dispose of this product due to expiration?

8. **Waste Type:**

U122 – Formaldehyde

9. **Areas of Inspection:**

Pathology storage containers room. The 2.5 gallons containing 10% of formalin for the conservation of tissue has a stop valve to serve the quantity required for each preservation and has a secondary containment. The secondary containment has an electrode that will activate a visual and audio alarm.

10. **Comments:**

- Answer to question #1: The answer to this question really depends on whether or not the formalin was considered "Used" or "Unused" prior to the spill. Unused 10% formalin solution is considered a commercial chemical product with formaldehyde as the sole active ingredient, and are considered a toxic waste with the EPA hazardous waste code U122. The U122 code would also apply to spill residues generated from the clean-up of unused formalin spills (40 CFR 261.33). On the other hand, if the spilled formalin is considered "Used" (e.g. spills of formalin that occur after being applied to a tissue sample) then it has been used for its intended purpose and therefore, is no longer considered a commercial chemical product. In this case the used, spilled formalin solution would only be hazardous if it is a RCRA characteristic hazardous waste. It does not appear that a 10% formalin solution would exhibit the hazardous waste characteristic of ignitability and would appear to be non-hazardous waste.

- Answer to question #2: The quantity of the spilled formalin would not affect the hazardous waste determination described in the response to Question #1.
- Answer to question #3: This question tells me that your spills are very rare during the year and you do not have the necessity for use of your spill kits, in a positive way, that is good.
If your spill kits are used past their expiration date, I really do not think they will be efficiently capable to recover the formalin spill, but it depends on the policy of the company. Usually this material does not work properly if it gets exposed to excess humidity. The response to Answer #1 would also apply to this question. Expired, unused Tissue-Tek Neutra-Form product would be considered an off-specification commercial chemical product. If the expired product has to be disposed, then the chemical composition would have to be evaluated for a sole active ingredient carrying a P-listed or U-listed waste code. The expired product would also have to be evaluated for RCRA hazardous waste characteristics. If you don't want to dispose of an expired date spill kit, you have some alternatives that is cost effective for the company that you work for. The first one is to donate those spill kits to another company like funerals homes, as they use the same type of product (formalin). The second alternative, you can consider donating the spill kits to a third country hospital that usually do not have access to these types of spill kits. The third recommendation would be to return the spill kit to the manufacture as there may be a credit available to obtain new kits.

11. Site Deficiencies:

At the moment of the visit for the technical assistance, there were no deficiencies found.

 : Sept. 16, 2016
Richard C. Concepcion, / DATE
NC HWS-COMPLIANCE BRANCH

**(SENT BY US MAIL)
FACILITY CONTACT**

cc:
MRO Files
Brent Burch, Western Area Compliance Supervisor
Central Office Files
Mr. Mike Helton, Catawba Valley Medical Center