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RETURN RECEIPT REQUESTED

ENVIRONMENTAL ASSISTANCE CENTER
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
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March 24, 2014

Mr. J. Daniel Taylor
Chemical Technologies, LLC
5 Tony Fuller Road
Elizabethton, TN 37643

RE: Hazardous Waste and Permitted Solid Waste Processing Facility Inspections
Hazardous Waste ID Number: TNR 00-000-8482
Solid Waste Processing Permit Number: SWP 10-1382

Dear Mr. Taylor:

The Division of Solid Waste Management (DSWM) appreciates the cooperation shown by Chemical Technologies, LLC staff during the March 21, 2014 inspection. The attached report details the observations made by DSWM personnel for part of the inspection that was an unannounced hazardous waste inspection.

A part of the inspection was conducted to evaluate compliance with the applicable requirements of the Tennessee Hazardous Waste Management Act, T.C.A. 68-212 part 1. Violations were identified during the inspection, and a follow-up inspection will be conducted after April 24, 2014 to ensure that the appropriate corrective actions have been taken at Chemical Technologies, LLC. Identification number TNR 00-000-8482 is for hazardous waste tracking purposes only and may not be used by Chemical Technologies, LLC unless proper notification is submitted to the Division.

The second part of the inspection was conducted as a follow up to the March 10, 2014 permitted solid waste processing facility inspection. Chemical Technologies, LLC has failed to meet the conditions of Solid Waste Permit SWP 10-1382;

1. A complete inventory of the nitriding solids has not been conducted, making it impossible for the facility to determine the amount onsite.
2. Two rectangle tanks had previously been used to process waste and presently hold waste which is not authorized under the permit.

3. Numerous unlabeled and open containers of unknown or unidentifiable contents were observed inside the facility.
4. There are no records documenting the amount solid waste that has been processed, the management of waste generated from the processing of the nitriding solids and the amount of commercial product that has been sold.

At this time, the Division of Solid Waste Management must review the conditions of the chromium exclusion in correspondence dated September 8, 2004. Chemical Technologies, LLC may not receive any additional nitriding solids from off-site until a thorough review of the exclusion is completed.

Please be advised that the Tennessee Division of Occupational Safety and Health (TOSHA) has requirements for identifying contents of containers/tanks and notifying/educating employees about those contents.

If you have any questions or comments on the accuracy of this correspondence, do not hesitate to contact me at 423-854-5431.

Sincerely,

A handwritten signature in black ink that reads "Mary Ann Hicks". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Mary Ann Hicks
Division of Solid Waste Management

Attachment

cc: Ms. Lisa Hughey, DSWM, Nashville
Ms. Teresa Boyer, DSWM, Nashville
Ms. Elizabeth Cates, DSWM, Nashville
Mr. Revendra Awasthi, DSWM, Knoxville
DSWM, JCEFO File #10-53 22

HAZARDOUS WASTE INSPECTION REPORT

SITE/PHYSICAL LOCATION:

Chemical Technologies, LLC
TNR 00-000-8482
Bemberg Industrial Center
5 Tony Fuller Road
Elizabethton, TN 37643
Carter County

PRIMARY CONTACT:

Mr. J. Daniel Taylor, Operator
Chemical Technologies, LLC
5 Tony Fuller Road
Elizabethton, TN 37643
865-567-2221

DATE/TIME OF INSPECTION:

March 21, 2014/10:00 AM

INSPECTION PARTICIPANTS:

J. Daniel Taylor, Chemical Technologies, LLC
Rick Whitson, DSWM
Mary Ann Hicks, DSWM

REPORT PREPARED BY:

Mary Ann Hicks
Division of Solid Waste Management
2305 Silverdale Road
Johnson City, Tennessee 37601
423/854-5431

PURPOSE OF INSPECTION:

This inspection was conducted to evaluate Chemical Technologies, LLC's compliance with the applicable requirements of the Rules and Regulations promulgate pursuant to the Hazardous Waste Management Act, T.C.A. 68-212 part 1.

FACILITY DESCRIPTION:

Chemical Technologies, LLC operates a solid waste processing facility (SWP 10-1382) which processes nitriding solids to produce a 20% liquid caustic soda solution for commercial use. NAICS Code: 325180

INSPECTION FINDINGS:

Based on the information provided to the Division, the hazardous waste generator status of Chemical Technologies, LLC cannot be determined at this time. A detailed description of the processes and wastes generated is as follows:

Receiving

Chemical Technologies, LLC receives nitriding solids (September 8, 2004 Letter, CrIII hazardous waste exemption) in 55-gallon drums from MMI-Trutec Inc., located at 134 River Bend Drive, Sevierville, TN. The nitriding solids (sodium carbonate, sodium hydroxide, potassium carbonate, and potassium hydroxide) are generated from a salt bath nitriding process. The drums are stored inside the facility prior to processing. The facility has a permitted solid waste storage capacity of 915 cubic yards.

Processing

The nitriding solids are removed from storage and the drums are cut away. The nitriding solids are then crushed with a jaw crusher to reduce the particle size. The solids are placed in an open top storage tank and water is added to dissolve the solids. The solution is allowed to soak for approximately seven days. Afterward, the water is evaporated off, resulting in a concentrated caustic solution. The solution is then treated to precipitate any chromium, nitrate, and carbonate remaining in the caustic solution and passed through a filter press. The filter cake solids are placed in 55-gallon drums, and then transferred to a reaction tank where water is added to dissolve the nitrate solids. The pH of the solution is adjusted and the solution is passed through a bag filter to remove the insoluble chromium solids. The chromium solids generated from the processing of the KQ waste are stored in 55-gallon drums. A waste determination has not been made on the chromium solids. The remaining liquid nitrate solution is sold as a chemical fertilizer. The clean caustic solution is transferred to holding tanks in preparation for shipment to customers.

Laboratory

The facility has an onsite laboratory for quality assurance testing. During the inspection, unlabeled and open containers, 5-gallon buckets, and several 55-gallon drums of unknown or unidentifiable contents were observed. The facility maintains chemical products in the laboratory and in the chemical storage room located adjacent to the main lab. Some of the chemicals are obsolete and the containers are degraded. Numerous empty containers were also observed. Some flammable chemicals were stored in the chemical storage cabinet, while others products including acetone and kerosene were stored in the general laboratory area.

Warehouse

During the inspection, numerous unlabeled and open containers of unknown or unidentifiable contents were observed inside the facility.

VIOLATIONS:

Rule 0400-12-01-.03(1)(b) requires persons who generate a solid waste, as defined in Rule 0400-12-01-.02(1)(b), to determine if that waste is a hazardous waste using the following method:

1. He should first determine if the waste is excluded from regulation under Rule 0400-12-01-.02(1)(d).
2. He must then determine if the waste is listed as a hazardous waste in Rule 0400-12-01-.02(4).
3. For purposes of compliance with Rule 0400-12-01-.10, or if the waste is not listed in Rule 0400-12-01-.02(4), the generator must then determine whether the waste is identified in Rule 0400-12-01-.02(3) by either:
 - (i) Testing the waste according to the methods set forth in Rule 0400-12-01-.02 or according to an equivalent method approved by the Commissioner under Rule 0400-12-01-.01(3)(b); or
 - (ii) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

An inventory of all the materials stored at the facility must be conducted identifying the contents of every container and tank. A hazardous waste determination must be conducted on all waste in all containers and tanks that contain waste, including any obsolete chemical products that can no longer be used by the facility. The contents of all containers and tanks must be marked to identify their contents.

REMARKS/RECOMMENDATIONS:

If any solid waste is determined to be a hazardous waste, then the hazardous waste must be properly managed. Proper management includes, but is not limited to, accumulation of all hazardous waste in properly closed and labeled containers and shipment to a permitted treatment, storage and disposal facility. Refer to Tennessee Hazardous Waste Management Rule 0400-12-01 for all applicable regulations.

Improvements in general housekeeping need to be made in the laboratory, chemical storage area and throughout the facility. Good housekeeping procedures reduce the likelihood of accidental spills and improper management of hazardous and non-hazardous wastes.

If Chemical Technologies, LLC generates greater than 100 kilograms (220 pounds) of hazardous waste in a calendar month or stores greater than 1,000 kilograms of hazardous waste on-site at one time, the facility must comply with the requirements of a small quantity generator of hazardous waste.

SIGNED: Mary Ann Hicks DATE: 03/24/2014

REVIEWED: Beth Hye DATE: 3/24/2014

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