DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION ACTIVITY REPORT: Scheduled Inspection

FACILITY: PLASTOMER COR	SRN / ID: B3315		
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LOCATION: 37819 SCHOOLC	DISTRICT: Detroit		
CITY: LIVONIA	COUNTY: WAYNE		
CONTACT: Bill Gollnitz, Technical Director		ACTIVITY DATE: 03/26/2014	
STAFF: Jill Zimmerman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT	
SUBJECT: Target Inspection			
RESOLVED COMPLAINTS:			

DATE OF INSPECTION	•	03/26/2014
TIME OF INSPECTION	4	11:00 am
LEVEL OF INSPECTION	:	II
NAICS CODE	:	326140
EPA POLLUTANT CLASS	:	VOC
INSPECTED BY	:	Jill Zimmerman
PERSONNEL PRESENT		William Gollnitz, Technical Director
		Simone Merrick, Technical Projects Manager
FACILITY PHONE NUMBER	:	734-464-0700
FACILITY FAX NUMBER	:	734-464-4792

FACILITY BACKGROUND

Plastomer Corporation manufactures foam gaskets and seals primarily for the automotive industry. The facility's main process consists of a slabstock foam machine that blends Toluene Diisocyanate (TDI), resins, and catalysts. The final foam product is a continuous "loaf" roughly four feet wide by three feet high. Plastomer is a synthetic minor source, operating within a 175,000 square foot building.

The facility normally operates two shifts per day, five days per week. Foam production is a batch process that normally operates about two days per week. The foam production machine can produce up to 24,000 pounds of foam per hour.

COMPLAINT/COMPLIANCE HISTORY

No complaints have been received regarding this facility since the time of the last inspection on August 11, 2011.

OUTSTANDING VN's

No Violation Notices (VN) have been issued regarding this facility.

PROCESS DESCRIPTION AND EQUIPMENT

Foam Production:

Plastomer currently makes 31 variations of foam, according to manufacturer specifications. For foam production, approximately 18 different ingredients are pumped from various storage tanks and combined at a common mix head. The flows are metered and computer controlled. The main ingredients are 30% TDI, 60% long-chained alcohol resins (polyols), and 10% surfactants, catalysts, and water. These ingredients are combined at a common mix point that discharges onto a four foot-wide paper "trough" run on a conveyor, where the polyurethane foam reaction is initiated. The reaction between TDI and water forms carbon dioxide that expands the liquid mix into a foam loaf as it cures. The foam loaf reaches full size in less than two minutes, and then continues curing as it runs through the machine, reaching an internal temperature of 320 F due to the exothermic reaction. The amine catalysts facilitate curing. The foam loaves reach a length of approximately 36 feet. At that point, they are cut with a band saw to smaller loaves

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(about 6 feet long). They are then picked up off the conveyor by overhead cranes, stacked, and left to cool for 24 hours.

Lamination Line:

After cooling, the foam loaf is run through a slitter, which cuts the foam into sheets ranging in thickness from 0.195 inches to 6 inches. At the front of the laminator conveyor, water-based "superglue" is applied to the foam sheet with a roller, and a Mylar backing is then attached. At the back end of the conveyor, another roller adds water-based adhesive "M2980" to paper. The paper is then sent though a 50-foot oven, set at 225 F, to facilitate curing by driving off water. The paper is then attached to the foam on the conveyor line and both are rolled up and sent to the mold lines.

The final rolls are then die-cut to customer specifications using any of the nine mold lines. These mold lines have certificated of operation, but are exempt from permitting. Final product is held no more than two to three days.

INSPECTION NARRATIVE

I arrived at the facility at 11:00 am on March 26, 2014 meeting with Mr. William Gollnitz and Ms. Simone Merrick. Ms. Merrick stated that no changes had been made to the process or the building since the last inspection. Ms. Merrick stated that the facility was ISO 14000 certified, with an audit coming up in May. Ms. Merrick brought the logbooks, and printed the previous month's records. I collected the records to be reviewed. The facility maintains two logbooks, one tracking the foam production, and one tracking the adhesive usage. The foam log is entered daily, with 12 month rolling averages calculated at the end of the month. The facility uses only water based adhesives.

After our initial pre-inspection meeting, we then walked through the facility to see the process. Foam was not being produced during the inspection, though I did see loaves. Foam sheets were being put through the lamination line, where the adhesive and backing are applied. Also, foam sheets were being put through the die-cast line, where they were stamped based on a customer's needs.

EQUIPMENT AND PROCESS CONTROLS

Large foam machine Laminator mold machines (1) 10,000 gallon TDI storage tank (1) 10,000 gallon polyol tank (2) 5,000 gallon polyol tank (1) 12,000 gallon polyol tank Various chemical containers (55 gallons or less) Multiple die cutting machines, which are used to cut foam into desired shapes

There are no process controls. TDI is a hazardous air pollutant (HAP). Since TDI is highly reactive with water, very little escapes the process as an air emission via the head mixer or during curing. Approximately 50 grams of TDI are emitted for each ton of TDI reacted. Carbon dioxide and heat are the primary by-products formed by the foam production process. The drying oven emits > 95% water and < 5% solvents.

APPLICABLE RULES/PERMIT CONDITIONS

The 12,000 gallon polyol tank is not subject to NSPS Subpart Kb, since the polyol is not a volatile organic liquid.

Plastomer operates under two permits, #371-97 (slabstock foam machine) and #171-99 (laminator)

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Permit #371-97, Special Conditions:

13. COMPLIANCE – All notifications and record submittals are sent to MDEQ-AQD, as required since the assumption of the WSAQMD.

14. COMPLIANCE – The VOC emission rate from the slabstock foam process does not exceed 11.4 pounds per hour or 12.0 tons per year (117.27 pounds emitted during the month of February 2014. Also, the emissions during 2013 were reviewed while I was reviewing the MAERS, and this report also demonstrated compliance.

15. COMPLIANCE – The TDI emission rate does not exceed 0.007 pounds per hour based on the records collected during the onsite inspection. Also, the emissions during the 2013 were reviewed while I was reviewing the MAERS, and this report also demonstrated compliance.

16. COMPLIANCE – The two foam lines are not operated simultaneously.

17. COMPLIANCE – Slabstock foam machine is not run more than 8 hours per day, 2080 days per 12-month rolling period, as demonstrated by the collected records.

18. COMPLIANCE - Stack testing was completed and approved in 1999.

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20. COMPLIANCE - Records are maintained in a daily log book which detail:

A. Pounds of foam per day.

B. Hours of operation per day.

C. Annual hours of operation per month based on 12-month rolling period.

D. Annual VOCs emitted based on 12-month rolling period.

E. Pounds of TDI emitted per day.

21. COMPLIANCE - Stack dimensions are within permitted limits.

Permit #171-99, Special Conditions:

1. COMPLIANCE – All notifications and record submittals are sent to MDEQ-AQD since the assumption of WCAQMD.

2. COMPLIANCE – VOC emissions do not exceed 431.9 pounds per calendar day, nor 30.0 tons per year based upon 12-month rolling average. Between February 1, 2014 and March 25, 2014 the maximum daily VOC emission was 149.36 pounds, which is below the permitted limit. The MAERS for 2013 also show that the annual emissions of VOC for 2013 were below the permitted limit.

COMPLIANCE – The VOC content of the coating solids is 0.0278 pounds VOC per pound coating, which is less than the permitted limit of 0.10 pounds VOC per pound coating solids.
COMPLIANCE – The HAPs emission during 2013 was less than 1 ton, according to the MAERS. This is less than the permitted limit of 9.0 tons per year for any individual HAP and 22.5 tons per year for any combination of HAPs at this source.

5. COMPLIANCE – All waste coatings and solvents were collected and maintained in closed containers.

6. COMPLIANCE - The VOC content was determined by the manufacturer's formulation data.

7. COMPLIANCE – Daily and monthly records including hours of operation, VOC's emitted, amount of coatings used etc. are maintained at the facility and were reviewed during the onsite inspection. Records collected onsite for the time period between February 1, 2014 and March 25, 2014 are attached to this report.

MAERS REPORT REVIEW

The facility submitted MAERS on February 28, 2014. This report was reviewed on March 20, 2014. The emissions appear to be accurately reported.

FINAL COMPLIANCE DETERMINATION

Plastomer appears to be operating in full compliance with the applicable permit conditions. No compliance problems were noted during this inspection.

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SUPERVISOR W. M.

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