

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

N798235926

FACILITY: LEADING EDGE FIBERGLASS POOL		SRN / ID: N7982
LOCATION: 3090 W COOK RD, GRAND BLANC		DISTRICT: Lansing
CITY: GRAND BLANC		COUNTY: GENESEE
CONTACT: Scott Hoover , President		ACTIVITY DATE: 07/11/2016
STAFF: Julie Brunner	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection for PTI 53-08A.		
RESOLVED COMPLAINTS:		

On July 11, 2016, I conducted a scheduled inspection of Leading Edge Fiberglass Pools (N7982) in Grand Blanc. The last inspection of this facility was on April 11, 2013.

Contacts:

Mr. Scott Hoover, President, 877-450-7665, midwestpoolsinc@gmail.com, Shoover@midwestpools.com

Facility Description and Regulatory Overview:

Leading Edge Fiberglass Pools is a subsidiary of Midwest Pools. Both companies are at the same geographic site located almost equal distance between Flint, Grand Blanc, and Fenton. The location is adjacent to U.S. 23 approximately ½ mile west of Case Lake. Citizens Disposal, Inc., a municipal waste landfill is located northeast of the facility. The area is rural and mostly agricultural with some recreational, commercial, and residential mixed in.

Leading Edge Fiberglass Pools is a minor source with a potential to emit of less than 250 tons per year (tpy) of any regulated air contaminant. The facility is considered a synthetic minor source for emissions of hazardous air pollutants (HAP) with opt-out limits of less than 9.0 type of any single HAP, and 22.5 tpy of aggregate HAPs. With these restrictions, the facility has opted out of the Title V - Renewable Operating Permit (ROP) Program and is not subject to 40 CFR 63, Subpart WWWW Reinforced Plastic Composites Production. Styrene and methyl methacrylate (MMA) are the main components, and are the HAPs used in fiberglass lay-up processes.

Leading Edge Fiberglass Pools has one active Permit to Install (PTI) No. 53-08A with the following permitted emission units (EU) and flexible groups (FG) -

EU/FG ID	Emission Unit Description (Process Equipment & Control Devices)
EUBAY1	One dry filter spray booth (bay) and atomized applicator(s) for application of resin, gelcoat, catalyst material(s), mold release, mold cleaner (other than acetone), wax, additives, etc.
EUBAY2	One dry filter spray booth (bay) and atomized applicator(s) for application of resin, gelcoat, catalyst material(s), mold release, mold cleaner (other than acetone), wax, additives, etc.
EUCLEANUP	Miscellaneous cleanup activities using acetone.
FGFIBERGLASS	Fiberglass pooling manufacturing process with spray application of resin(s), gelcoat(s), catalyst material(s), and usage of mold release, mold cleaner (other than acetone), wax, and additives. Also, includes miscellaneous cleanup activities using acetone.
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.

MAERS:

The facility reports to MAERS. The MAERS was audited for 2015 and corrections were made. The following emissions were reported for 2015:

VOC – 5.76 tpy

Styrene – 3.42 tpy

Acetone – 1.43 tpy (greater than the permit limit of 1.0 tpy)

Inspection:

I arrived at 9:35 AM. Weather conditions were 73°F, cloudy, UV Index Low, and wind out of the south at 5 mph. I detected no odors around the facility. There were no visible emissions from the stacks that could be viewed from the parking lot.

A pre-inspection meeting was conducted with Mr. Scott Hoover. I gave a brief overview of the inspection process and provided an “Environmental Inspections” brochure. The facility operations were discussed. The facility is currently operating one shift per day, but Scott has run two (2) shifts per day in the past. The main constraint is labor, not lack of business. A facility tour was then taken.

Scott showed me the new chemical storage building that he had to build to meet regulations. And, he discussed the new fire prevention measures that also had to be added to the facility.

Fiberglass Lay-Up (PTI 53-18A):

Leading Edge Fiberglass Pools produces pools using a fiberglass lay-up process. Gelcoats and resins mixed with catalysts are sprayed and manually applied over molds. (The molds are made in-house using the same process.) Fiberglass mats or fiberglass fibers mixed with resin are also laid over the molds. Moisture barrier coats are sprayed between certain layers of the fiberglass process. After the layers are cured, they are removed from the mold in the form of a swimming pool.

Pool Making Process -

Pool Mold => mold release spray application => gelcoat spray application => barrier coat spray application => chopped fiberglass spray application (rolling after spray application) => resin spray application => fiber mat with resin spray application => chopped fiberglass spray application (rolling after spray application)

It takes 40 man hours (8-hours with 5 people) to make a pool. Acetone is used for cleanup.

During the inspection, the process was operating. One person sprayed the materials, and 4 people rolled the materials. PPE (Tyvek, respirators, gloves, and covered safety toed shoes) are worn by the operators when laying up a pool. Styrene odors from the process were evident in the bay but not outside the building.

The permit allows for the installation of two lay-up bays and the use of atomized applicator(s). Only one bay is currently used. The second bay is used to store pool molds, but the spray equipment is still in the bay.

Resin and gelcoat material is pumped directly from barrels in the coating room to the spray guns. The coating delivery system has a material measurement device, and is located right beside the bay.

The exhaust system appeared to meet the restrictions in the permit and the filters were in good shape. The filters are changed once a month.

I departed the facility at approximately 11:00 AM after discussing my observations with Scott.

Records:

The copies of the material safety data sheets (MSDS) for the materials used in the process and production logs are attached.

Resins – COR61-AA-3408 DCPD Laminating Resin, COR61-AA-340W DCPD Laminating Resin

Gelcoats – High Definition Tropical Blue Gel Coat, High Definition Caribbean Gel Coat, High Definition Pacific Gel Coat, High Definition Sahara Gel Coat
Catalyst - NOROX® MEK-9, NOROX® MEKP-9 FRED, NOROX® MEKP-9H RED

Production logs for January through June 2016 were obtained. A production log for each pool tracks the type of material, amount of materials, and the personnel that made the pool as part of the recordkeeping system.

For PTI 53-08A, resins are restricted to 45% by weight of styrene, 47% by weight of VOC, and 2% by weight of MMA, and gelcoats are restricted to 39% by weight of styrene, 42% by weight of VOC, and 10% by weight of MMA.

Resin used in 2015 had a max styrene content of 28.00%, and max VOC content of 29.8% in the records. Gelcoats used in 2015 had a max styrene content of 38%, max MMA content of 10%, and max VOC content of 42% in the records.

Compliance with Special Conditions (SC) II.1, II.2, II.3, and II.4 of PTI 53-08A is demonstrated by the records.

For the recordkeeping, the emission factors (EF) for styrene and MMA are from EF Table 1: Unified Emission Factors of Open Molding of Composites (Revised and Approved: 10/13/2009). The UEF factors are used to calculate emissions of VOC (due to styrene and MMA), and there are VOCs from catalyst and mold release used to demonstrate compliance with the permitted VOC limit of 10 tpy. Below is a check of the emission factors being used in the records.

COR61-AA-3408 DCPD Laminating Resin - 28.00% styrene and 1.80% methyl styrene
Styrene UEF for 28% styrene content = $0.169 \times 0.28 = 0.0473$ lb/lb
Styrene UEF for 1.80% methyl styrene content = $0.169 \times 0.55 \times 0.018 = 0.0017$ lb/lb
Total styrene UEF = 0.0473 lb/lb + 0.0017 lb/lb = 0.049 lb/lb
A conservative styrene EF of 0.0504 lb/lb was used in the records for 2015.

High Definition Tropical Blue Gel Coat - 38% styrene and 4% MMA
Styrene UEF for 38% styrene content = $398 / 2000 = 0.199$ lb/lb
MMA UEF for 4% MMA content = $60 / 2000 = 0.03$ lb/lb
A styrene EF of 0.0915 lb/lb and MMA of 0.03 lb/lb was used in the records for 2015. It appears that the styrene EF used in the records for 2015 is estimated low. This was discussed with Scott, and the UEF factors for "Mechanical Atomized" and not "Gelcoat Application" were used to estimate styrene emissions from the gelcoats. This was corrected, and revised records were submitted.

For NOROX® catalyst, only the methyl ethyl ketone is considered to be emitted as VOC. The methyl ethyl ketone content is about 2% by weight according to the MSDS.

Emissions of acetone are limited to 1.0 tpy per SC I.2. There was 1.43 tpy of acetone emissions reported on the 2015 MAERS which is above the permit limit.

Revised records are attached. As of July 2016, emissions of VOC are 3.8 tpy and acetone is 0.6 tpy.

Summary:

The facility appeared to be in compliance with all applicable rules and regulations, and PTI 53-08A. A PTI application to increase the emission limit for acetone has been submitted.

NAME *Julie P. Brown* DATE *8/11/16* SUPERVISOR *B. M. C.*

