DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N054463147

FACILITY: WARM RAIN CORPORATION		**SRN / ID:** N0544
LOCATION: 51675 N INDUSTRIAL DRIVE, CALUMET		**DISTRICT:** Marquette
CITY: CALUMET		**COUNTY:** HOUGHTON
CONTACT: Brian Beck , EHS - Mill Manager (3/2022)		**ACTIVITY DATE:** 06/03/2022
STAFF: Joe Scanlan	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Inspection to determine compliance with ROP		
RESOLVED COMPLAINTS:		

REGULATORY AUTHORITY

Under the Authority of Section 5526 of Part 55 of NREPA, the Department of Environment, Great Lakes, and Energy may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.

FACILITY DESCRIPTION

Warm Rain Corporation is a plastic composite company that produces high quality fiberglass tub/shower units using an open molding process. The company's factory is in an industrial park adjacent to the Houghton County Airport, near the village of Calumet.

PROCESS DESCRIPTION

Warm Rain uses an open molding process to produce fiberglass tub/shower units. The fiberglass fabrications are built using gelcoat/resin and chopped fiberglass sprayed in four dry filter spray booths which are adjacent to one another; each booth exhausting through filters out of the side wall. The bathroom units are made using a 4-layer design:

Bottom layer - High strength fiberglass

Inside layer - Resin-impregnated end-cut balsa sub-floor

Inside layer - High strength fiberglass

Top layer - Solid color cast sheet acrylic or gel-coat finish

During production the units are manufactured in reverse order, with the top layer being laid first. Molds are received at the facility and enter one of four dry filter spray booths for gelcoat application. Gelcoat consists of resin and catalyst are mixed to provide a smooth clear or pigmented outer surface. A spray gun is utilized to mix the materials producing a non-atomized resin/catalyst stream.

Next, the units move to one of the other three spray booths for the fiberglass process. The fiberglass spray lay-up uses a chop gun that combines a thermoset polyester resin, glass fibers, and catalyst to produce a reinforced plastic composite or fiberglass layer. Thermoset polyester resins are polymers formed by a cross-linking reaction of a liquid unsaturated polyester with a monomer.

After the fiberglass lay-up process, the units dry and are released from their molds. The units are then sanded, quality checked, and packaged for shipping.

Other processes at the facility include cleanup operations with acetone and/or other solvents. Tools and parts are placed in uncovered buckets containing acetone until cleaned; waste acetone is recycled using a distillation system.

EMISSIONS

Emissions from the facility consist of fugitive vapors from volatile organic compounds (VOCs), primarily styrene, that are emitted from the gelcoat and fiberglass fabrication processes. The cross-linking agent (monomer) contained in the resin and gelcoat evaporates during fiberglass lay -up and curing. Styrene, methyl methacrylate, and vinyl toluene are the most common monomers used as cross-linking agents in liquid resins.

The facility utilizes forced cross-flow ventilation units inside the facility and ventilates emissions from the spray booths through dry exhaust filters to the atmosphere. Fugitive VOC emissions also result from the evaporation of cleanup solvents.

Acetone is used as a cleanup solvent for gelcoat and fiberglass application parts and tools. Note, acetone is not considered a VOC. Other cleanup solvents are minor sources of VOCs.

EMISSIONS REPORTING

FGMACTWWWW was added during the most recent ROP renewal in 2019 to clearly specify recordkeeping and reporting requirements to ensure compliance with the MACT. EUCLEANUP was added to the ROP to track solvent usage and emissions to be reported in MAERS. The four spray booths were also listed as separate emission units for emission reporting purposes in MAERS.

The four spray booths are labeled EUBOOTH1, EUBOOTH2, EUBOOTH3 and EUBOOTH4 are addressed as flexible group FGBOOTHS in the ROP. EUBOOTH1 is for non-atomized gelcoat application and emissions are reported as EUBOOTH1. EUBOOTH2, EUBOOTH3, and EUBOOTH4 are for non-atomized resin application during the fiberglass lay-up process and emissions are reported as a single reporting group in RGFIBERGLASS.

Facility MAERS submittal for 2021 reported 39.5 tons of VOC emissions. The facility reported 159.98 tons of throughput for resin as reported for EUBOOTH1. The facility reported 533.3 tons of throughput for gel coat for RGFIBERGLASS.

REGULATORY ANALYSIS

The facility was originally constructed in 1976 under Air Use Permit number 212-76 and now operates under MI-ROP-N0544-2019. The company is in Houghton County, which is currently designated by the EPA as attainment/unclassified for all criteria pollutants.

Warm Rain is subject to Title V (40 CFR, Part 70) because the PTE of any single HAP regulated by the CAA is more than 10 tpy and/or the PTE of all HAPs combined is more than 25 tpy.

FGMACTWWWW includes FGBOOTHS and EUCLEANUP. FGBOOTHS and EUCLEANUP are subject to the MACT Standards for Reinforced Plastics Composites Production (40 CFR, Part 63, Subpart WWWW), which covers processes including open molding, mixing, cleaning, and material storage.

VOC emissions from FGBOOTHS are exempt from CAM because VOCs are addressed by 40 CFR, Part 63, Subpart WWWW. Therefore, FGBOOTHS is exempt from CAM requirements for VOCs.

COMPLIANCE

The facility has not had any compliance issues since the last inspection. As of 11/07/2021 Mr. Brian Beck is now the company EHS Regional Affairs Manager and Responsible Official for the facility. Mr. Brian Lane is no longer with the company.

INSPECTION

Mr. Brian Beck, EHS Regional Affairs Manager, met me when I arrived at the facility. Mr. Beck is relatively new to his position and was very receptive to discussing the facility's ROP and applicable air quality regulations. After the introductory meeting and discussion, Mr. Beck proceeded to guide me through the production, finishing and packaging areas of the facility. Production was in process at the time of my inspection.

EUCLEANUP

The facility maintains acceptable daily/weekly/monthly records of acetone usage in gallons. Mr. Beck allowed me to inspect the records and make a copy for AQD files.

FGBOOTHS

The dry filters for each booth are installed, maintained, and operated in a satisfactory manner (SC III.1). Filters are visually inspected daily and replaced as necessary (SC III.2, SC VI.1). Replacement filters are in stock.

SC VI.2 requires the facility to maintain acceptable daily records for the exhaust filters in each spray booth. Mr. Beck provided me with records for the weekly replacement of filters for the spray booths.

SC VI.3 requires the facility to maintain acceptable records of the types and amounts of resin, gel coat, and catalyst used per calendar month. The facility has not changed the types of resin, gel coat or catalyst since the last inspection and SDS records for each are on file in the district office. Mr. Beck allowed me access to the monthly records for the amount of each product used (in lbs). This data is also provided in the semi-annual compliance reports.

FGMACTWWWW

All containers for HAP-containing materials are stored closed and covered (SC III.2) and mixing containers are adequately covered as well (SC III.3).

SC VI.1 requires the facility to maintain a current listing of the chemical composition of each material. SDS documents are on file at the facility and in the district files.

Mr. Beck provided me access to the records used to maintain the spreadsheets for MACT WWWW compliance. This data shows the actual weighted average HAP content for each emission unit during the reporting period and is also reported with their semi-annual compliance reports. Records show 12-month rolling facility-wide HAP emissions are between 67-69% of the MACT limit (SC VI.2, SC VI.3, SC VI.4).

CONCLUSION: The facility has adequate recordkeeping and reporting and appears to be meeting the MACT WWWW requirements. Based on the inspection performed and records reviewed, Warm Rain appears to be in compliance with MI-ROP-N0544-2019.

NAME _____ DATE 7-20-2022 SUPERVISOR _____