

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

N684266270

FACILITY: RheTech Compounding		SRN / ID: N6842
LOCATION: 9201 W Grand River, FOWLERVILLE		DISTRICT: Lansing
CITY: FOWLERVILLE		COUNTY: LIVINGSTON
CONTACT: Kent Walton , Plant Manager		ACTIVITY DATE: 10/20/2022
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced inspection, conducted as part of response to complaints of odors like plastic or chemical fertilizer, in the Fowlerville area.		
RESOLVED COMPLAINTS:		

On 10/20/2022, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) conducted an unannounced inspection of RheTech Compounding. This was in response to recent odor complaints throughout the Village of Fowlerville, where it was not initially clear what the source or sources of odors were.

Facility description:

RheTech Compounding's Fowlerville plant is a plastic extrusion facility.

Facility environmental contact:

- Kent Walton, Plant Manager; 517-223-4874, ext. 325; kw Walton@rhete ch.com

EGLE AQD contacts:

- Dan McGeen, inspector; 517-648-7547; mcgeend@michigan.gov
- David Rauch, inspector; 517-216-0423; rauchd2@michigan.gov

Emission units*:

Emission Unit* ID	Emission Unit Description	Michigan Air Pollution Control (MAPC) Rule applicable	Compliance status
Line F1	1200 HP, 160 mm twin screw extruder, using a fiberglass-filled polypropylene plastic mixture, or a talc-based polypropylene mixture.	Rule 286(2)(a)	Compliance
Line F2	500 HP, 90 mm, twin screw extruder, using a fiberglass-filled polypropylene plastic mixture, or a talc-based polypropylene mixture.	Rule 286(2)(a)	Compliance
Line F3		Rule 286(2)(a)	Compliance

	400 HP, 6" single screw extruder, polypropylene plastic used on this line.		
Parts washer	Crystal Clean parts washer, approximately 3 by 2 feet in size, using mineral spirits.	Rule 281(2)(h)	Compliance
Talc powder supply	Talc powder storage silo/bin	Rule 284(2)(k)	Compliance

*An *emission unit* is any part of a process which emits or may emit an air contaminant.

Regulatory overview:

RheTech Compounding is classified as a minor source in the Michigan Air Compliance Enforcement System (MACES) database. A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds, lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns.

RheTech Compounding is considered a minor or *area source* for Hazardous Air Pollutants (HAPs), because it is not known to have a PTE of 10 TPY or more for a single HAP, nor to have a PTE of 25 TPY or more for combined HAPs.

Fee status:

This facility is not considered fee-subject, as it is not known to be a major source for criteria air pollutants, or for HAPs, nor is it subject to a federal New Source Performance Standard or a Maximum Achievable Control technology standard.

This facility is not required to report annual emissions through the Michigan Air Emission Reporting System (MAERS).

Location:

RheTech Compounding is at the west end of an industrial area on the west outskirts of the Village of Fowlerville. To the north, the closest road is Grand River Avenue, about 1,000 feet away, as measured by me in Google Maps. To the west of the plant driveway along Grand River Avenue is a commercial business, with residences west of that. To the east is an industrial park. To the south is the CSX Transportation rail line, followed by farm fields. The nearest residences are about 1,000 feet to the north northwest, and about 1,200 feet to the west, on the far side of farm fields.

History:

There are four RheTech locations around the US. The Fowlerville location opened in 1997. RheTech is described as a HEXPOL company, a leading producer of filled and reinforced polypropylenes, engineered resins, color concentrates and additives.

Most recent inspections:

- 5/22/2018, by Kelly Richart, no violations identified.
- 8/24/2012: by Brad Myott, no violations identified.
- 10/31/2008: by Ken Damrel, no violations identified.

Recent odor evaluations:

- On 10/12/2022, AQD investigated multiple odor complaints received from within the Village of Fowlerville or nearby. Odors were reported to be like plastic, burning plastic, chlorine, or chemical fertilizer. In the course of the complaint investigation that day, AQD conducted an odor evaluation downwind of RheTech Compounding and was unable to detect any odors. RheTech Compounding was not considered to be a contributor to the odors which I detected in the community that day.
- On 10/17/2022, AQD investigated a single odor complaint. While in the area, an odor evaluation of RheTech Compounding was conducted, but no odors were detectable. RheTech Compounding was not considered to be a contributor to the odors which I detected in the community that day.

Safety apparel:

Site safety requirements are not known to me, but I wore steel-toed boots, safety glasses with side shields, a hard hat, and high visibility safety vest, and I had hearing protection available. I also wore a disposable paper mask, out of personal preference during the COVID pandemic.

Arrival:

AQD was represented by inspector David Rauch and by myself. We checked for odors from RheTech Compounding, prior to arrival. Weather conditions were sunny and 41 degrees F, with winds out of the south at 10-15 miles per hour. On Grand River Avenue, several hundred feet north of the plant, no odors could be detected. We then drove south on the plant driveway, detecting no odors. No visible emissions of smoke or dust were apparent.

We checked in at the plant office, and presented our credentials. We met with RheTech Compounding Plant Manager Ken Walton, and explained that we were following up on recent odor complaints from across the Village of Fowlerville, and were going to all plants known to work with plastic, in the area.

K. Walton explained they work with polypropylene plastics here, and do not use acrylonitrile butadiene styrene (ABS) plastics, which have a reputation for being odorous. Occasionally, once every 1-2 years they may run a custom mix for a customer, we were informed. The plant operating schedule is described as 3 shifts a day, 5 days a week, with only occasional weekend operations.

Inspection:**Plastic Extrusion Lines:; MAPC Rule 286(2)(a)**

There are 3 plastic extrusion lines (F1, F2, and F3). This equipment is unchanged from the previous inspection, in 2018. The plastic mixture is heated to 450-500 °F, and includes polypropylene and additives such as shredded fiberglass, talcum powder, and occasionally mica, depending on the extrusion line and product request. Sometimes biofibers like pine or flax are also used, we were informed.

The lines are identified, below:

- Line F1: 1200 HP, 160 mm twin screw extruder; polypropylene plastic used on this line.
- Line F2: 500 HP, 90 mm, twin screw extruder; polypropylene plastic and shredded fiberglass used on this line.
- Line F3: 400 HP, 6" single screw extruder; polypropylene plastic used on this line.

On each extrusion line, there is a hood over the die head (beginning) of each extrusion line to collect the smoke and impurities being burned off of the plastic mix. This smoke is collected and sent to the Smog Hog. There is a second hood over the end of the extrusion line to collect particulate matter which is sent to the Dust Collector.

Smog Hog:

The beginning of the plastic extrusion process is under vacuum and the smoke is captured while the mix is compounding. This process pulls out the volatiles from all 3 plastic extrusion lines before the mixture is sent through the extrusion process. The captured smoke from all 3 extrusion lines vents into the Smog Hog, and filtered air is exhausted back into the plant. This unit was upgraded in July 2017, per the 2018 inspection report by then-AQD inspector K. Richart. We were informed that this is a cartridge-based unit, but they are considering possibly going to paper-based filters.

We were informed that the Smog Hog is serviced once every 5 days. The sludge oil that is separated is collected in buckets on the floor. This oil goes into their waste sludge oil crate where it is collected, and US Industrial Tech comes to remove the waste, along with used oil.

Dust Collector:

At the end of each extrusion line, there is a hood to collect any particulate matter coming off of the finished plastic pellets. Particulate is routed to the Dust Hog dust collector, which is situated outside of the building. We saw that the dust collector had no visible emissions.

The dust collector has cartridge filters, and pulses of air dislodge collected particulate matter, into two covered 55-gallon drums. There was no particulate matter spilled around the drums, the lids were closed, and housekeeping appeared good. Per the 2018 inspection report, they change filters approximately once a year, and change the drums about every 3 weeks. Collected particulate is taken offsite for disposal.

There was reference made to a second collector being installed, but my notes did not go into detail on this. I left a voicemail for the company during the writing of this report, to inquire further on this. Voluntary installation of new control equipment is not expected to trigger the need for a permit to install.

MAPC Rule 285(2)(d-f) exempts the following from the requirement to obtain a permit to install:

- (d) Reconstruction or replacement of air pollution control equipment with equivalent or more efficient equipment.
- (e) Installation, construction, or replacement of air pollution control equipment for an existing process or process equipment for the purpose of complying with the national emission standards of hazardous air pollutants regulated under section 112 of the clean air act.
- (f) Installation or construction of air pollution control equipment for an existing process or process equipment if the control equipment itself does not actually generate a Page 65 Courtesy of Michigan Administrative Rules significant amount of criteria air contaminants as defined in R 336.1119(e) or a meaningful increase in the quantity of the emissions of toxic air contaminants or a meaningful change in the quality and nature of toxic air contaminants.

Parts Washer:: MAPC Rule 281(2)(h)

RheTech Compounding has a Crystal Clean parts washer that is approximately 3 by 2 feet in size. The solvent is said to be mineral spirits. Any mineral spirits in the wash basin drain into a small drum below. We noted that the lid of the parts cleaner was kept closed.

MAPC Rule 281(2)(h) exempts a parts washer where the surface area of the parts washer air/vapor interface is less than 10 square feet. Heritage Crystal Clean comes in for maintenance roughly every quarter to remove the drum contents, per K. Richart's 2018 inspection report.

AQD will mail one of the orange cold cleaner stickers which contain guidance for operators to minimize solvent emissions, and which can be posted on or near a cold cleaner. The MAPC Rules 611 and 707, for existing and new cold cleaners, respectively, require written instructions for complying with the rules to be posted on or near cold cleaners.

Talcum powder storage; MAPC Rule 284(k)

Per K. Richart's 2018 inspection report, there was a new ventilation system installed in 2017 for their talcum powder supply to capture the dust that is emitted when this product is added to the system. It has a hood and collection system that vents into a dust collector with cartridge filters and is collected into a 55-gallon drum.

MAPC Rule 284(2)(k) exempts from the requirement of MAPC Rule 201 to obtain a permit to install the following:

(k) Storage containers and transfer operations of noncarcinogenic solid material, including silos, that only emit particulate matter and that are controlled with an appropriately designed and operated fabric filter collector system or an equivalent control system.

While outdoors, near the southwest corner of the plant, there was some intermittent, minor fugitive dust from talc powder which had been on the concrete pavement near storage silos, and was stirred up by gusts of wind. This was the only area where housekeeping needed to be improved.

Miscellaneous:

- There are no emergency generators, or boilers.
- 2 new outdoor storage silos for mineral storage were recently installed, each with a dust collector mounted on top. There were no visible emissions observed.
- There was a small, enclosed sandblasting unit which did not exhaust to the outside air, and would qualify as exempt under MAPC Rule 285(2)(l)(vi)(B), for a sandblasting unit which has emissions released only into the general, in-plant environment.
- They just replaced a majority of the ventilation ductwork in July 2017 inside facility.
- There are 3 large ventilation fans on the side of the building and one large fan on the ceiling for extra ventilation.

Conclusion:

No instances of noncompliance were identified. There were no areas of concern, except for some fugitive dust from talc powder on the concrete pavement outside of the plant, which was stirred up by gusty winds. Aside from this one area, housekeeping at the plant was very good.

NAME 

DATE 2/10/2023

SUPERVISOR 