

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

N670765051

FACILITY: Asahi Kasei Plastics North America, Inc.		SRN / ID: N6707
LOCATION: 900 E. Van Riper Rd., FOWLERVILLE		DISTRICT: Lansing
CITY: FOWLERVILLE		COUNTY: LIVINGSTON
CONTACT: Chris Esch , Director of Manufacturing		ACTIVITY DATE: 10/12/2022
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Inspection in response to 8 odor complaints received on 10/12/2022, reporting industrial odors ranging from chlorine, to plastic, burnt plastic, or fertilizer.		
RESOLVED COMPLAINTS: C-23-00079, C-23-00080, C-23-00081, C-23-00082, C-23-00083, C-23-00084, C-23-00421, C-23-00422		

On October 12, 2022, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), conducted an inspection of Asahi Kasei Plastics North America, Inc. (Asahi Kasei) This was in response to 8 odor complaints received on the morning of 10/12, for which Asahi Kasei was a potential contributor, but was definitely not the only potential contributor.

Environmental contact:

Chris Esch, Director of Manufacturing; 517-223-2000; ccesch@akplastics.com

EGLE, AQD contact:

Dan McGeen, inspector; 517-648-7547; mcgeend@michigan.gov

Facility Description:

Asahi Kasei Plastics is a manufacturer of Engineering Thermoplastics. They purchase plastic pellets as a raw material, and mix the pellets with colors and other chemical compounds for other qualities such as UV protection, flame retardant, etc. The blends are then melted and extruded into narrow plastic strands, which are cooled in water, and then chopped back into pellets. The plastic materials are controlled by dust collectors. The facility runs 24 hours per day, 7 days per week, with two 12-hour shifts.

Emission Unit	Permit or exemption or federal rule	Compliance Status (Y/N)
Extrusion lines 1-6	74-05; Rule 286(a)	Y
Extrusion line 7; Quality Assurance lab	74-05; Rule 286(a)	Y
Extrusion line 8 (Research and Development)	Rule 286(a)	Y
Extrusion lines 10-11	74-05; Rule 286(a)	Y
Extrusion line 12	Rule 286(a)	Y
Oven, natural gas fired	Rule 290	Y
Pump room	Rule 285(d)	Y
Diesel fuel fired emergency generator	Rule 285(g) 40 CFR Part 60, Subpart JJJJ	Y
Water heater	Rule 282(b)(i)	Y

Regulatory Overview:

The facility has multiple Rule 286 exemptions for plastic processing equipment. Based on the number of plastic extrusion lines it has, the facility acquired PTI No. 74-05, which is a synthetic minor permit. The limits in the PTI limit the facility's Potential to Emit (PTE) so that it doesn't become a major source for Volatile Organic Compounds (VOCs) or for Hazardous Air Pollutants (HAPs).

Location:

Located in Fowlerville, the Asahi Kasei facility is at the east end of an industrial park, immediately north of I-96.

Fee status:

The facility is considered category E fee subject, because it has an opt-out permit to opt out of Title V.

The facility is required to submit an annual air emissions report, through the Michigan Air Emission Reporting System, and its successor, MiEnviro.

Safety apparel required:

Asahi Kasei requires eye protection and hearing protection, as well as steel-toed boots, hard hats, and long-sleeved shirts. Also, they have a no jewelry policy, which includes wrist watches, as well as rings. Masks were not required, but D. McGeen wore a disposable paper mask out of preference, during the ongoing COVID pandemic.

Complaint receipt on 10/12/2023:

The odor complaints are listed below, in the order in which they were received by the AQD Lansing District Office (LDO):

1. C-23-00421, received 10/12/2022 at 8:25 AM, reported fertilizer odors on 10/12 at 8:25 AM, all the way out to Howell-Mason Road (4.2 miles south of the town center).
2. C-23-00079, received 10/12/2022 at 9:14 AM, reported a chlorine or burning plastic smell, to which health effects were attributed.
3. C-23-00080, received 10/12/2022 at 9:18 AM, reported an industrial or commercial odor on 10/11 at 9:00 AM and on 10/12 at 6:15 AM, and attributed a severe allergic reaction to the odor.
4. C-23-00081, received 10/12/2022 at 9:21 AM, reported a strong odor of chlorine or fertilizer on the school grounds, reported to be making it difficult to breathe.
5. C-23-00082, received 10/12/2022 at 9:26 AM, reported a very strong plastic smell on 10/11 at 10:00 PM, and the odor was said to be ongoing, but not constant. Because Asahi Kasei operates 24-7, this complaint has been entered under the name of Asahi Kasei, but not under the name of Industrial Resin Recycling, State Registration Number (SRN) N7397, which is only known to operate from 6:00 AM to 2:00 PM Monday-Friday, and occasional weekends.
6. C-23-00422, received on 10/12 at 9:44 AM, reported strong fertilizer odors for past 3 days.
7. C-23-00083, received on 10/12 at 10:31 AM, reported a burning plastic smell or fertilizer smell, spanning 1-2 miles, for over a day.
8. C-23-00084, received on 10/12/2022 at 11:14 AM, reported a very strong chemical smell, like plastic or chlorine or fertilizer, and suspected health effects which included watering eyes and burning throat.

AQD initially referred the 1st and 6th odor complaints, which were of fertilizer odors alone, to the Michigan Department of Agriculture (MDARD) Right to Farm (RTF) program, as I mistakenly interpreted the reference to fertilizer as a reference to organic fertilizer, i.e. manure. Some of the industrial odor complaints also mentioned fertilizer odors and that aspect of those complaints was also referred to RTF. RTF staff subsequently indicated to AQD that they did not have any fertilizer facilities in the area. Subsequent contacts with complainants clarified that the fertilizer odors being detected in town were like a chemical fertilizer in nature.

Odor evaluation:

AQD was represented by Dan McGeen, inspector. He arrived at the I-96 off ramp south of the Village of Fowlerville, at 12:36 PM. He conducted an odor evaluation. Please see attached Odor Survey forms Parts 1-3, maps of offsite odors detected Parts 1-3, and an overview map of the odors detected. Also attached is a summary of 24-hour weather data from Weather Underground, which used Flint's Bishop International Airport as its data source.

Weather conditions as observed by me were mostly cloudy, humid, and 68 degrees F, with winds out of the south at 10-15 miles per hour.

A summary of offsite odors detected follows:

- 12:36 PM: Level 1 manure odor at eastbound I-96 exit ramp.
- 12:37 PM: Level 1 manure odor on Grand Ave., just north of I-96.
- 12:40 PM: Level 2 chlorine-like odor, reminiscent of chlorine but not as sharp, just east of RR crossing on E. Van Riper Rd., by north property line of Asahi Kasei.
- 12:40 PM: Level 2 chlorine-like odor, going northbound on Cemetery Road. Location on map is approximate.
- 12:44 PM: Level 3 chlorine-like odor with plastic tint to it, going past 701 E. Grand River Ave.
- 12:45 PM: Level 2 chlorine-like or plastic odor on E. Grand River Ave., between Collins and Hibbard Sts.
- 12:47 PM: Level 1 chlorine-like, at Centennial Park, at Grand Ave. and South St.
- 12:48 PM: Level 2 chemical fertilizer and food cooking odors, at Centennial Park, outside of car.
- 12:55 PM: Level 1 chlorine-like, at north end of Hibbard St., at John S. Munn Early Childhood Development Center.
- 1:00 PM: Level 1 chlorine-like, at S. Hibbard and Frank Sts.
- 1:01 PM: Level 3 lawn chemical or chlorine "swimming pool" odor, at E. Frank and S. East Sts.
- 1:02 PM: Level 1 chlorine-like, at S. East St. and Jessica Circle
- 1:04 PM: Level 1 chlorine-like, at Christopher St. and Jessica Circle
- 1:07 PM: Level 2 soybeans drying, at Grand Ave. and Hale St.
- 1:09 PM: Level 2 diesel exhaust at Grand Ave. and E. Van Riper Rd.
- 1:11 PM: Level 3 chlorine-like but not as sharp, along E. Van Riper Rd., north of northeast corner of Asahi Kasei.

The AQD 0 to 5 odor scale is as follows:

0 - Non-Detect

1 - Just barely detectable

2 - Distinct and definite odor

3 - Distinct and definite objectionable odor

4 - Odor strong enough to cause a person to attempt to avoid it completely

5 - Odor so strong as to be overpowering and intolerable for any length of time

Level 3 odors were detected in 3 locations, at 12:44 PM along E. Grand River Avenue, at 1:01 PM at E. Frank and S. East Streets, and at 1:11 PM, along E. Van Riper Road, north of the northeast corner of Asahi Kasei.

The odors D. McGeen detected throughout the village and near the plant property line led to his initial impression that the chlorine, chlorine-like, chemical fertilizer, and plastic odors were all associated

with Asahi Kasei. However, this impression was premature, and was based upon incomplete knowledge of the surrounding industries. He was unaware that Industrial Resin Recycling, SRN N7397, slightly to the northwest of Asahi Kasei, is operating several extrusion lines, and is itself a potential contributor to odors.

Because of how close the two plastic extrusion facilities, Asahi Kasei and Industrial Resin Recycling, are to one another, it was generally not possible to determine with any certainty which odors were associated with which facility, except for when he was right at the north property line of Asahi Kasei.

Arrival:

This was an unannounced inspection. AQD arrived at Asahi Kasei at 1:13 PM. D. McGeen checked in with the security guard, and explained the reason for the visit. He presented his credentials, per procedure. The guard explained they have a protocol for such situations. He was given a visitor's pass, and directed to drive to the "900 building," the large, two story industrial building on the east side of the Asahi Kasei campus.

As D. McGeen parked by the 900 building he noted that skies were overcast, and winds were now out of the south southeast, at 10-15 mph. He met with Mr. Chris Esch, Director of Manufacturing, and with Mr. Roy Travis, Maintenance and Engineering Manager. He explained the reason for the visit, and described the chlorine-like odors he had detected throughout the village, and at the north property line of Asahi Kasei.

Inspection:

It was explained that Asahi Kasei does not use any chlorinated plastic materials, like polyvinyl chloride (PVC) plastics. However, they do some work with styrene plastic, and it was conveyed that a styrenic odor can be reminiscent of chlorine, because both chlorine and styrene have a benzene ring in their molecular structure. Anything with styrene can give off a more aromatic smell, he was told, but Asahi Kasei was running emissions from the northern half of their plant, where engineering grade plastics are used, through a carbon filter.

C. Esch explained that the products they were running today at the plant were typical of what they have run at this plant, 24 hours per day, 7 days per week, for the past 10 years. It was also said that in the 10 years before that, they were not operating 24-7, but they were using the same base resin. D. McGeen was also informed that no new processes have been added to the plant since AQD was here last (2019), and they have not had any process upsets at the plant today.

They walked through the plant, and D. McGeen did not smell any chlorine-like smells, until the west end of the furthest east storage room where finished products were being stored. It was "a bit like chlorine," per his field notes.

They stepped outside the plant, and walked downwind of Asahi Kasei's carbon filter for the north half of their plant. It is used to control emissions from extrusion lines 10-12, because those lines use engineering grade plastics, which can be more odorous than the other plastics used here. D. McGeen was advised the line 12 was not running, at the moment. It is said to use similar raw materials, but a slightly different formulation and filler content.

There were no visible emissions from the carbon filter, which has a stack height of about 10-12 feet. However, immediately downwind, there was a distinct and definite styrenic smell, similar to what D. McGeen had detected at the property boundary, along E. Van Riper Road. The styrenic smell at times was objectionable.

The styrenic smell detected here had a slightly sweeter quality to it than chlorine would have, D. McGeen was informed. He was also told that if they were using polyvinyl chloride or PVC plastics here, which contain chlorine, the smell would have more of a "bite" to it.

There is a taller stack to the southeast of the short stack, but this is a backup blower, it was explained. There is presently no physical connection to the actual exhaust system.

D. McGeen asked if any production takes place in the newer Asahi building, which is to the west of the main plant. He was advised that there is no processing there, only handling and storage of finished goods.

They walked back through the plant's south side. There were a number of Torit cartridge-type fabric filter control devices, which were not emitting any visible emissions. These exhaust into the plant interior.

D. McGeen asked what kind of maintenance program there is for the carbon filter for lines 10-12. R. Travis said that the carbon was replaced on the carbon filter on 9/17/2019, and again on 3/18/2021.

In the meeting at the end of the site visit, D. McGeen discussed the odors he had detected throughout the village as having the potential to contribute to a violation of Michigan Air Pollution Control Rule 901(b), which prohibits unreasonable interference with the comfortable enjoyment of life and property.

It should be noted that D. McGeen was presently unaware that Industrial Resin Recycling operates 4 plastic extrusion lines, in close proximity to Asahi Kasei. RheTech Inc., SRN N6842, operates 3 plastic extrusion lines, though they are located to the west of the village. Asahi Kasei is by no means the only potential source of industrial odors in the Fowlerville area.

D. McGeen was asked if AQD intends to walk the properties of all the industrial facilities in the area, as Asahi Kasei did not wish to be held responsible for odorous emissions from other facilities. He indicated that he would discuss with management the extent to which AQD would investigate other industries in the area.

D. McGeen left the site at 2:50 PM, returning the visitor's badge at the exit gate.

Odor evaluation south of I-96:

After leaving Asahi Kasei, D. McGeen conducted an odor evaluation in the rural areas south of I-96, driving as far south as Howell-Mason road. Please see attached Odor Survey forms for rural areas south of Fowlerville, Parts 1 and 2, and map of odors detected. These odors appeared to be agricultural in nature, and did not appear to be connected with industrial odors which were detected by AQD throughout the Village today.

Odors detected were as follows:

- 3:06 PM: Level 2 manure odor, at Milett and N. Truhn Rds.
- 3:11 PM: Level 1 diesel exhaust at Layton & Milett Rds.
- 3:13 PM: Level 2 manure odor at Layton Rd., west of the bridge over the Red Cedar River
- 3:15 PM: Level 1 fertilizer/manure odor at Layton and Smith Rds.

Odor evaluation of industrial park on west side of Village:

D. McGeen also conducted an odor evaluation in the vicinity of the industrial park on the west side of Fowlerville. Please see the separate 10/12/2022 odor evaluation activity reports for RheTech, SRN N6842, and for Ventra Fowlerville LLC, SRN N7413.

Post-investigation follow up:

AQD has subsequently conducted inspections, complaint investigations, and odor evaluations of a number of industrial facilities in the Fowlerville area documented in separate activity reports. These

reports demonstrate that Asahi is by no means the only potential contributor to odors such as were detected by AQD today.

Conclusion:

Odors like plastic, chlorine, or chemical fertilizer were detected at various locations throughout the Village of Fowlerville by AQD, at varying strengths. Additionally, styrenic odors were detected at the north property line of Asahi Kasei, while winds were out of the south. Taking into account how Industrial Resin Recycling operates plastic extrusion lines, and is nearly adjacent to Asahi Kasei, it is not possible to conclude which plant was the source of most of the odors D. McGeen detected today, except where he was at the Asahi Kasei property line. Subsequent inspections and investigations by AQD in the Fowlerville area focused on a number of industries in the area, including Industrial Resin Recycling, and Rhetech Inc. These are documented in separate activity reports.

NAME *David McGeen*

DATE 9/29/2023

SUPERVISOR *RB*