

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

FY 2016 Insp

U6311017033552

FACILITY: Frimo, Inc.	SRN / ID: U63110170
LOCATION: 50685 Century Court, Wixom	DISTRICT: Southeast Michigan
CITY: Wixom	COUNTY: OAKLAND
CONTACT:	ACTIVITY DATE: 02/17/2016
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance
SUBJECT: FY 2016 inspection of Frimo, Inc. – Plant 1	SOURCE CLASS:
RESOLVED COMPLAINTS:	

U 63 11 0170 - SAR - 2016 0217

Frimo, Inc. – Plant 1 (U-63-11-0170)
50685 Century Court
Wixom, Michigan 48393-2066

Phone: (248) 668-3147

Permit-to-Install: Rules 285, 287 exempt process equipment.

On February 17, 2016, I conducted a level 2 self-initiated inspection of Frimo, Inc. ("Frimo"), located at 50685 Century Court, Wixom, Michigan 48393-2066. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451 and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the FY 2016 inspection, Mr. Aaron Vermeulen (Phone: 248-668-3162; Fax: 248-668-3040; Cell: 248-346-4945; E-mail: Vermeulen.A@frimo.com), Operations Director, and Mr. Richard Cohen (Phone: 248-668-3170; Fax: 248-668-3040; Cell: 248-688-5632; E-mail: Cohen.R@frimo.com), Chief Financial Officer, assisted me.

About December 31, 2015, Mr. Ray Lukasik (Phone: 248-668-3147; Fax: 248-668-3040; Cell: 248-939-3056; E-mail: lukasik.r@frimo.com), Operations Director, retired.

Frimo, an American subsidiary of a German company (Frimo, GMBH), is a builder of interior automotive tooling and machinery. Polyurethane (PU) is used as insulation material for refrigerators, in upholstered furniture or sport articles. In the automotive industry instrument panels, door trims, headliners, seats, headrests, steering wheels or bumpers and spoilers are typical applications. At this Wixom facility, prototype equipment is present. Also, urethane foaming, vacuum foaming, press laminating, NC cutting, lathes, milling, cutting equipment are present.

Frimo builds, repairs, services tools and equipment for:

1. Polyurethane processing
2. Polyurethane spraying
3. Flexible trimming
4. Polyurethane foaming
5. Punch press
6. Thermo foaming
7. Laminating
8. Edge folding
9. Joining and gluing

One laminating machine is present with practically no air quality impact.

Two foaming machines are present. Polyols and isocyanates are metered, mixed in a mixing head and foam is inserted into a part. Foaming chemical reaction takes place when the two components are mixed. Thus inserted foam is cured for 2 minutes.

Isocyanates are potentially dangerous irritants to eyes and respiratory track. Methyl Isocyanate was involved in Bhopal disaster that killed 4,000 people. Most manufacturing plants, if MDI or TDI is used, carefully monitor in-plant ambient air.

Polyurethane spray booth (287(c))

Polyurethane spray booth with back-draft filters on the back wall is present. Exhaust gases are discharged outside. Mold release agent is sprayed using a robot. Then in-mold coating is sprayed. Both paints and mold release agents are water based. About 2 gallons per month of release agents and 50 gallons per month of polyol and isocyanate mixture are used at this time as the spray equipment is leased out to GE. Polyurethane skins are produced. Hot water is used for cleaning.

Until July 2014 (from about 2012), GE was using the mix / spray equipment out of state via lease agreement. Hence, the booth was idle until July 2014 when lease ended. During the lease period, the booth was not operated.

I asked Mr. Vermeulen to install the filters such that they fit, at all times, snugly without gaps and holes. I also asked him to keep records of polyurethane, paint, mold-release agent, materials and solvent usage. I asked him to change or check filters when the pressure drop across the filters is out of the ordinary for good working conditions.

The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(c). The booth is a small source of VOC emissions. The booth was idle from 2012 through July 2014 due to lease.

Misc. equipment

IR welding machine for plastics with IR (Infra Red) lights to heat plastics, foaming area, laminating area are present.

Cutting and grinding machines

CNC (increased 6 → 7; in January 2013 one additional machine was installed), cutting, trimming machines for plastic or aluminum parts are present. Each machine is equipped with a particulate matter capture device and a ventilation system. Each ductwork from a machine is connected to a common manifold. The manifold is ducted outside to a baghouse. After filtration of plastic or metallic particulate matter, clean air is recycled into the plant in heating season (winter) and discharged to outside air in cooling season (summer). Two 55-gallon drum hoppers are present at the bottom of the baghouse to store collected particulate. The bags are cleaned using a shaker mechanism. However, about 2014, Frimo stopped using the outside baghouse (which is still present but idled) due installation of mist busters. The baghouse may be used when mist busters cannot handle mist load; if mist is not properly controlled, indoor air quality deteriorates.

About 2013, five mist busters were installed in CNC area to improve indoor air quality by removing coolant mist. Of total five mist busters, 4 units consist of 3 cartridge filters each and one unit consists of 4 cartridge filters.

The cutting machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l). I asked Mr. Vermeulen (if baghouse is used again) to empty the 55-gallon hoppers promptly so that damage to bags was not caused and spill did not occur.

Wood cutting and grinding machines

There are five wood cutting (saw) machines. Three spray mask booths, drills, presses, lathes, welding machines are present. Each machine is equipped with a capture device and a ventilation system. Each ductwork from a machine is connected to a common manifold. The manifold is ducted outside to a baghouse. After filtration of plastic or metallic, saw dust particulate matter, clean air is recycled into the plant in heating season (winter) and discharged to outside air in cooling season (summer). Two 55-gallon drum hoppers are present. This baghouse located about 100 feet away from the above idle (due installation of mist busters) baghouse. The bags are cleaned using a shaker mechanism.

The machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l). I asked Mr.

Vermeulen to empty the hoppers promptly so that damage to bags was not caused and spill does not occur. Unlike the other baghouse for mist, which is idle, this woodshop baghouse is operating.

287 (c) paint spray booth

One (16 ft. W * 24 ft. D * 10 ft. H) paint spray booth is present. Glue and paint is sprayed in the booth. The booth is equipped with back draft filters. About 5 gallons per month glue 15 gallons per month paint (oil / solvent based) is used. I asked Mr. Vermeulen to install the filters such that they fit, at all times, snugly without gaps and holes. I also asked him to keep records of paint and solvent usage. The exhaust gases are discharged to outside ambient air via stack with a rain flapper, which is not AQD recommended practice. AQD requires unobstructed vertical discharge of exhaust gases. However, AQD has not received fallout / odor complaints.

Thermoforming machine

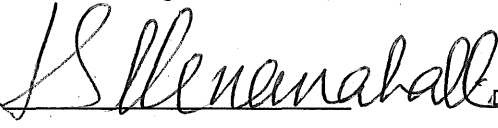
One thermoforming machine is added (2015). All exhaust released to in-plant environment. The machine is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l).

One (CNC area) of two baghouses is idled (starting 2014) due to installation of mist busters.

Conclusion

Spray booths, plastic / metal cutting and wood cutting machines are exempt from Rule 336.1201 per Rules 287, 285. One of two baghouses is idled due to installation of mist busters.

NAME



DATE



SUPERVISOR

