

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

ACTIVITY REPORT: Self Initiated Inspection

U-63-09-0131

U6309013135084

FACILITY: TMD Friction		SRN / ID: U63090131
LOCATION: 1035 Crooks Road, Troy		DISTRICT: Southeast Michigan
CITY: Troy		COUNTY: OAKLAND
CONTACT:		ACTIVITY DATE: 06/02/2016
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS:
SUBJECT: FY 2016 inspection of TMD Friction – Research and Development		
RESOLVED COMPLAINTS:		

U63 09 0131 - SAR - 2016 06 02

TMD Friction – Research and Development (U-63-09-0131)

A Nisshinbo Group Company

1035 Crooks Road

Troy, Michigan 48084-7119

Purchase: About 2014, Nisshinbo Group Company purchased TMD Friction.

PTI: Rules 285 (one common cartridge filter dust collector via a manifold) and 287 (an adhesive coating booth with back-draft filters) exempt process equipment? 336.287(a) < 2 gallons of adhesive per day if emissions that are released only into the general in-plant environment [≈ 1.1 tons of VOC per year] or 336.287(c) < 200 gallons of coating per month if overspray particulate control system is used in a booth [≈ 10 tons of VOC per year]

On June 02, 2016, I conducted a level-2 self-initiated annual inspection of TMD Friction – Research and Development (“TMD Friction” or “the company”), a Nisshinbo Group Company, located at 1035 Crooks Road, Troy, Michigan 48084-7119. 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.

The inspection was conducted to follow up on the complaints.

During the FY 2016 inspection, Terry Ryan (Phone: 248-280-4050-ext. 224; Cell: 248-404-7449; Email: Terry.Ryan@TMDfriction.com), Manager, Quality, Mfg. and Purchasing, and Ms. Lindsey Vincent (Phone: 248-280-4050-ext. 203; Fax: 248-280-4060; Cell: 248-709-2946; Email: Lindsey.Vincent@TMDfriction.com), Office and Adm. Manager, assisted me.

About 2011, Mr. Tom Millsap stated, in his letter to AQD, that TMD Friction would start production; Millsap separated from TMD Friction for Chrysler. About August 23, 2013, Mr. Allal Ahmamad (Phone: 248-280-4050-ext. 230; Fax: 248-280-4060; Cell: 248-795-0707; Email: allal.ahmamad@tmdfriction.com), Manager, Quality, Mfg. and Purchasing, separated from TMD

TMD Friction’s Troy facility consists of two parts: Manufacturing and Research & Development. TMD Friction employs about 25 workers at Troy. TMD Friction is a global friction products, commercial vehicle brakes, manufacturing company. Manufacturing plants are located world-wide; Troy (Michigan) is only U.S. manufacturing facility. No asbestos is used in the brake products. Brake pads have reinforced fiber. Coefficient of friction in the brakes is controlled. Binders, thermoset resins or polymers, hold all materials together.

Mr. Ryan stated (Sep 2013) that TMD was trying to eliminate production by outsourcing to Mexico. At this time (FY 2016), only commercial truck brake products are outsourced. At this time (FY 2016), only race car brake products are manufactured in Troy.

In order to address the complaints (from Ed Belda (Phone: 248-288-9021), 1790 Wickham, Royal Oak), TMD turned an exhaust discharge vent away from Meijer Dr. (summer 2013).

R & D facilities

R & D facilities consist of:

1. Chemical Lab for testing physical and chemical properties of brake components and raw materials.
2. Weighing station (booth) for dry materials. The dust is captured and ducted to a ventilation manifold that is ducted to a common dust collector located outside the building.
3. CNC and NC machines. The dust is captured and ducted to a ventilation manifold that is ducted to a common dust collector located outside the building.
4. One Hofmann (Pruftechnik, Germany) dynamometer for brake pad testing. The Dyno is electrically driven; no IC engine. The dust is captured and ducted to a ventilation manifold that is ducted to a common dust collector located outside the building.

Manufacturing

Powder coating booth

One 6 ft. * 6 ft. powder coating booth (Nordson Econo-Coat Model ECVC 2000, Serial No. 4016772) is present. Fine overspray powder is controlled by two cartridge filters. The powder is captured and recycled / reused. Brake parts are baked in an infrared oven at ≈ 250 °F. The filters are cleaned by pulse-jet air (1 pulse / minute).

The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.287(d).

The powder coating produces very high coating transfer efficiency (TE > 90%) as result of reusing over-spray powder that is captured. Powder coatings are low in VOCs; typically less than 1% VOC. Predominantly, VOC emissions are from curing oven due to monomer crosslinking. The filters that capture the powder for recycling / reusing insure low particulate emissions. While powder coatings contain $\approx 1\%$ VOC, solvent-based coatings contain 40-70% VOC. While powder coatings result in over 90% transfer efficiency, liquid spray coatings (with no electrostatic) can attain $\approx 50\%$ transfer efficiency.

Blenders (2) and Grinders (2)

Two materials blenders and two grinders are present. The dust is captured and ducted to a ventilation manifold that is ducted to a common dust collector located outside the building.

Presses (6)

Six (reduced from 7 to 6 as TMD Friction sold one of seven about 2014) presses are present. They mold parts (brakes). Materials are compressed at 1800-2000 psi at 300 °F. This process has no exhaust to outside ambient air. The press are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.285(l).

Weigh Stations

One manual and one automatic weigh stations are present. The dust is captured and ducted to a ventilation manifold that is ducted to a common dust collector located outside the building.

Ovens

Three batch and one continuous (belt roller) electric ovens are present. The parts are baked at 350 – 450 °F.

Tumbler machine

One tumbler machine is present. It is equipped with its own dust collector. No exhaust to outside ambient air.

Grinder machine

