Marsha
Cody

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

N793542723

FACILITY: MICHIGAN KITCHEN DISTRIBUTORS		**SRN / ID:** N7935
LOCATION: 106 E OLIVER, MARSHALL		**DISTRICT:** Kalamazoo
CITY: MARSHALL		**COUNTY:** CALHOUN
CONTACT: Jack Townsend II , CEO		**ACTIVITY DATE:** 12/06/2017
STAFF: Rex Lane	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Self Initiated Inspection		
RESOLVED COMPLAINTS:		

On December 6, 2017, Air Quality Division (AQD) staff (Rex Lane and Cody Yazzie) arrived at Michigan Kitchen Distributors (MKD) located at 106 E. Oliver Drive, Marshall, Michigan at 9:15 am to conduct an unannounced air quality inspection. Staff made initial contact with the office receptionist and provided her with a business card and stated the purpose of the visit. Mr. Scott Clark, MKD, Operations Manager arrived shortly thereafter and took staff to a conference room for further discussions. Mr. Steve Trylick, MKD, Sales and Service, then joined us in the conference room and provided further history about the business.

Staff provided their credentials, stated the purpose of the visit again and asked several general questions about facility operations. Staff asked Mr. Clark if the facility had any boilers, emergency generators or parts washers and he said there aren't any and service heat is provided by various small gas-fired space heaters. MKD has about 20 associates at this facility and operates one 10-hour shift four days per week. MKD has a second facility located at 406 S. Linden Street, Marshall, Michigan that specializes in quartz stone and granite countertops. Manufacturing operations at the Linden Street facility will be discussed later in this inspection report. MKD also has a facility in Jackson, Michigan that produces solid surface countertops such as Corian and HI-MACS, however this facility would be subject to inspection by MDEQ's Jackson District Office.

The Oliver Drive facility manufactures custom order and stock size laminate kitchen and vanity counter tops. The raw materials such as particle board and laminate top surfaces are purchased from elsewhere. The particle board is first cut to shape using various woodworking equipment such as cutoff, trim and miter saws. The sized particle board and laminate top surfaces are then each sprayed on a conveyorized downdraft spray coating line with a water based or solvent based adhesive. The adhesives are cured and then the laminate top is overlaid on to the particle board and pressed together. The roll edge banding is applied using a hot melt adhesive process. The end caps are then hand laminated to the countertop with the solvent based adhesive. Lacquer thinner is used to remove excess adhesive and for cleanup purposes.

The facility was last inspected by the AQD on 10/29/07 and was determined to be non-compliant at that time due to lack of production adhesive and solvent usage data as required by air use permit exemption Rules 287(c) and 290, respectively. The facility was eventually able to produce monthly adhesive purchase records for the spray coating line that demonstrated usage was below 200 gallons per month as applied, minus water in compliance with Rule 287(c). Provided monthly purchase records for lacquer thinner were also used to demonstrate usage was below 1,000 pounds per month in compliance with Rule 290. The purpose of the follow up inspection is to ensure continued compliance with spray coating line Rule 287(c) and lacquer thinner Rule 290 material usage limits.

Mr. Clark gave staff a tour of the facility. Required personal protective equipment in the manufacturing area are safety glasses only. Staff observations and review of records provided during and following the inspection are summarized below:

All woodworking equipment in the facility exhausts to a single fabric filter collector located outside on the north side of the building. The fabric filter collector is only designed to vent back in-plant and the process is exempt from air use permitting requirements under Rule 285(2)(l)(vi)(B). The collector's dust discharge point is into an open topped metal container that is enclosed on three sides by tarping. Staff recommended to Mr. Clark that the front side of the discharge point should also be equipped with tarping to minimize the risk of fugitive dust exiting the enclosure. We also discussed an alternative collection method by fitting the collector discharge with a drop tube along with a closed topped metal container.

Staff then observed the downdraft spray coating line that was not in operation at the time of the inspection. The conveyor had some blue water-based and red solvent-based adhesive overspray on it. Staff asked about the instructions on the access panel for the booth exhaust stack located about six feet above the draft fan which indicated that stack residue should be scraped out on Mondays and the cleaned surface sprayed with WD-40

product. A booth operator was brought over to describe the cleaning process and it was determined that the spray booth was not equipped with a particulate filter as required by Rule 287(2)(c). This will be addressed in greater detail in the post-inspection wrap up comments later in this inspection report.

Staff was then shown the edge banding process that uses a hot melt adhesive which is exempt from air use permitting under Rule 287(2)(i) and the solvent-based adhesive application area for the countertop end caps whose use is also included in the overall usage limit for the spray adhesive coating line.

Mr. Steve Trylick joined staff and Mr. Scott Clark during the post-inspection discussion in the conference room. Staff discussed the open topped dust collection bin beneath the fabric filter and the need to minimize the risk of wood dust leaving the three-sided enclosure. MKD staff agreed to install and maintain a tarp on the front (north side) of the enclosure. Staff then raised the issue of the spray adhesive coating line not being equipped with particulate overspray filter controls as required by Rule 287(2)(c)(ii). Mr. Trylick said that the coating line was designed to have filter controls and he was surprised that it was being operated without it. MKD staff agreed to promptly install fabric filter controls on the spray coating line. Staff requested and Mr. Clark agreed to provide via email the material usage records for the two adhesive products and lacquer thinner and the safety data sheets (SDSs) for all three materials by the end of the week. Staff thanked MKD staff for their time and cooperation and left the facility at 11:00 am to head to MKD's Linden Street facility.

Post-inspection records review (Oliver Drive Facility):

On 12/7/17, staff received the requested documentation from Mr. Jack W. Townsend II, MKD. The documentation included pictures of the prompt corrective measures taken following the inspection to install a particulate filter in the adhesive spray coating booth. MKD also provided monthly purchase records for water-based (Ralph Wilson Plastics Company, H20 Waterborne Contact Adhesive) and solvent-based (Wilsonart 800) adhesives and lacquer thinner (Interstate Chemical) along with their associated SDSs.

Rule 287(2)(c) Compliance Analysis:

Rule 287(2)(c)(i) limits coating line usage to not more than 200 gallons per month as applied, minus water. The water-based adhesive is 40% water according to its SDS and provided 2017 purchase records indicate that up to two 55-gal. drums were purchased monthly which is equivalent to 66 gallons/month (i.e. 110 gallons x (100 – 40/100)). The 2017 records for the solvent-based adhesive indicate that in several months two 55-gal. drums were purchased and in one month (June), three 55-gal. drums or 165 gallons were purchased.

Note: Two drums of water-based adhesive (66 gal./month) and three drums of solvent-based adhesive (165 gal./month) were purchased in June 2017. Since the total adhesive quantity (231 gallons) purchased in June 2017 exceeds the allowable limit under Rule 287(2)(c)(i), **the facility can no longer use purchase records to comply with the usage limit and will need to switch to monthly monitoring and recording of actual adhesive usage** [emphasis added]. Staff emailed Mr. Jack W. Townsend II, MKD a copy of MDEQ's Rule 287 (2)(c) monthly recordkeeping template. The facility may use this template to track adhesive usage or they may use their own monthly recordkeeping form. On 12/11/17, AQD staff advised Mr. Townsend via email that the facility will need to switch from using production records to tracking actual adhesive usage in order to show compliance with the monthly usage limit in Rule 287(2)(c). On 12/18/17, Mr. Townsend II confirmed that the facility has started to track monthly adhesive usage on the provided Rule 287(2)(c) form.

Rule 290(2)(a)(ii) Compliance Analysis:

The lacquer thinner in use at the facility is a solvent blend consisting of toluene (Initial Threshold Screening Level (ITSL) = 5000 ug/m3), acetone (ITSL = 5900 ug/m3), isopropyl alcohol (ITSL = 220 ug/m3) and n-butyl acetate (ITSL = 2400 ug/m3). These volatile organic compounds (VOC) are currently classified as noncarcinogenic compounds thus the allowable emission rate for the current lacquer thinner product is 1000 pounds per month under Rule 290(2)(a)(ii). Based on the lacquer thinner's specific gravity (7.08 pounds/gallon), the facility could use up to 141 gallons/month or approximately 2.5 55-gallon drums/month without exceeding the allowable limit. The facility's lacquer thinner purchase records for 2017 indicate that approximately one 55-galllon drum (390 pounds/drum) is purchased per month which demonstrates compliance with the monthly emission limit under Rule 290(2)(a)(ii).

Summary:

The MKD Oliver Drive facility is in compliance with Rule 290(2)(a)(ii) for lacquer thinner usage based on purchase records and with Rule 287(2)(c) adhesive coating line requirements with the recent addition of fabric filter controls and provided the facility switches to actual adhesive usage on a monthly basis in order to show compliance with the 200 gallon/month minus water limit as advised in a 12/11/17 email to Mr. Jack W.

Townsend. Based on 2017 purchase records and SDS information, facility-wide annual VOC emissions are estimated to be 9,520 pounds or 4.8 tons/year (Adhesives = 6,000 pounds; Lacquer Thinner = 3,510 pounds). The facility will become subject to annual emission reporting (R 336.202, Act No. 348 of PA 1965) under the Michigan Annual Emission Reporting System (MAERS) when facility-wide VOC emissions exceed 10 tons/year. -RIL

MKD Linden Street Facility Inspection (11:10 – 11:40 am):

AQD staff made contact with Mr. Mike Ostafin, MKD Linden Street manager for the quartz stone and granite counter top business and stated the purpose of the visit. This facility takes 5' by 10' slabs of quartz stone or granite that are pre-polished on one side and custom cuts and finishes the countertop edges to customer specifications.

The facility has two high pressure water jet machines that cut the stone slabs to customer specifications including sink mounts (if applicable) using a garnet-based abrasive material. The facility has three other machines that uses diamond or carbide tooling bits that are water cooled to grind the countertop edges to the desired shape. The residual stone cuttings and water flow from all machines drain to a catch basin where sludge is periodically removed and the effluent discharges to the municipal sewer system. All five machines and associated hand operated wet polishing pad and finishing operations exhaust in-plant and are exempt from air use permitting under Rule 285(2)(l)(vi)(B).

The facility does not have any boilers and uses natural gas fired radiant space heaters which are exempt from permitting under Rule 282(2)(b)(i). The facility does not have an emergency generator or cold cleaner per Mr. Ostafin.

The facility uses a sealer (Stoneguard – HD Sealer) on the finished granite countertops and Mr. Ostafin estimated sealer usage at six gallons per month. The facility also uses denatured alcohol (Intersol 84, 200 proof) to clean up stains or residues on the granite countertops and Mr. Ostafin estimated its usage at one 55-gallon drum every three weeks. The facility uses acetone to cleanup and remove scuff marks on the quartz stone countertops and usage rate was estimated at two gallons per month. On 12/12/17, Mr. Ostafin faxed in the SDS information for all three products which are attached to this report. Purchase records for the sealer, denatured alcohol and acetone usage in 2017 were submitted on 12/14/17 and are attached to this report.

Post-inspection records review (Linden Street Facility):

Rule 287(2)(c) Compliance Analysis:

Rule 287(2)(c)(i) limits coating line usage to not more than 200 gallons per month as applied, minus water. Based on provided 2017 purchase records, MKD orders twelve gallons of sealer about once every other month which demonstrates compliance with the usage limitation under Rule 287(2)(c).

The Stoneguard HD Sealer contains about 3% mixed perfluoroalkylethyl phosphate salts. This chemical was investigated to determine if it is one of the two chemical groups of long-chain Per- and Polyfluoroalkyl Substances (PFAS) that are persistent in the environment, bioaccumulative in wildlife and humans, and are toxic to laboratory animals and wildlife. The two PFAS chemical groups that are currently under further scrutiny and potential further regulations are the perfluorocarboxylic acids which include perfluorooctanoic acid (PFOA) and the perfluorosulfonates which include perfluorooctane sulfonate (PFOS). It was determined that the chemical used in the Stoneguard HD Sealer Is not part of the regulated PFOA or PFOS chemical groups.

Rule 290(2)(a)(ii) Compliance Analysis:

The Linden Street facility uses both denatured alcohol (Intersol 84) and acetone for cleanup operations. Per the SDS for Intersol 84 and acetone, all chemical compounds are classified as noncarcinogenic compounds thus the allowable emission rate for the both products combined is 1000 pounds per month under Rule 290(2)(a)(ii). Based on 2017 purchase records, the facility uses two 55-gallon drums of Intersol 84 (730 pounds) per month and not more than eight gallons of acetone (53 pounds) per month. The combined cleanup chemical usage based on 2017 purchase records is 783 pounds/month which demonstrates compliance with the 1,000 pounds monthly emission limit under Rule 290(2)(a)(ii).

At the time of inspection and based on a review of purchase records and product SDS information obtained during or following the inspection, the MKD Oliver Drive and Linden Street facilities in Marshall, Michigan appear to be in compliance with Rule 287(2)(c) and Rule 290(2)(a)(ii). -RIL

NAME RIL DATE 12/18/17 SUPERVISOR MD 1/2/2018