

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

A244739029

FACILITY: INTERNAL GRINDING ABRASIVE		SRN / ID: A2447
LOCATION: 3011 HILLCROFT AVE, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Jim Menerick, General Manager		ACTIVITY DATE: 03/16/2017
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced inspection in response to a complaint.		
RESOLVED COMPLAINTS: C-17-00872		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, unscheduled inspection in response to a complaint of smoke and odors. Jim Mererick, General Manager met me and showed me some of their products that are displayed in the lobby.

IGA Abrasives, LLC (IGA) manufactures abrasive grinding wheels and hones primarily for the automotive industry. The basic process is conducted by mixing dry raw materials together with a binder, pressing the mixture into the desired shape and kiln drying the item for hardness. The nine kilns are electrically fired, and were installed in 1958. The refractory is replaced approximately every 10 years; however the rest of the equipment appeared original. Since refractory replacement is considered routine maintenance this would not be included in calculations toward reconstruction cost. The kiln control panels are new, however that cost is not expected to exceed 50% of a new system. Thus, the kilns appear to maintain their grandfathered status. Additionally, the use of the binder which contains regulated air contaminants do not appear to exceed significance thresholds. The binder was evaluated in particular because a 2003 Potential to Emit determination in the file does not include emissions associated with the binder use. Emissions associated with the binder are below 4,000 pounds (2 tons) annually.

Perchloroethylene has not been used at the facility since approximately 2006. Solvent is utilized in the cleaning room, which has a fan assisted vent and stack. The solvent used is the B-IGA thinner, which is comprised of a toluene and other VOC's. Usage is currently at 220 gallons per year, which calculates to 1,478 pounds (0.74 tons) of VOC and is exempt from permitting.

During production, IGA mixes the powders to a specific recipe, and then adds the binder. The binder is also mixed in according to a recipe and the mixture sits until the press room is ready. Once the mixture moves to the press room, the tacky mixture is pressed into the appropriate shape in one of 7 presses. The pressed parts of various sizes are stacked in a manner that allows for air flow between each part during the baking process. The parts go into a kiln that is fired at temperatures that can exceed 2,000°F. The kilns are arranged in sets of two, and only one of the two can fire at any given time. Each kiln vents out the back where a hood captures emissions. The hoods for the 9 kilns are ducted to one main fan and stack that services all the kilns in the room. The part is cured for a total of two days, one for the heating and the next for the cool down process. Mr. Menerick stated that the combustion temperature for the binder is around 800°F, and likely the cause of the smoke and odors from the kilns. We evaluated temperature charts and learned that the typical timing of this would fall between 7:30 and 10 PM based on the production schedule. We also checked the operations for March 9, 2017, which was the day of the citizen complaint. It was identified that due to a power outage from the high wind event, the kilns did not operate that day. However, it was learned that recently the fan and stack had degraded and the stack had fallen over and was removed from the roof. IGA had ordered the replacement parts which included a new fan and stack. The stack was in house, but the fan had yet to arrive. IGA resolved to install the new equipment as soon as possible, which should help with the dispersion of smoke and odors from this grandfathered process. Mr. Menerick informed AQD staff that the new fan and stack were installed and operational on March 21, 2017.

Liquefied elemental sulfur is used after curing some of the pieces and any excess is manually removed. Sulfur is regulated as a particulate by the AQD and since it is in a liquid state, it does not appear to require regulation at this time.

IGA Abrasives, LLC was in compliance at the time of the inspection and the complaint is resolved pending further information.

NAME Asi Langgan

DATE 3-23-17 SUPERVISOR ES