

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N357132720

FACILITY: HUMPHREY PRODUCTS		SRN / ID: N3571
LOCATION: 5070 EAST N AVE, KALAMAZOO		DISTRICT: Kalamazoo
CITY: KALAMAZOO		COUNTY: KALAMAZOO
CONTACT: Scott Ludwig, Maintenance Supervisor		ACTIVITY DATE: 12/14/2015
STAFF: Monica Brothers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced scheduled inspection		
RESOLVED COMPLAINTS:		

This was an unannounced scheduled inspection. Staff (Monica Brothers) arrived at Humphrey Products at 1:10pm. I met with Scott Ludwig, the facility manager, and gave him my card and the inspection brochure. However, he quickly told me that he had to leave in a few minutes because he needed to get to a doctor's appointment. So, we agreed that he would send me all of the required recordkeeping documents the next day, and he introduced me to Larry Kancauski, who took me on a tour of the facility and its operations. Humphrey Products machines metal parts on CNC machines for pneumatic valves, cylinders, and actuators. They also machine metal parts for other manufacturers. They currently have 207 employees and run two 10-hour shifts 4 days a week with some Saturday overtime.

After machining these metal parts, they are cleaned in parts washers that use low volatility mineral spirits. These parts washers are located at various machining stations, and all of the lids were closed and instructions were posted at the time of the inspection. The facility has one 2-gallon, eleven 5-gallon, twenty-one 10-gallon, six 20-gallon parts washers, and one 50-gallon rotary-style parts washer, which are all exempt under Rules 281(h), 285(R)(iv), or 290(a)(i). The large rotary parts washer runs approximately 2 to 3 times per week, and they also rub a lightweight oil on the metal parts during the washing process to prevent corrosion.

Under permit to install 803-92, Humphrey Products is permitted for a conveyORIZED vapor degreaser, which is their main source of VOC emissions. Larry said that they are no longer using the conveyORIZED part of it because they do not have a large enough quantity of parts to wash, so they simply hand load baskets of parts whenever they need to. The parts in the baskets move down to where the solvent, which is N-Propyl Bromide (NPB), is being vaporized. The solvent condenses onto the cooler parts and cleans them. Then the basket moves into a solvent bath for a few minutes where the parts are cleaned further. The basket is then raised up to right below the condensing coils so that the remaining solvent on the parts can flash off and be re-condensed and reused. The basket then moves up to above the coils for extra drying time, and the parts come out with no solvent left on them.

They have recently increased the dwell time for the parts during the drying stages so that more solvent can be reclaimed and less used. They have also increased the temperature within the still so that more solvent gets reclaimed in that part of the process as well. The unit seemed to be working in compliance with their permit at the time of inspection. The waste solvent was in closed containers, the vapor degreaser has a refrigerated freeboard device, instructions were posted, and the unit has safety switches for vapor level and temperature abnormalities. The waste NPB is shipped to WRR Environmental Services Co. in Eau Claire, Wisconsin. I thanked Larry for his time and left the facility at 2:30pm.

Recordkeeping:

I sent Mr. Ludwig an email outlining what I needed from him in terms of records for the inspection and asked him to send them to me by the following day 12-15-15. I did receive most of the records by that date, however, some of the values for VOC emissions and solvent usage did not seem correct. So, I emailed Mr. Ludwig back, asking how he calculated these numbers, and he said that he forgot to subtract out the reclaimed solvent from the solvent they used throughout the year. I told him that he would need to get me the correct values to me by the following Monday 12-21-15, otherwise it would result in a violation notice for not complying with the recordkeeping requirements in their permit. On Monday, Mr. Ludwig sent me invoices of the amounts of solvents (both the NPB and the mineral spirits for the parts cleaners) they have bought and the amount reclaimed and shipped off-site. He used these numbers to give me much more accurate values for VOC emissions and solvent usage than before.

1. Vapor Degreaser

- a. Uses N-Propyl Bromide (ENSOLV-Spec 440), manufactured by Envirotech Intl. An MSDS was obtained.
 - b. 2014: Humphrey Products purchased 6612 lbs of NPB from Ladd Chemical. They shipped out 1,653 lbs of waste solvent, giving them a total usage of 4,959 lbs or 453 gallons for the year. NPB is about 11.3 lbs/gallon and is assumed to be 100% VOC. The vapor degreaser ran for 2,496 hours in 2014, which means their solvent usage rate is 1.98 lbs/hour.
 - c. 2015: Humphrey Products purchased 6612 lbs of NPB from Ladd Chemical. They shipped out 2233 lbs of waste solvent, giving them a total usage of 4,379 lbs or 400 gallons for the year. The vapor degreaser ran for 2,436 hours in 2015, which means their solvent usage rate is 1.79 lbs/hour.
 - d. According to their Permit to Install No. 803-92, they are limited to 2.2 lbs/hour and 4.4 tons per year for VOC emissions from the vapor degreaser. They are also limited to using no more than 800 gallons of solvent per year. The above records show that they are in compliance with these requirements.
2. Parts Cleaners (mineral spirit dip tanks)
- a. Uses Hydrotreated Light Distillates (Solvent 142) from Webb Chemical Service Corp. An MSDS was obtained.
 - b. 2014: Humphrey Products purchased 1,126 gallons in 2014, which equals 93.8 gallons/month combined usage.
 - c. 2015: Humphrey Products purchased 1,249 gallons of solvent, which equals 104 gallons/month combined usage.

It was suggested to Mr. Ludwig that he keep his records in a more accurate and consistent condition from now on, so that they can be made easily and quickly available to Air Quality Division staff in the future. The facility looks to be in compliance with their permit at this time.

NAME Monica Brett

DATE 12/23/15

SUPERVISOR MB 12/28/2015