

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

N679125806

FACILITY: Grand Rapids Chair Company		SRN / ID: N6791
LOCATION: 1250 84Th St SW, BYRON CENTER		DISTRICT: Grand Rapids
CITY: BYRON CENTER		COUNTY: KENT
CONTACT: Rick Claypool, Vice President of Operations		ACTIVITY DATE: 02/14/2014
STAFF: Denise Plafcan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: First compliance inspection after issuance of PTI and relocation.		
RESOLVED COMPLAINTS:		

Denise Plafcan (DP) conducted an unannounced scheduled inspection to determine compliance with state and federal Air Quality rules and regulations and Opt-out PTI No. 112-13. DP drove around the area prior to entering the facility. There were no odors, fugitive emissions or opacity noted from the facility. DP met with, Rick Claypool, V.P. of Operations and explained the purpose of the inspection and reviewed the Environmental Inspection brochure. Rick was also the escort on the inspection.

Grand Rapids Chair moved into the new location at the end of 2013 and have been operating since January 2014. The new plant combines all of their previous locations and operations into one site. Any former buildings they own are up for sale and DP requested a letter from Rick asking to void their previous permit for the 655 Godfrey location, he agreed but later they decided to keep the PTI active for the old location. At the plant they have metal chair/furniture coating, wood chair/furniture coating, wood table top coating, assembly, welding, machining, and wood working. Metal coating consists of 2 metal powder coat lines, with one booth and one bake oven for each line. There is one metal wash system, which uses a 3 step phosphate metal cleaning solution and drying oven. Because of the phosphate the waste water is trucked off-site instead of flushing it into the drain system. The wood coating line has 1 stain booth, 1 sealer booth and 2 topcoat booths. Each booth has 2 mat panel filters with sufficient draw to minimize particulate. They are currently operating between 65-75% transfer efficiency approximately ¼ pound of paint per part. Ovens on the line operate between 115 and 150 degrees Fahrenheit.

The company is looking at changing their sealer / topcoat and their glue. They are looking at replacing the Sherwin Williams sealer / topcoat with a Repcolite brand. Repcolite also supplies their stain so they will only have one coating manufacturer responsible for coating quality and compatibility. DP agreed to take a look at the MSDS for both the current sealer / topcoat and the new material to see if a Rule 285(b) exemption from Rule 201 would be an option. It appears that the substitution should be acceptable but if they decide to make the change they want a complete review by the permit section. They currently use a hot melt spray glue for their foam to fabric and foam to wood operations, which is exempt under a Rule 287(i) exemption from Rule 201. They are going to run a test of Simalfa water-based glues. Rick does not anticipate their usage will exceed 100 gallons per month but will not know for sure until they run a test on the material. A Rule 287(c) exemption from Rule 201 for the new glue would be appropriate if they use less than 200 gallons per month minus water.

Since they were not operating under PTI 112-13 in 2013 they will not have to report to MAERS until 2015 for the 2014 emissions. The attached records are for the month of January 2014.

There are several small Torrit dust collecton units inside and outside of the plant. For control of wood and metal dust respectively.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)
EU-Chair	Wood and metal chair manufacturing operations consists of multiple spray booths with fabric filter and HVLP spray guns. Use of solvent based coatings (stain, sealer, topcoat(s)) and acetone as purge and cleanup solvents.
EU-Table	Wood table manufacturing operations consists of one spray booth with fabric filter, HVLP spray guns, and a drying oven. Use of solvent based coatings (stain, sealer, topcoat(s)) and acetone as purge and cleanup solvents.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.	

FLEXIBLE GROUP SUMMARY TABLE

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-Chair&Table	Wood/metal chair and wood table manufacturing operations	EU-Chair, EU-Table
FG-Facility	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	NA

The following conditions apply to FG-Chair&Table

DESCRIPTION: Wood/metal chair and wood table manufacturing operations

Emission Unit ID: EU-Chair, EU-Table

POLLUTION CONTROL EQUIPMENT: Spray booths equipped with fabric filters to control particulate matter

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	52 – week compliance records
1. VOCs	32.1 tpy	13 - four-week rolling time period, as determined at the end of each four-week period	18.9
2. Acetone	8.0 tpy	13 - four-week rolling time period, as determined at the end of each four-week period	0.5 tons
3. Ethyl benzene (CAS No. 100-41-4)	2.5 tpy	13 - four-week rolling time period, as determined at the end of each four-week period	0.03 tons
4. Xylene (CAS No. 1330-20-7)	90.2 lb/day	Calendar Day	20.3 lb/day

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	COMPLIANCE
1. VOC Content of Coating - Topcoat	6.1 lb/gal (minus water) ^a as applied	Instantaneous	Same materials as used for the permit application but calculations are not included on the records.
2. VOC Content of Coating - Stain	6.1 lb/gal (minus water) ^a as applied	Instantaneous	Same materials as used for the permit application but calculations are not included on the records.
3. VOC Content of Coating - Sealer	5.0 lb/gal (minus water) ^a as applied	Instantaneous	Same materials as used for the permit application but calculations are not included on the records.

Material	Limit	Time Period / Operating Scenario	COMPLIANCE
^a The phrase "minus water" shall also include compounds which are used as organic solvents and which are excluded from the definition of volatile organic compound. (R 336.1602(4))			

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall capture all waste topcoat, sealer, stain, purge and cleanup solvents (materials) and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. It appears that waste material is being handled appropriately.
2. The permittee shall dispose of spent filters in a manner which minimizes the introduction of air contaminants to the outer air. Spent filters appear to be being disposed of properly.
3. The permittee shall handle all VOC and / or HAP containing materials, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. Materials are being handled to minimize fugitive emissions.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FG-Chair&Table unless all respective exhaust filters are installed, maintained and operated in a satisfactory manner. They have double mat panel filters on the booths which minimizes any fugitive particulate
2. The permittee shall equip and maintain each spray booth of FG-Chair&Table with HVLP applicators or comparable technology with equivalent transfer efficiency. For HVLP applicators, the permittee shall keep test caps available for pressure testing. The attached e-mail confirms they have test caps on site.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall determine the VOC content, water content and density of any coating, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. Electronic letter requesting the use of manufacturer's formulation data was received on March 5, 2014 copy attached.

VI. MONITORING/RECORDKEEPING

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. The inspection was just after the first month of operation and records were being maintained as required.
2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. Material Safety Data Sheets were readily available see attached.
3. The permittee shall keep the following information on a four-week basis for FG-Chair&Table:

VOC mass emission calculations determining the monthly emission rate in tons per four-week period and VOC mass emission calculations determining the annual emission rate in tons per 13 - four-week rolling time period as determined at the end of each four-week period. These records are being maintained see attached.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. The records were readily available.

4. The permittee shall keep the following information on a four-week basis for FG-Chair&Table:

Acetone mass emission calculations determining the monthly emission rate in tons per four-week period and tons per 13 - four-week rolling time period as determined at the end of each four-week period minus the percentage of acetone recovered, reclaimed, recycled or disposed of. Acetone records are being maintained and were available upon request, see attached.

5. The permittee shall keep the following information on a four-week basis for FG-Chair&Table:

- a) Gallons (with water) of ethyl benzene (CAS No. 100-41-4) containing material used.
- b) Where applicable, gallons (with water) of ethyl benzene (CAS No. 100-41-4) containing material reclaimed.
- c) Ethyl benzene (CAS No. 100-41-4) content (with water) in pounds per gallon of each material used.
- d) Ethyl benzene (CAS No. 100-41-4) mass emission calculations determining the monthly emission rate in tons per four-week period.
- e) Ethyl benzene (CAS No. 100-41-4) mass emission calculations determining the annual emission rate in tons per 13 - four-week rolling time period as determined at the end of each four-week period.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.¹

6. The permittee shall keep the following information on a calendar day basis for FG-Chair&Table:

- a) Gallons (with water) of xylene (CAS No. 1330-20-7) containing material used.
- b) Where applicable, gallons (with water) of xylene (CAS No. 1330-20-7) containing material reclaimed.
- c) Xylene (CAS No. 1330-20-7) content (with water) in pounds per gallon of each material used.
- d) Xylene (CAS No. 1330-20-7) mass emission calculations determining the daily emission rate in pounds per calendar day.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.¹ (R 336.1225(1))

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-Chair and EU-Table. Notification had not been received by the time of the inspection but an electronic version was received on March 5, 2014, see attached e-mail.

VIII. STACK/VENT RESTRICTIONS

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)
1. SV-ChairStainBooth	30	38.5
2. SV-ChairSealerBooth	30	38.5
3. SV-ChairTopcoatBooth01	30	38.5
4. SV-ChairTopcoatBooth02	30	38.5

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)
5. SV-Table	30	38.5

Stack Vent dimensions were not verified due to severe weather conditions.

The following conditions apply Source-Wide to: FGFACILITY

I. EMISSION LIMITS

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall determine the HAP content of any material as received and as applied, using manufacturer’s formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer’s HAP formulation data using EPA Test Method 311. Testing was not requested as part of this inspection.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. The inspection was just after the first month of operation and records were being maintained as required see attached. However, xylene, which is a HAP is not being tracked as a HAP on the toxics page. Both the Polyurethane (50%) and the catalyst (13%) contain xylene. However, based on the 20 pounds per day recorded for xylene they are well below the individual HAP limit of 9 tons.

2. The permittee shall keep the following information on a calendar month basis for FG-Facility:

- a) Gallons or pounds of each HAP containing material used.
- b) Where applicable, gallons or pounds of each HAP containing material reclaimed.
- c) HAP content, in pounds per gallon or pounds per pound, of each HAP containing material used.
- d) Individual and aggregate HAP emission calculations determining the emission rate of each in tons per four-week period.
- e) Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 13 – four-week rolling time period as determined at the end of each four-week period. For the first month following permit issuance, the calculations shall include the summation of emissions from the 12 - four-week periods immediately preceding the issuance date. For each four-week period thereafter, calculations shall include the summation of emissions for the appropriate number of four-week periods prior to permit issuance plus the four-week periods following permit issuance for a total of 13 consecutive four-week periods. Totals submitted included the usage amounts from the previous location. DP explained that they only need to track from this facility forward, it is easier just to keep a running total.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. Records were available but the HAPs recordkeeping needs to be more detailed and to be sure to contain all HAPs. DP will discuss the required HAPs recordkeeping, since the records that are being maintained do not account for all of the HAPs only for the toxics that were evaluated for the PTI at this point in time the additional HAPs are minimal and would add less than half a ton to the total HAPs emissions.

Based on the physical inspection and the amount and materials used the facility appears to be in compliance with state and federal Air Quality rules and regulations and Opt-out PTI 112-13. However, DP will meet with the company to discuss their inaccurate recordkeeping.

NAME Devin Dwyer

DATE 7-3-14

SUPERVISOR PAB