



**Environmental
Protection Agency**

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

October 3, 2011

Certified Mail #7010 1060 0001 7896 3225

Phil Raber
Kimble Mixer Co.
1951 Reiser Ave., SE
New Philadelphia, OH 44663

Re: Tuscarawas County
Kimble Mixer Co.; Facility ID # 0679020185
Return of FEPTIO Application # A0042739 received on 9/14/11

Dear Mr. Raber:

This office has completed a technical review of the above-referenced application for a Federally Enforceable Permit-to-Install and Operate (FEPTIO) for a new coating line at the Kimble Mixer facility located at 1951 Reiser Avenue, SE, in New Philadelphia, Ohio. Our review found that the application submitted is not technically complete and cannot be processed at this time. We are; therefore, returning this application to you.

Your original application must address the following item(s) to be considered complete and technically adequate:

- 1) No material safety data sheets (MSDSs) for any of the coatings were provided, and this information is needed for the application for emissions unit (EU) K001 to be technically adequate. Despite this omission, the coatings data provided in the application for EUs R001-R004 was used to review the emissions calculations presented in the new source application in an effort to continue processing the permit. However, the application for EU K001 did not specify which reducers would be used, so the review could not be completed and the emissions calculations could not be verified. Note that in the VOC as applied table of the calculations, it indicates that the reducers used have 0% VOC (topcoat) and 7.35 lbs VOC/gallon (primers), so it appears two different reducers are being used.
- 2) Based on the calculations provided with the application, potential VOC emissions from EU K001 exceed 100 tons per year, the major source threshold for Title V. While separate BAT limits of 76.7 tons per rolling, 12-month period were established for each of the existing booths, those BAT limits are less than 100 tons per year each based on the use of up to 43,800 gallons per year of coating at 3.5 lbs VOC/gallon. Ohio EPA will not be able to establish a similar PTE-based BAT limit for the new EU because that limit would on its own exceed the Title V major source threshold. Instead, BAT for this source will need to be established as equivalent to the synthetic minor restriction on facility-wide VOC emissions of 95 tons based on a rolling, 12-month summation to ensure the company avoids major source designation.

Functionally, this will allow use of coatings in EU K001 up to a level that results in no more than 95 tons of VOC emissions as long as the other booths are not used and the 95 tons limit is not exceeded facility-wide. But please be aware that this would mean the company would not be able to use the full 87,600 gallons of coating listed in the EAC form and still comply with the 95 ton limit. Because the coatings described in the application actually contain less than 3.5 lbs VOC/gallon as applied, it may be overly restrictive to try to establish a maximum annual coating use based on the 3.5 lbs VOC/gallon content limit in OAC rule 3745-21-09(U)(1)(d). Thus, DAPC, SEDO is inclined to omit the maximum annual coating use rate that is usually listed in the EU description from the FEPTIO for EU K001.

- 3) The emissions information in Section II, Item 3 of the application is confusing. The OC emission rates listed are higher rates than the VOC emission rates, but there is no information presented in the application that describes why. This information needs to be clarified.
- 4) The company's intent with respect to cleanup solvent has not been properly addressed. Page 4 of the EAC form for EU K001 indicates a maximum annual use rate of 3,200 gallons of WT-10 cleanup solvent, 2,000 gallons of which are reclaimed and 3,733 gallons of which is disposed (75% of the disposed waste is solvent for a net of 2,800 gallons of solvent disposed). These figures seem to indicate that more solvent would be reclaimed or disposed than would be used in the new process. In the original application for FEPTIO #P0107797, the EAC form for EU R001 specifies that 8,000 gallons of WT-10 cleanup solvent total would be used for cleanup facility-wide each year, and the same 2,000 gallons would be reclaimed and 3,733 gallons (75% of which is solvent) would be disposed. Thus, potential VOC emissions from facility-wide use of cleanup material were calculated based on a net usage of 3,200 gallons of WT-10 when FEPTIO #P0107797 was developed.

However, once the new line is installed, it stands to reason that the process will require the use of some cleanup solvent in addition to the amount used to clean the four existing coating booths, excluding any amount recycled or disposed on a facility-wide basis. The reclamation process appears to be already limited by the five-gallon capacity of the reclamation equipment, so no more than 2,000 gallons/year could be reclaimed, regardless of how much additional cleanup solvent is used by the new process. Further, the additional cleanup needs would presumably result in the generation of more than 3,733 gallons of cleanup waste to dispose each year once the new process is installed. Thus, the data in the EAC form must be revised to clarify the net amount of cleanup solvent to be used in EU K001 that will be contributing to the overall VOC emissions from the facility. Updates to the emissions calculations will also be necessary to reflect adjustments to the cleanup solvent use rates. Note that the VOC and hazardous air pollutant (HAP) calculations do not appear to include the correction factor of 75% to reflect that only 75% of the material disposed is cleanup material.

- 5) The HAP emissions calculations must be updated to address the following inaccuracies and inconsistencies:
- a) In the HAP emission rate table, the company indicated there are no HAPs in the Genesis GC-1712 topcoat. However, per the mixture recipe presented in the VOC as applied table, the GC-1712 topcoat is 75% resin and 25% hardener, and the hardener contains hexamethylene diisocyanate (HDI) at 0.1%, by weight. Thus the line in the HAP Emission Rate table needs to be completed for the GC-1712.
 - b) It appears that the GC-1712, and not the GC-1738, is the worst case for HDI emissions at 0.48 ton per year, so the HAP emissions table on the second page of calculations also needs to be updated for this worst case emission rate. Note that the 0.48 ton per year figure was calculated assuming that only 7.6% of the HDI in the coating applied is emitted based on the HDI literature provided with the application.
 - c) The HAP emission rate table also indicates there are no HAPs in the E2A817 primer. However, per the recipe, this primer contains 17%, by weight, of hardener, 30% of which is methylene diphenyl diisocyanate (MDI). The HAP emission rate table reference to this primer must be corrected.
 - d) The HAP emissions table on the second page also needs to be corrected because the potential emissions for HAP from the primers were not properly calculated. Specifically, as indicated in the application, the MDI is a solid and its potential emission rate will be reduced by the 65% transfer efficiency of the coating and the 99.84% control efficiency of the dry particulate filters. However, the facility profile indicates that the capture rate for the EU K001 controls is 97%, and the calculations failed to properly include the three percent of MDI emissions that are not captured or controlled. Thus, the emission rate for MDI from both primers is actually 0.31 ton per year, not 0.00. Note that it appears the primer referenced, E2A817, is actually E2W817 based on the permit application for EUs R001-R004, so the references to this primer must be corrected as well.
 - e) There does not appear to be sufficient HAP information provided in the application for cleanup solvent use. The information in Item #3 in Section II of the application (emissions information) indicates that the highest HAP from this new installation is the HDI at 4.21 tons per year, and that actual total HAP emissions are 9.41 tons per year. But based on the calculations presented, the HDI, which is only in the topcoat, is emitted at 0.32 ton per year, even though as indicated in 5)b) above, the HDI emission rate is actually higher when the GC-1712 topcoat is used (0.48 ton per year). Thus the emissions table in Section II of the application will need to be corrected because the potential HAP emissions from the cleanup material presented in the HAP emissions table are 5.2 tons per year so it appears that HDI is likely not the highest individual HAP. In addition, the HAP emission rate table on page 1 of the calculations does not detail the

HAP contributions from the cleanup solvent used, so it is unclear what HAPs would be emitted and at what rates. This information needs to be presented once the correct annual cleanup solvent use rate is determined in response to item #4, above.

- 6) No air toxics modeling information was provided with the application. Emissions rates for HDI and MDI, when calculated properly, demonstrate that potential emissions of these two HAPs are less than one ton per year and are therefore not subject to air toxics modeling. However, the cleanup solvent used contains several HAPs, including toluene at 31%, by weight. If the cleanup solvent use re-evaluation determines that more than 970 gallons per year of cleanup solvent will be used when the amounts reclaimed or disposed are considered, potential toluene emissions would exceed one ton per year and air toxics modeling for this HAP would need to be completed and submitted.
- 7) Errors in the particulate calculations were discovered as well, and these calculations need to be corrected. As with the MDI calculations described in 5)d) above, the particulate emission calculations failed to include the three percent not captured by the booth and dry particulate filters as identified in the facility profile. As a result, the potential particulate emissions presented in the particulate emissions table have been underestimated. At the five gallons per hour use rate and after applying the 97% capture rate, the 65% transfer efficiency and the 99.84% control efficiency of the dry particulate filters, the worst case particulate emissions from topcoat use, based on GC-1712, would be 1.33 pounds per hour or 5.83 tons per year not accounting for the reduced coating use rate needed to ensure VOC emissions from EU K001 remain below 95 tons per year. The particulate emission rate calculated for the worst case primer, E2A819, is 1.57 pounds per hour or 6.88 tons per year not accounting for the reduced coating use rate necessary to comply with the 95 ton per year VOC limit.
- 8) The process flow diagram provided with the application only identifies one spray booth. However, the new coating line will actually consist of two booths, so the flow diagram must be updated to reflect this. Also, in addition to OC/VOC emissions, this EU will emit particulate and HAPs. These pollutants must be added to the flow diagram as well.
- 9) Item 6 of the EAC form for EU K001 indicates that the parts are cleaned via abrasive blasting. However, the application does not clarify whether the abrasive blasting occurs in the two permitted shot blast booths, EUs P001 and P002, or if the blasting operation is new. To ensure that additional air contaminant sources are not being installed as part of this project, the status of the abrasive blasting process needs to be better described.
- 10) Kimble Mixer should request administrative modification of FEPTIOs P0107290 and P0107797 because the current restriction on facility-wide VOC emissions of 84.7 tons based on a rolling, 12-month summation only applies to emissions units (EUs) R001-R004. While a restriction can be added to the FEPTIO for the new line (EU K001) to

Phil Raber
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restrict VOC emissions from all five EUs to 95 tons based on a rolling, 12-month average, updates to the restrictions in the permits for EUs R001-R004 are needed to ensure optimum flexibility and prevent the need to calculate separate 12-month rolling averages for EUs R001-R004 and for those EUs plus EU K001. To initiate this action, the company will need to submit administrative modification applications in Air Services for each of the two permits (required due to system design). The application is fairly short and easy to prepare. Fortunately, in response to your applications, I will be able to consolidate the two existing FEPTIOs into one. The new line FEPTIO would still be covered in a separate FEPTIO, but both new FEPTIOs would have the same expiration date.

Please submit the required information with your application and we will begin processing it as a new application. Note that OAC rule 3745-31-02 prohibits the construction, installation or modification of any air contaminant source (EU) without first obtaining a final permit to install.

If you have any questions concerning this letter or your application, please contact me at kim.reinbold@epa.ohio.gov or 740-380-5245.

Sincerely,



Kimbra L. Reinbold
Division of Air Pollution Control
Southeast District Office

KLR/mlm

cc: Bruce Weinberg, DAPC, SEDO
Mike Hopkins, Assistant Chief, Permitting, DAPC, CO
Matt Ayer, Ayer Quality Engineering LLC