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west virginia department of environmental protection

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**MEMORANDUM**

**To:** Beverly McKeone, NSR Program Manager

**From:** Ed Andrews, Engineer 

**Date:** February 1, 2016

**Subject:** Class II Administrative Update Request to Permit R13-3065A (R13-3065B) for Elementis Specialties, Inc.

On November 30, 2014, Elementis Specialties Inc. filed a request to administratively update Permit R13-3065A. This request is for storing vinyl acetate in Tank T-242 instead of acrylic acid and installing seven additional storage vessels. Only one vessel will be used for storing raw materials (di-isobutylene) and the other six vessels will be dedicated for finished product storage.

Elementis claims that these proposed changes would increase potential emissions but would not increase beyond the existing emission limits in Permit R13-3065A. The writer performed a comparison of Tank T-242 from switching the liquid to vinyl acetate from acrylic acid. Based on a maximum utilization of the liquid in the process, the increase in VOC and HAP emissions was less than 0.02 tpy.

The writer looked at the emissions from storing di-isobutylene in a permanent vessel in instead of totes. The VOC potential from Tank T-243 would be 0.86 tpy. Of this 0.86 tpy of VOCs, the breathing losses only account for 0.06 tpy, which would not be accounted for using totes.

These emission predictions by the writer were based on continuous use of these products on an annual basis, which is not realistic for batch manufacturing processes, without controls.

The writer reviewed the results of the Emission Master calculations from Permit Application R13-3065, and noticed that the vapor pressure off gases at the end of the batch process was contributed from water and inert gas. So, the potential for organic emissions, as VOCs or HAPs would be nearly zero from the finished product would be nearly zero. Which makes sense that one of the main uses of the finished product is for thickeners for paints.

R13-3065A requires the emissions from the facility to be determined for each month to determine compliance with one of the short term limits (lb/hr or lb/24 hours) and the annual limits. Elementis used Emission Master in Permit Application R13-3065 and at the facility to determine the actual emissions from the facility.

All of the proposed new vessels will have a maximum storage capacity of 50,000 liters (13,210 gallons), which is less than the size trigger threshold for Subpart Kb to Part 60. The new vessel would not be subject to any federal or state emission standards.

The additional storage vessels creates new emission points that were not noted in Permit R13-3065A. Thus, there is a potential for an emission increase from the process and thus a Class II Administrative Update was filed. As part of this request, Elementis paid the correct filing fee and published a Class I Legal Ad on December 2, 2015 in the Wetzel Chronicle.

In past applications, Elementis had specifically requested flexibility to change formulation of recipes to be built in the permit. To accommodate this request, the permit contained only emission limits and the requirement to demonstrate compliance with the limits at the end of the month. Elementis proposed the following to be added as a separate condition:

“The facility may change the product recipes if the changes do not exceed the VOC and HAP emissions specified in this permit.”

The writer believes that the proposed change needs to include the Toxic Air Pollutant (TAP) threshold values established in Table A of Rule 27. Without including the TAP threshold values, the application could make changes without undergoing BAT review in accordance with Rule 27. Thus, the following condition was added to the permit as Condition 4.1.3.

“The facility may change the product recipes if the changes do not exceed the VOC and HAP emissions specified in this permit and the Toxic Air Pollutants rates listed in Table A to 45 CSR 27.

**[45 CSR §13-2.17.c.]**

Changes to Permit R13-3065B are updating Table 1.0., and removing the phase “Phase II process units” and replacing it with “Dispersants and HASE units” in Conditions 4.1.1., 4.1.2., and 4.2.1. The current monitoring and record keeping conditions will cover the additional equipment, which required the emissions to be determined based on actual operating parameters at the end of each month.

Therefore, the writer recommends to the Director to grant Elementis Specialties Inc. a Class II Administrative Update by issuing Permit R13-3065B in accordance with 45 CSR 13.