

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

B894845311

FACILITY: Keystone Universal Corporation		SRN / ID: B8948
LOCATION: 18400 Rialto, MELVINDALE		DISTRICT: Detroit
CITY: MELVINDALE		COUNTY: WAYNE
CONTACT: Cam Bowman, Quality and Regulatory Compliance Manager		ACTIVITY DATE: 07/25/2018
STAFF: Jonathan Lamb	COMPLIANCE STATUS: Compliance	SOURCE CLASS: <i>Minor</i>
SUBJECT: Targeted inspection, FY 2018		
RESOLVED COMPLAINTS:		

INSPECTED BY: Jonathan Lamb, MDEQ-AQD

PERSONNEL PRESENT: Cam Bowman, Quality and Regulatory Compliance Manager; Shelly Toenniges, President

FACILITY PHONE NUMBER: (313) 388-0060

**FACILITY BACKGROUND:**

Keystone Universal is a distributor of ammonium carbonate, which is used in the chemical, pharmaceutical, and food (baking) industries. The facility is located in a mixed residential/light industrial area in Melvindale, and has operated in this location since the mid-1980's. The facility operates Monday through Friday, 7:30 AM to 3:00 PM, and has seven employees. The parent company is Ebonex, which is located nearby at 2380 S. Wabash; however, the main office for both facilities is located at Keystone Universal's address (18400 Rialto).

**COMPLAINT/COMPLIANCE HISTORY:**

There has not been a history of complaints against this facility. The facility was found to be in substantial compliance during the last inspection performed on November 30, 2006.

**PROCESS DESCRIPTION AND INSPECTION NARRATIVE:**

Keystone Universal processes, repackages, and distributes food-grade ammonium carbonate for the chemical, pharmaceutical, and food production industries. Ammonium carbonate is used as a catalyst in the production of various chemicals and pharmaceuticals, and as a leavening agent in baking (more commonly known as "baker's ammonia"). Keystone does not produce ammonium carbonate at this facility; it receives bulk ammonium carbonate from other manufacturers (BASF and Esseco are the main suppliers). The bulk ammonium carbonate is received as powder and lump grades; powder grades are received in either 25-kilogram bags or one-ton Rhino bags and lump grades are received in 25-kilogram bags.

Processing is performed in the Production Room. Bags are dumped into a hopper and emptied onto a shaker table which allows the material to separate for visual inspection. The material is then conveyed to a crusher (lump grade) or pulverizer (powder grade) to break up the material. From there, it is conveyed to an upright shaker with a screening system and then re-packaged. The finished product is packaged in various quantities, including one-pound jars, 110 to 300-pound drums, and 550-pound totes. Emissions from operations in the Production Room are controlled by a water scrubber, which is located in an adjacent room and runs continuously during operating hours.

Upon entering the facility, I immediately noticed ammonia odors inside the office and continued to notice these odors throughout the facility. However, these odors were not noted outside the building during my walk around the facility property during the inspection. In addition, I did not observe odors while performing odor surveillance in the neighborhood before and after the inspection. The facility was processing ammonium carbonate throughout the duration of my site visit.

During the inspection, I was notified by Mr. Bowman that the previous scrubber had been replaced by an equivalent impingement wet scrubber in January 2015. Based on information provided by the manufacturer to the facility, the following design specifications of the current scrubber were noted:

Model: Sly Impinjet #120

Serial Number: 17527

Manufacture Date: January 2015

Scrubber Solution: Water  
Liquid Flow Rate: 1 gallon per minute @ 20 psig per 1000 cfm at 70 F  
Gas Flow Rate: 1575 cfm  
Inlet Loading: 3 lb. per 8-hour workday  
Pressure Drop: 2.5" wg (note: scrubber is not equipped with a flow meter)  
Removal Efficiency: Not Provided

AQD does not have information on the scrubber originally permitted by Wayne County, but this scrubber seems to be sufficiently controlling particulate and odors from the facility and is the same type of scrubber ("Impinjet water scrubber") originally permitted. Based on this, AQD has determined that this replacement scrubber appears to meet the exemption requirements of R.285(2)(d) as "...replacement of air pollution control equipment with equivalent or more efficient equipment."

#### **APPLICABLE RULES/ PERMIT CONDITIONS:**

Keystone Universal operates under Wayne County Permit No. C-8557, which was issued on August 28, 1991, for an "Ammonium Carbonate grinding, screening, and bagging operation controlled with an impinjet water scrubber." This permit supersedes Wayne County Permit C-7757 and C-7904, though these permits do not appear to have been voided. For this inspection, records from January 2016 through June 2018 were reviewed to determine compliance.

#### **Wayne County Permit No. C-8557, Special Conditions:**

16. IN COMPLIANCE. No visible emissions were observed coming from the stack while the facility was in production during the inspection.
17. IN COMPLIANCE. Facility operates approximately 7.5 hours per day, 5 days per week, 52 weeks per year, which is in compliance with the permit limit of 16 hours per day, 6 days per week, 52 weeks per year.
18. IN COMPLIANCE. Based on a review of production records, the facility was in compliance with the permit limit of 5,000 tons of ammonium carbonate processed per year. The facility processed 721 tons in 2016, 733 tons in 2017, and 368 tons from January through June 2018.
19. IN COMPLIANCE. The scrubber was in operation during the inspection while material was being processed in the Production Room.
20. NOT EVALUATED. Facility has not been required to test for particulate emission rates from the scrubber. This condition is assumed to be in compliance based on proper operation of the scrubber, and compliance with S.C. 16.
21. IN COMPLIANCE. Scrubber stack appears to meet the minimum permit height of 26 feet above ground level.
22. NOT APPLICABLE. AQD has not received complaints of odors from this facility nor detected off-site odors in violation of Rule 901, so there has been no reason to request an odor abatement plan.

#### **FINAL COMPLIANCE DETERMINATION:**

At the time of inspection, Keystone Universal was determined to be in compliance with the conditions of Wayne County Permit No. C-8557 and applicable State and federal rules and regulations. Wayne County Permit Nos. C-7757 and C-7904 will be voided.

NAME JK

DATE 8-28-18

SUPERVISOR JK