

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

ACTIVITY REPORT: Self Initiated Inspection

FY 2014 Insp

U6311044724875

FACILITY: SABIC Innovative Plastics Company	SRN / ID: U63110447
LOCATION: 31220 Oak Creek Road, Wixom	DISTRICT: Southeast Michigan
CITY: Wixom	COUNTY: OAKLAND
CONTACT:	ACTIVITY DATE: 03/07/2014
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance
SUBJECT: FY 2014 self-initiated inspection of SABIC Innovative Plastics Company ("SABIC"), fka EXTEC, LLC, a prototype, R&D, testing company for polycarbonate windows and windshield	SOURCE CLASS:
RESOLVED COMPLAINTS:	

E-file: U63 11 0447 - SAR - 2014 03 07

SABIC Innovative Plastics Company (U-63-11- 0447)
fka EXTEC, LLC
31220 Oak Creek Road
Wixom, Michigan 48393-2432

On March 07, 2014, I conducted a level-2 self-initiated inspection of SABIC Innovative Plastics Company ("SABIC"), fka EXTEC, LLC, a prototype, R&D, testing company for polycarbonate windows and windshield, located at 31220 Oak Creek Road, Wixom, Michigan 48393-2432. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451 and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the inspection, Mr. Bien (Billy) T. Bui (Phone: 248-926-4267; Fax: 248-960-1143; E-mail: bien.bui@sabic-ip.com), Facilities Manager, assisted me.

Mr. Mike DeLuka (Phone: 248-926-4210; Fax: 248-960-1143; Cell: 248-787-3226; E-mail: mdeluka@exatech.biz), Environmental, Health & Safety Manager, was not available.

EXATEC, LLC was a joint venture between Bayer Materials and GE Plastics. SABIC, a Saudi Arabia based industrial chemicals company, bought GE plastics in 2008. Subsequently, it also bought all outstanding Bayer shares. About 60 employees are present this site.

Sabic developed new range of Lexan GLX polycarbonate resins for automotive glazing. Lexan GLX polycarbonate resins are already used in high performance racing vehicles. Polycarbonate is 50 percent lighter than glass.

At Wixom site, a small-scale production for prototypes is done. The facility develops polycarbonate windows and windshield for cars and trucks. SABIC develops coatings for polycarbonate applications including R & D, testing and prototype. At Wixom facility, SABIC employs total of 60 employees: 20 in production and the rest in sales, service and marketing. Polycarbonate windows in cars and trucks can reduce vehicle weigh; lower weight helps improve mileage (miles / gallon).

Thermal Injection

One Thermal Injection (one-component) molding machine for windows production is present. Release coatings are not used. About 200 gallons / month of IPA alcohol is used for cleaning and waste IPA is disposed of according to RCRA.

Zoned heater is controlled for temperature based upon material. A robot is present to install the part.

Thermal Injection molding machine is exempt from Rule 336.1201 pursuant to Rule 336.1286.

One 10 ft * 6 ft spray booth

One spray booth, which uses about 0 (idle) gallon month of paints / coatings is present. The booth is equipped with dry filter system towards the back. The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(c).

During the FY2011 inspection, I found holes and gaps in the dry filter system. I asked Mr. DeLuka to install the filters such that they fit, at all times, snugly without gaps and holes. I also asked him to keep records of paint and solvent usage.

Mr. Bien (Billy) Bui stated that the booth has been idle since January 2013; it is now used as storage space.

Silkscreen printing machines - idle

Two silkscreen printing machines are present to draw designs on polycarbonate windows. The silkscreen printing is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(e).

Silkscreen cleaning booth uses Easyway (C-99) solvent. FP = 200 °F. BP = 446 °F. SG = 0.8. Silkscreen machines are hardly used for the last couple of years (CY2012-2014).

VOC Control Room

Plaques are cleaned using IPA rags. Plaques are then cleaned using deionized air. Water based primer is applied and thermally cured. Window is cooled. Then solvent based topcoat is applied. Topcoat is flashed off. Topcoat is thermally cured. Both primer and topcoat coating is done in the same room. One natural gas fired oven (170 °F) is present.

The VOC control room is 1,000 Class Clean Room based upon particulate matter (PM) in the room. Overhead conveyor is present.

VOCs from the entire room, which has a total enclosure, are controlled using a natural gas fired thermal oxidizer (1.25 MM BTU per hour) maintained at 1200 °F. A log of oxidizer temperature is maintained. VOC laden air flow is 100 cfm. Thermal oxidizer is made by Consolidated Engineering Company of Atlanta, Georgia (Serial No.: 12532; Model: Thermal Oxidizer; Date: 05/13/2008; Max heat input: 1.25 MM BTU per hour).

60 gallons per month of water based primer and 60 gallons per month of solvent based topcoat are used.

The booth / room is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287 (c).

Plasma coating chamber

This is plasma enhanced chemical vapor deposition process.

Windows are loaded and locked in the plasma coating chamber. Heating station heats a window. At station #1, layer #1 is deposited. At station #2, layer #2 is deposited for durability. Plasma coating chamber is under vacuum (40 milli Torr). Argon arc plasma generator deposits silicone salaxine coatings. The exhaust from the chamber is pumped using four stages. All contaminants are condensed by cooling. Purified air is exhausted via a stack.

1 Torr = 1/760 atm. 1 atm = 101,325 Pascals (Pa). 1 bar = 100 kilo Pascal (kPa). 1 Pa = 1 N/m².

The chamber is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1283 because all work is R&D, prototype.

Safety-Kleen cold cleaner

In CY 2001, Safety-Kleen cold cleaner was removed. There is no cold-cleaner at the site anymore.

Conclusion

All process equipment are exempt from Rule 201 (Permit-to-Install) but subject to regulations.

NAME J. Skenanahall DATE 04/14/2014 SUPERVISOR CTE