

TECHNICAL FACT SHEET

January 9, 2024

Purpose and Summary

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), is proposing to act on Permit to Install (PTI) application No. APP-2023-0147 from Universal Coating, Inc. (Universal). Universal operates an existing facility located at 5204 Energy Drive in Flint, Michigan. The permit application is for the proposed installation and operation of two new tumble spray coating lines. The proposed project is subject to permitting requirements of the Department's Rules for Air Pollution Control. Prior to acting on this application, the AQD is holding a public comment period and a public hearing, to allow all interested parties the opportunity to comment on the proposed PTI. All relevant information received during the comment period and hearing, will be considered by the decision maker prior to taking final action on the application.

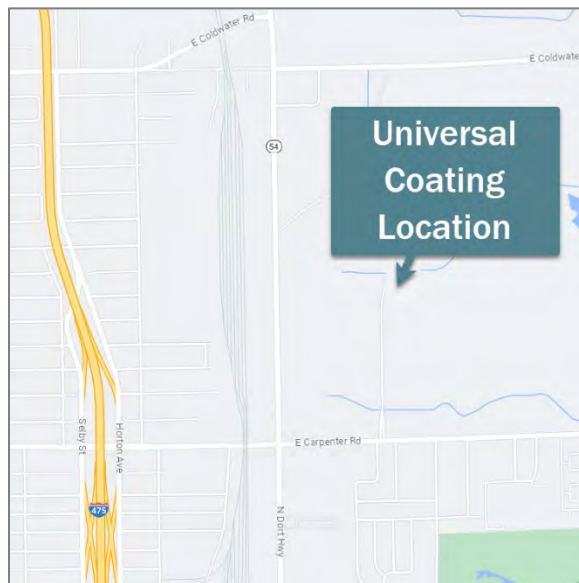


Figure 1: Location of Universal Coating, Inc.

Background Information

Universal is an existing manufacturer of miscellaneous metal and plastic parts focused mainly on the automotive industry but serves other various industries as well. The facility has operations that consist of sand blasting, metal repair, phosphating, color coating, and adhesive coating. These processes operate under [Renewable Operating Permit \(ROP\) No. MI-ROP-N7256-2017a](#).

Present Air Quality

The facility is located in Genesee County, which is currently meeting all of the National Ambient Air Quality Standards (NAAQS) set by the United States Environmental Protection Agency. The air quality standards are for particulate matter less than or equal to 10 microns in diameter, particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, and lead. All of the NAAQS are set at levels designed to protect public health, including sensitive populations.

The AQD operates an air monitoring station in Genesee County. The Genesee station measures PM_{2.5} and ozone. Please note that the purpose of the air monitoring stations is to assess the regional or area-wide air quality and is not used to determine if a specific source is in compliance with their air permit.

Pollutant Emissions

The proposed two new tumble spray coating lines will not increase emissions above the existing emission limits in Universal's current ROP.

Key Permit Review Issues

Staff evaluated the proposed project to identify all state rules and federal regulations which are, or may be, applicable. The tables in Appendix 1 summarize these rules and regulations.

- **Federal NESHAP Regulations**

National Emission Standards for Hazardous Air Pollutants (NESHAP) were established under 40 CFR Part 63. The proposed two new tumble spray coating lines will be subject to the NESHAP for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR Part 63 Subpart MMMM, and the NESHAP for Surface Coating of Plastic Parts and Products, 40 CFR Part 63 Subpart PPPP. These requirements are already contained in Universal's current ROP because the facility is subject to Subpart MMMM and PPPP because the facility is a major source of Hazardous Air Pollutant emissions.

- **Rule 224 TBACT Analysis**

Michigan Air Pollution Control Rule 224 requires Best Available Control Technology (BACT) for toxic air contaminants (TACs) which is called T-BACT. T-BACT requirements are satisfied through acetone and methyl acetate emission limits for the proposed two new coating lines (written as a combined volatile organic compound (VOC), acetone, and methyl acetate limit in the proposed permit), as well as proper operation of the existing Regenerative Thermal Oxidizer (RTO) used to control the two new tumble spray coating lines.

- **Rule 225 Toxics Analysis**

EGLE Rules for Air Pollution Control require the ambient air concentration of TACs be compared against health-based screening levels. AQD staff reviewed Universal's air quality modeling and evaluation of TAC impacts. The review found that all TACs show impacts less than the established health-based screening levels and will comply with the requirements of Rule 225. The methyl isobutyl ketone limit was established in the previous permit to restrict the emissions below the initial threshold screening level (ITSL). This limit was carried forward from the previous permit and remains unchanged. The ethylbenzene limit was also established in the previous permit and carried forward to restrict emissions below the secondary risk screening level (SRSL) using Rule 225(3)(b). Rule 225(3)(b) allows 10 times the SRSL on industrial property or public roadways to evaluate the acceptability of facility-wide ethylbenzene emissions. All impacts from ethylbenzene that were above the SRSL are on industrial property or public roadways. All non-industrial and non-public roadway land is below the SRSL; therefore, ethylbenzene is compliant with Rule 225(3)(b). There is a requirement in the proposed permit that the facility must notify the AQD if a change of land use occurs and provide an updated Rule 225 compliance demonstration. The limits and impacts are shown in Table A below:

Table A. Toxic Air Contaminant Impacts

CAS No.	Toxic Air Contaminant	Potential Emission Rate	Pollutant Impact ($\mu\text{g}/\text{m}^3$)*	Screening Level ($\mu\text{g}/\text{m}^3$)*	Averaging Time	Percent (%) of Screening Level
108-10-1	Methyl Isobutyl Ketone	4.6 tons per year (tpy)	160.05	820	8 hour	19.5 of the ITSL
100-41-4	Ethylbenzene	2.04 pounds per hour (lb/hr)	8.78	40	Annual	21.9 of the SRSL

* $\mu\text{g}/\text{m}^3$ – micrograms per cubic meter

- **Rule 702 VOC Emissions**

This rule requires an evaluation of the following four items to determine what will result in the lowest maximum allowable emission rate of VOCs:

- BACT or a limit listed by the department on its own initiative
- New Source Performance Standards
- VOC emission rate specified in another permit
- VOC emission rate specified in the Part 6 rules for existing sources

An evaluation of these four items determined that, under Rule 702(a), VOC BACT for the proposed two new tumble spray coating lines is a VOC limit and proper operation and maintenance of the existing permanent total enclosure and the RTO. The VOC limit is proposed as a combined limit for VOCs, acetone, and methyl acetate in FG-RTO of the proposed permit. In addition, the enclosure for the coating lines will be required to meet all of the necessary requirements to operate as a permanent total enclosure.

Key Aspects of Proposed Permit Conditions

- **Emission Limits (By Pollutant)**

The proposed permit includes a combined limit for VOCs, acetone, and methyl acetate, as well as a methyl isobutyl ketone limit for all coating lines, established in the previous permit. The emission limits now include the two new tumble spray coating lines. VOC emissions are controlled by the existing RTO and particulate emissions are captured by dry fabric filters near the applicators.

- **Process/Operational Restrictions**

The proposed permit includes process and operational restrictions, including a malfunction abatement plan and requirements to ensure that the permanent total enclosure meets all the necessary requirements to operate as a permanent total enclosure.

- **Federal Regulations**

The proposed two new tumble spray coating lines are subject to the NESHAP for Surface Coating of Miscellaneous Metal Parts, 40 CFR Part 63 Subpart Mmmm. The proposed coating lines are also subject to the NESHAP for Surface Coating of Miscellaneous Plastic Parts, 40 CFR Part 63 Subpart Pppp. The facility's ROP contains these limits which the two new lines will be subject to.

- **Emission Control Device Requirements**

The proposed permit includes emission control device requirements. The proposed coating lines will be required to control the VOC and TAC emissions with the existing permanent total enclosure and RTO. Exhaust filters are also required to be installed and operated properly to control particulate emissions from the spray coating lines.

- **Testing & Monitoring Requirements**

The proposed permit includes the following requirements for the coating lines routed to the RTO:

- Verify VOC capture efficiency and destruction efficiency of the RTO through performance testing.
- Verify VOC content, water content, and density of any coatings applied using federal Reference Test Method 24.

Conclusion

Based on the analyses conducted to date, AQD staff concludes that the proposed project would comply with all applicable state and federal air quality requirements. AQD staff also concludes that this project, as proposed, would not violate the federal NAAQS or the state and federal Prevention of Significant Deterioration Increments.

Based on these conclusions, AQD staff have developed proposed permit terms and conditions which would ensure that the proposed facility design and operation are enforceable and that sufficient monitoring, recordkeeping, and reporting would be performed by the applicant to determine compliance with these terms and conditions. If the permit application is deemed approvable, the delegated decision maker may determine a need for additional or revised conditions to address issues raised during the public participation process.

If you would like additional information about this proposal, please contact Nicholas Carlson, AQD, at 517-582-5160 or CarlsonN1@Michigan.gov.

Appendix 1
STATE AIR REGULATIONS

State Rule	Description of State Air Regulations
R 336.1201	Requires an Air Use Permit for new or modified equipment that emits, or could emit, an air pollutant or contaminant. However, there are other rules that allow smaller emission sources to be installed without a permit (see Rules 336.1279 through 336.1290 below). Rule 336.1201 also states that the Department can add conditions to a permit to assure the air laws are met.
R 336.1205	Outlines the permit conditions that are required by the federal Prevention of Significant Deterioration (PSD) Regulations and/or Section 112 of the Clean Air Act. Also, the same types of conditions are added to their permit when a plant is limiting their air emissions to legally avoid these federal requirements. (See the Federal Regulations table for more details on PSD.)
R 336.1224	New or modified equipment that emits toxic air contaminants must use the Best Available Control Technology for Toxics (T-BACT). The T-BACT review determines what control technology must be applied to the equipment. A T-BACT review considers energy needs, environmental and economic impacts, and other costs. T-BACT may include a change in the raw materials used, the design of the process, or add-on air pollution control equipment. This rule also includes a list of instances where other regulations apply and T-BACT is not required.
R 336.1225 to R 336.1232	The ambient air concentration of each toxic air contaminant emitted from the project must not exceed health-based screening levels. Initial Risk Screening Levels (IRSL) apply to cancer-causing effects of air contaminants and Initial Threshold Screening Levels (ITSL) apply to non-cancer effects of air contaminants. These screening levels, designed to protect public health and the environment, are developed by Air Quality Division toxicologists following methods in the rules and U.S. EPA risk assessment guidance.
R 336.1279 to R 336.1291	These rules list equipment to processes that have very low emissions and do not need to get an Air Use permit. However, these sources must meet all requirements identified in the specific rule and other rules that apply.
R 336.1301	Limits how air emissions are allowed to look at the end of a stack. The color and intensity of the color of the emissions is called opacity.
R 336.1331	The particulate emission limits for certain sources are listed. These limits apply to both new and existing equipment.
R 336.1370	Material collected by air pollution control equipment, such as dust, must be disposed of in a manner, which does not cause more air emissions.
R 336.1601 to R 336.1651	Volatile organic compounds (VOCs) are a group of chemicals found in such things as paint solvents, degreasing materials, and gasoline. VOCs contribute to the formation of smog. The rules set VOC limits or work practice standards for existing equipment. The limits are based upon Reasonably Available Control Technology (RACT). RACT is required for all equipment listed in Rules 336.1601 through 336.1651.
R 336.1702	New equipment that emits VOCs is required to install the Best Available Control Technology (BACT). The technology is reviewed on a case-by-case basis. The VOC limits and/or work practice standards set for a particular piece of new equipment cannot be less restrictive than the Reasonably Available Control Technology limits for existing equipment outlined in Rules 336.1601 through 336.1651.
R 336.1910	Air pollution control equipment must be installed, maintained, and operated properly.
R 336.2001 to R 336.2060	Allow the Department to request that a facility test its emissions and to approve the protocol used for these tests.

STATE AIR REGULATIONS

Citation	Description of Federal Air Regulations or Requirements
<p>Section 109 of the Clean Air Act – National Ambient Air Quality Standards (NAAQS)</p>	<p>The United States Environmental Protection Agency has set maximum permissible levels for seven pollutants. These NAAQS are designed to protect the public health of everyone, including the most susceptible individuals, children, the elderly, and those with chronic respiratory ailments. The seven pollutants, called the criteria pollutants, are carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), and sulfur dioxide (SO₂). Portions of Michigan are currently non-attainment for either ozone or SO₂. Further, in Michigan, State Rules 336.1225 to 336.1232 are used to ensure the public health is protected from other compounds.</p>
<p>40 CFR 52.21 – Prevention of Significant Deterioration (PSD) Regulations</p> <p>Best Available Control Technology (BACT)</p>	<p>The PSD regulations allow the installation and operation of large, new sources and the modification of existing large sources in areas that are meeting the NAAQS. The regulations define what is considered a large or significant source, or modification.</p> <p>In order to assure that the area will continue to meet the NAAQS, the permit applicant must demonstrate that it is installing BACT. By law, BACT must consider the economic, environmental, and energy impacts of each installation on a case-by-case basis. As a result, BACT can be different for similar facilities.</p> <p>In its permit application, the applicant identifies all air pollution control options available, the feasibility of these options, the effectiveness of each option, and why the option proposed represents BACT. As part of its evaluation, the Air Quality Division verifies the applicant's determination and reviews BACT determinations made for similar facilities in Michigan and throughout the nation.</p>
<p>40 CFR 60 – New Source Performance Standards (NSPS)</p>	<p>The United States Environmental Protection Agency has set national standards for specific sources of pollutants. These New Source Performance Standards (NSPS) apply to new or modified equipment in a particular industrial category. These NSPS set emission limits or work practice standards for over 60 categories of sources.</p>
<p>40 CFR 63— National Emissions Standards for Hazardous Air Pollutants (NESHAP)</p>	<p>The United States Environmental Protection Agency has set national standards for specific sources of pollutants. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) (a.k.a. Maximum Achievable Control Technology (MACT) standards) apply to new or modified equipment in a particular industrial category. These NESHAPs set emission limits or work practice standards for over 100 categories of sources.</p>
<p>Section 112 of the Clean Air Act</p> <p>Maximum Achievable Control Technology (MACT)</p> <p>Section 112g</p>	<p>In the Clean Air Act, Congress listed 189 compounds as Hazardous Air Pollutants (HAPS). For facilities which emit, or could emit, HAPS above a certain level, one of the following two requirements must be met:</p> <ol style="list-style-type: none"> 1) The United States Environmental Protection Agency has established standards for specific types of sources. These Maximum Achievable Control Technology (MACT) standards are based upon the best-demonstrated control technology or practices found in similar sources. 2) For sources where a MACT standard has not been established, the level of control technology required is determined on a case-by-case basis.

Notes: An “Air Use Permit,” sometimes called a “Permit to Install,” provides permission to emit air contaminants up to certain specified levels. These levels are set by state and federal law, and are set to protect health and welfare. By staying within the levels set by the permit, a facility is operating lawfully, and public health and air quality are protected.

The Air Quality Division does not have the authority to regulate noise, local zoning, property values, off-site truck traffic, or lighting.

These tables list the most frequently applied state and federal regulations. Not all regulations listed may be applicable in each case. Please refer to the draft permit conditions provided to determine which regulations apply.