# MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

November 8, 2007

### **PERMIT TO INSTALL**

No. 541-88A

## **ISSUED TO**

Clariant Corporation - Masterbatches Division

#### LOCATED AT

926 Elliott Road Albion, Michigan 49224

## IN THE COUNTY OF

Calhoun

# STATE REGISTRATION NUMBER

N1126

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

| DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: 10/29/2007 |            |  |  |
|---|------------|--|--|
| DATE PERMIT TO INSTALL APPROVED: 11/8/2007                          | SIGNATURE: |  |  |
| DATE PERMIT VOIDED:   | SIGNATURE: |  |  |
| DATE PERMIT REVOKED:  | SIGNATURE: |  |  |

# **PERMIT TO INSTALL**

# **Common Abbreviations / Acronyms**

| AQD         Air Quality Division         Btu         British Thermal Unit           BACT         Best Available Control Technology         °C         Degrees Celsius           CAA         Clean Air Act         CO         Codronthouous Emission Monitoring         dscf         Dry standard cubic foot           CFR         Code of Federal Regulations         dscm         Dry standard cubic meter           COM         Continuous Opacity Monitoring         °F         Degrees Fahrenheit           EPA         Environmental Protection Agency         gr         Grains           EPA         Environmental Protection Agency         gr         Grains           EU         Emission Unit         Hg         Mercury           FG         Flexible Group         hr         Hour           GACS         Gallon of Applied Coating Solids         Hg2         Hydrogen Sulfide           GC         General Condition         hp         Horsepower           HAP         Hazardous Air Pollutant         lb         Pound           HVLP         High Volume Low Pressure*         mg         Milligram           MAERS         Marimum Achievable Control         Milligram         Milligram           MAERS         Milligram         Milligram         Milligram<   | Common Acronyms |                                   | Pollutant/Measurement Abbreviations |                              |
|--|-----------------|-----------------------------------|-------------------------------------|------------------------------|
| CAA Clean Air Act CEM Continuous Emission Monitoring CFR Code of Federal Regulations COM Continuous Opacity Monitoring EPA Environmental Protection Agency EU Emission Unit FG Flexible Group GACS Gallon of Applied Coating Solids GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure* ID Identification LAER Lowest Achievable Emission Rate MACT Maximum Achievable Control Technology Michigan Air Emissions Reporting System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NSPS New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SC Special Condition Number SCR Selective Catalytic Reduction TTCQ Toxicity Equivalence Quotient  CO Carbon Monoxide dscf Dry standard cubic foot Dry Harb Mercury Hour Hour Hour Hour Hour Hour Hour Hour  | AQD             | Air Quality Division              | Btu                                 | British Thermal Unit         |
| CEM Continuous Emission Monitoring CFR Code of Federal Regulations COM Continuous Opacity Monitoring EPA Environmental Protection Agency EU Emission Unit FG Flexible Group GACS Gallon of Applied Coating Solids GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * ID Identification LAER Lowest Achievable Emission Rate MACT Technology MAERS Michigan Air Emissions Reporting System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP RES NEW Source Review PS PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install Reasonably Available Control Technology ROP Renewable Operating Permit SC Sc Selective Catalytic Reduction TEQ Toxicity Equivalence Quotient  Monitoring Serb Protection Agency Propages Fahrenheit gr Degrees Fahrenheit gr Degrees Fahrenheit gr Degrees Fahrenheit gr PF Grains Degrees Fahrenheit gr Grains Hy Mercury hr Hour Hour Hour Hour Hour Hour Hour Hou  | BACT            | Best Available Control Technology | °C                                  | Degrees Celsius              |
| CFR Code of Federal Regulations COM Continuous Opacity Monitoring EPA Environmental Protection Agency EU Emission Unit FG Flexible Group GACS Gallon of Applied Coating Solids GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * IID Identification LAER Lowest Achievable Emission Rate MACT Maximum Achievable Control Technology MAERS System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Meerial Safety Data Sheet NESHAP NESHAP NESHAP NESHAP NESHAP NESHAP NESHAP NESHAP NESHAP PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  Mercury FG Degrees Fahrenheit gr Grains Hg Mercury FF Degrees Fahrenheit gr Grains Hg Mercury FF Degrees Fahrenheit gr Grains Hg Mercury FF Degrees Fahrenheit gr Grains Hg Mercury FH Hour Hour Hour Hour Heys Hydrogen Sulfide hp Horsepower In Hour Hays Hydrogen Sulfide hp Horsepower In Meter MM Million  MW Megawatts MM Million  MW Megawatts MN Mox Oxides of Nitrogen MN Ox Oxides of Nitrogen PM Particulate Matter PM-10 microns diameter pph Pounds per hour ppm Parts per million by volume Parts per million by volume Parts per million by volume Parts per million by weight psia Pounds per square inch absolute psig Pounds per square inch absolute psig Pounds per square inch absolute psig Pounds per square inch gauge Scf Standard cubic feet Sec Seconds SO <sub>2</sub> Sulfur Dioxide THC Total Hydrocarbons typ Tons per year TAC Toxic Air Contaminant py Microgram VOC Volatile Organic Compound   | CAA             | Clean Air Act                     | CO                                  | Carbon Monoxide              |
| COM         Continuous Opacity Monitoring         °F         Degrees Fahrenheit           EPA         Environmental Protection Agency         gr         Grains           EU         Emission Unit         Hg         Mercury           FG         Flexible Group         hr         Hour           GACS         Gallon of Applied Coating Solids         H₂S         Hydrogen Sulfide           GC         General Condition         hp         Horsepower           HAP         Hazardous Air Pollutant         lb         Pound           HVLP         High Volume Low Pressure *         m         Meter           ID         Identification         m         Meter           LAER         Lowest Achievable Emission Rate         mm         Milligram           MACT         Maximum Achievable Control         mm         Milligram           MAERS         Michigan Air Emissions Reporting         MW         Megawatts           MAP         Malfunction Abatement Plan         MW         Megawatts           MDEQ         Michigan Department of Environmental         NOx         Oxides of Nitrogen           NESHAP         New Source Performance Standards         PM         Particulate Matter           NSPS         New Source Review  | CEM             | Continuous Emission Monitoring    | dscf                                | Dry standard cubic foot      |
| EPA Environmental Protection Agency EU Emission Unit FG Flexible Group GACS Gallon of Applied Coating Solids GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * ID Identification LAER Lowest Achievable Emission Rate MACT Technology MAERS System MAP Malfunction Abatement Plan MDEQ Quality MSDS Material Safety Data Sheet NESHAP NESHAP New Source Performance Standards NSPS New Source Performance Standards NSPS New Source Performance Standards PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install PACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SC Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  Voo Volatile Organic Compound   | CFR             | Code of Federal Regulations       | dscm                                | Dry standard cubic meter     |
| EU Emission Unit FG Flexible Group GACS Gallon of Applied Coating Solids GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * ID Identification LAER Lowest Achievable Emission Rate MACT Technology MAERS System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP NESHAP NEN Source Performance Standards NSR New Source Performance Standards NSR New Source Performance Standards PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Technology ROP Renewable Operating Permit SC Special Condition Number SC Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  Hg Mercury hr Hour Hour Hour Hour Hour Hour Hour Hour   | СОМ             | Continuous Opacity Monitoring     | °F                                  | Degrees Fahrenheit           |
| FG Flexible Group GACS Gallon of Applied Coating Solids GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * ID Identification LAER Lowest Achievable Emission Rate MACT Maximum Achievable Control Technology MAERS MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NRSHAP National Emission Standard for Hazardous Air Pollutants NSR New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SC Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  Ned Material Safety Material Safety MMW Million MMW Million MMW Megawatts MPW Particulate Matter MPM-10 Microgen Davide MMW Million MPW Megawatts MPW Particulate Matter Particulate Matter less than 10 Microgen Davide Moral Million MMW Megawatts MPW Particulate Matter Particulate Matter Particulate Matter less than 10 Microgen Davide Safety Davide Pounds per million by volume Parts per million MPW Particulate Matter Particulate Matter less than 10 Microgram Microgram MOZ Oxides of Nitrogen PM Particulate Matter Particulate Matter Particulate Matter Particulate Matter Particulate Matter less than 10 Microgram MOZ Oxides of Nitrogen MMW Million MWW Megawatts  MPW Particulate Matter           | EPA             | Environmental Protection Agency   | gr                                  | Grains                       |
| GACS Gallon of Applied Coating Solids GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * ID Identification LAER Lowest Achievable Emission Rate MACT Maximum Achievable Control Technology MAERS System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP NESHAP NSPS New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TCQ Toxicity Equivalence Quotient  Meter MM Meter Mother Meter MM Million Meter MM Million MW Megawatts MM Million MW Megawatts MP Particulate Matter Particulate Matter Particulate Matter Particulate Matter Ph-10 Particulate Matter less than 10 microns diameter pph Pounds per hour ppm Parts per million by volume ppm Parts per million by volume ppm Parts per million by volume ppm Parts per million by weight pounds per square inch absolute psig Pounds per square inch absolute           | EU              | Emission Unit                     | Hg                                  | Mercury                      |
| GC General Condition HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * ID Identification LAER Lowest Achievable Emission Rate MACT Maximum Achievable Control Technology MAERS System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP National Emission Standard for Hazardous Air Pollutants NSR New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  MM Million MW Megawatts MMW Megawatts MMW Megawatts MMW Megawatts MPW Particulate Matter PAPH-10 microns diameter P           | FG              | Flexible Group                    | hr                                  | Hour                         |
| HAP Hazardous Air Pollutant HVLP High Volume Low Pressure * ID Identification LAER Lowest Achievable Emission Rate MACT Maximum Achievable Control Technology MAERS Michigan Air Emissions Reporting System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  MM Million MW Megawatts MMW Megawatts MMW Megawatts MMW Megawatts MPW Particulate Matter PM-10 Particulate Matter less than 10 microns diameter PM-10 Particulate Matter less than 10 micron           | GACS            | Gallon of Applied Coating Solids  | H <sub>2</sub> S                    | Hydrogen Sulfide             |
| HVLP High Volume Low Pressure * ID Identification  | GC              | General Condition                 | hp                                  | Horsepower                   |
| ID Identification LAER Lowest Achievable Emission Rate MACT Maximum Achievable Control Technology MAERS Michigan Air Emissions Reporting System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP National Emission Standard for Hazardous Air Pollutants NSPS New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  MM Million MW Megawatts MW Megawatts MW Megawatts MW Megawatts MW Megawatts MP Million MW Megawatts MW Megawatts MW Megawatts MW Megawatts MW Megawatts MP Particulate Matter Particulate Matter less than 10 microns diameter PH Particulate Matter less than 10 microns diameter Particulate Matter Pa           | HAP             | Hazardous Air Pollutant           | lb                                  | Pound                        |
| LAER Lowest Achievable Emission Rate MACT Technology MAERS Michigan Air Emissions Reporting System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP NESHAP NSPS New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TEQ Toxicity Equivalence Quotient  MM Million MW Megawatts MM Million MW Megawatts MM Million MW Megawatts MR Mw Megawatts MP Particulate Matter PAH-10 microns diameter PAH-10 microns diameter Particulate Matter P           | HVLP            | High Volume Low Pressure *        | m                                   | Meter                        |
| MACTMaximum Achievable Control Technology<br>Michigan Air Emissions Reporting System<br>MAPMMMillionMAPMalfunction Abatement Plan<br>Michigan Department of Environmental QualityMWMegawatts<br>MoxMSDSMaterial Safety Data Sheet<br>NESHAPPMParticulate MatterNESHAPNational Emission Standard for Hazardous Air Pollutants<br>NSRPMParticulate Matter less than 10 microns diameterNSRNew Source Performance Standards<br>NSRPhPounds per hourNSRNew Source Review<br>PSDPrevention of Significant Deterioration<br>PTEPpmParts per million<br>PmwPSDPrevention of Significant Deterioration<br>PTEPermit to Install<br>Reasonably Available Control<br>TechnologyPounds per square inch absolute<br>psigRACTReasonably Available Control<br>TechnologyScfStandard cubic feetROPRenewable Operating Permit<br>SCSpecial Condition Number<br>SCRSec Seconds<br>SCSCRSelective Catalytic Reduction<br>SRNState Registration Number<br>TACTOxic Air Contaminant<br>TOxicity Equivalence QuotientTHCTotal Hydrocarbons<br>TOXIcity Equivalence Quotient  | ID              | Identification                    | mg                                  | Milligram                    |
| MACT Technology Michigan Air Emissions Reporting System MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP NESHAP Neshap Neshap New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxicity Equivalence Quotient  MMW Megawatts Ndw  | LAER            | Lowest Achievable Emission Rate   | mm                                  | Millimeter                   |
| MAP Malfunction Abatement Plan MDEQ Michigan Department of Environmental Quality MSDS Material Safety Data Sheet NESHAP National Emission Standard for Hazardous Air Pollutants NSPS New Source Performance Standards NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  MINV Megawatts ng Nanogram NO <sub>x</sub> Oxides of Nitrogen PM Particulate Matter Particulate Particulate Particulate Particulate Particulate Particulate Particulate Particulate Particulate P | MACT            | Technology                        | MM                                  | Million                      |
| MDEQ Michigan Department of Environmental Quality  MSDS Material Safety Data Sheet  NESHAP National Emission Standard for Hazardous Air Pollutants  NSPS New Source Performance Standards  NSR New Source Review  PSD Performance Specification  PSD Prevention of Significant Deterioration  PTE Permanent Total Enclosure  PTI Permit to Install  RACT Reasonably Available Control Technology  ROP Renewable Operating Permit  SC Special Condition Number  SCR Selective Catalytic Reduction  SRN State Registration Number  TEQ Toxicity Equivalence Quotient  NO <sub>x</sub> Oxides of Nitrogen  PM Particulate Matter  PM-10 microns diameter  pph Pounds per hour  ppmw Parts per million by volume  ppmw Parts per million by weight  psia Pounds per square inch absolute  psig Pounds per square inch gauge  scf Standard cubic feet  Sco Seconds  SC Seconds  ThC Total Hydrocarbons  tpy Tons per year  Microgram  VOC Volatile Organic Compound   | MAERS           |                                   | MW                                  | Megawatts                    |
| MSDS Material Safety Data Sheet NESHAP National Emission Standard for Hazardous Air Pollutants NSPS New Source Performance Standards NSR New Source Review PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TEQ Toxicity Equivalence Quotient  PM Particulate Matter Particulate Matter less than 10 microns diameter Pa           | MAP             | Malfunction Abatement Plan        | ng                                  | Nanogram                     |
| NESHAPNational Emission Standard for<br>Hazardous Air PollutantsPM-10Particulate Matter less than 10<br>microns diameterNSPSNew Source Performance StandardspphPounds per hourNSRNew Source ReviewppmParts per millionPSPerformance SpecificationppmvParts per million by volumePSDPrevention of Significant DeteriorationppmwParts per million by volumePTEPermanent Total EnclosurepsiaPounds per square inch absolutePTIPermit to InstallpsigPounds per square inch gaugeRACTReasonably Available Control<br>TechnologyscfStandard cubic feetROPRenewable Operating PermitsecSecondsSCSpecial Condition NumberSO2Sulfur DioxideSCRSelective Catalytic ReductionTHCTotal HydrocarbonsSRNState Registration NumbertpyTons per yearTACToxic Air ContaminantμgMicrogramTEQToxicity Equivalence QuotientVOCVolatile Organic Compound   | MDEQ            |                                   | NO <sub>x</sub>                     | Oxides of Nitrogen           |
| NSPS New Source Performance Standards NSR New Source Review PS Performance Specification PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  Microns diameter ph Pounds per hour ppm Parts per million by volume ppmw Parts per million by weight ppmw Parts per million by weight psia Pounds per square inch absolute psig Pounds per square inch gauge scf Standard cubic feet Sc Seconds SC Seconds SC Sulfur Dioxide THC Total Hydrocarbons tpy Tons per year ppm Parts per million ppmv Parts per million by volume ppmw Parts per million by volume ppmw Parts per million by weight psia Pounds per square inch absolute psig Pounds per square inch gauge Scf Standard cubic feet The Total Hydrocarbons The Total Hydrocarbons Total Hydrocarbons The Total Hydrocarbons Total Hydrocarbons Total Hydrocarbons The Total Hydrocarbons Total Hydrocarbons The Total Hydrocarbons  | MSDS            | Material Safety Data Sheet        | PM                                  | Particulate Matter           |
| NSR New Source Review PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient Ppmw Parts per million by volume ppmw Parts per million by volume ppmw Parts per million by volume ppmw Parts per million ppmv Parts pe           | NESHAP          |                                   | PM-10                               |                              |
| PS Performance Specification PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  Pmw Parts per million by volume ppmw Parts per million by volume psia Pounds per square inch absolute psig Pound           | NSPS            | New Source Performance Standards  | pph                                 | Pounds per hour              |
| PSD Prevention of Significant Deterioration PTE Permanent Total Enclosure PTI Permit to Install Permit to Install Pechnology ROP Renewable Operating Permit SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient Ppmw Parts per million by weight psia Pounds per square inch absolute psig Pounds per square inch gauge Scf Standard cubic feet Scf Standard cubic feet Scf Sconds Sconds SC Seconds SCO2 Sulfur Dioxide THC Total Hydrocarbons ThC Total Hydrocarbons ThC Tons per year Microgram VOC Volatile Organic Compound   | NSR             | New Source Review                 | ppm                                 | Parts per million            |
| PTE Permanent Total Enclosure PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  Psia Pounds per square inch absolute psig Pounds per square inc           | PS              | Performance Specification         | ppmv                                | Parts per million by volume  |
| PTI Permit to Install RACT Reasonably Available Control Technology ROP Renewable Operating Permit SC Special Condition Number SCR Selective Catalytic Reduction SRN State Registration Number TAC Toxic Air Contaminant TEQ Toxicity Equivalence Quotient  psig Pounds per square inch gauge scf Standard cubic feet Scf Standard cubic feet Scf Standard cubic feet Scf Standard cubic feet The Toxic Air Cubic feet The Toxic Air Contaminant Typ Toxicity Equivalence Quotient The Toxic Proposition Pound Toxic Volatile Organic Compound  | PSD             |                                   | ppmw                                |                              |
| RACT Reasonably Available Control Technology  ROP Renewable Operating Permit sec Seconds  SC Special Condition Number SO <sub>2</sub> Sulfur Dioxide  SCR Selective Catalytic Reduction THC Total Hydrocarbons  SRN State Registration Number tpy Tons per year  TAC Toxic Air Contaminant μg Microgram  TEQ Toxicity Equivalence Quotient VOC Volatile Organic Compound   | PTE             | Permanent Total Enclosure         | psia                                |                              |
| RACTTechnologySciStandard cubic feetROPRenewable Operating PermitsecSecondsSCSpecial Condition NumberSO₂Sulfur DioxideSCRSelective Catalytic ReductionTHCTotal HydrocarbonsSRNState Registration NumbertpyTons per yearTACToxic Air ContaminantμgMicrogramTEQToxicity Equivalence QuotientVOCVolatile Organic Compound   | PTI             |                                   | psig                                | Pounds per square inch gauge |
| SC Special Condition Number SO <sub>2</sub> Sulfur Dioxide SCR Selective Catalytic Reduction THC Total Hydrocarbons SRN State Registration Number tpy Tons per year TAC Toxic Air Contaminant μg Microgram TEQ Toxicity Equivalence Quotient VOC Volatile Organic Compound   | RACT            |                                   | scf                                 | Standard cubic feet          |
| SCR Selective Catalytic Reduction SRN State Registration Number tpy Tons per year TAC Toxic Air Contaminant pg Microgram TEQ Toxicity Equivalence Quotient VOC Volatile Organic Compound   | ROP             | Renewable Operating Permit        | sec                                 | Seconds                      |
| SRN State Registration Number tpy Tons per year TAC Toxic Air Contaminant μg Microgram TEQ Toxicity Equivalence Quotient VOC Volatile Organic Compound   | SC              | Special Condition Number          | SO <sub>2</sub>                     | Sulfur Dioxide               |
| TAC Toxic Air Contaminant µg Microgram TEQ Toxicity Equivalence Quotient VOC Volatile Organic Compound   | SCR             | Selective Catalytic Reduction     | THC                                 | Total Hydrocarbons           |
| TEQ Toxicity Equivalence Quotient VOC Volatile Organic Compound  | SRN             | State Registration Number         | tpy                                 | Tons per year                |
| , ,  | TAC             | Toxic Air Contaminant             | μg                                  | Microgram                    |
| VE Visible Emissions yr Year   | TEQ             | Toxicity Equivalence Quotient     | VOC                                 | Volatile Organic Compound    |
|  | VE              | Visible Emissions                 | yr                                  | Year                         |

<sup>\*</sup> For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

#### **GENERAL CONDITIONS**

- 1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. (R 336.1201(1))
- 2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. (R 336.1201(4))
- 3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. (R 336.1201(6)(b))
- 4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. (R 336.1201(8), Section 5510 of Act 451, PA 1994)
- 5. The AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R 336.1219. The notification shall include all of the information required by R 336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R 336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. (R 336.1219)
- Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. (R 336.1901)
- 7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). (R 336.1912)

- 8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
- 9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law nor does it affect any liability for past violations under the Natural Resources and Environmental Protection Act, 1994 PA 451.
- 10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.
- 11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. (R 336.1301)
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this permit to install.
- 12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). (R 336.1370)
- 13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. (R 336.2001)

## **SPECIAL CONDITIONS**

# **Emission Unit Identification**

| <b>Emission Unit ID</b>   | Emission Unit Description                        | Stack Identification |  |  |
|---|--|----------------------|--|--|
| EUCA1015  | Berlyn Calcinator Model CA-1015. Stainless steel | SVMAIN               |  |  |
|   | chamber containing fluidized bed of 100 pounds   |                      |  |  |
|   | of aluminum oxide into which metal parts are     |                      |  |  |
|   | submerged to remove plastic.                     |                      |  |  |
| EUCA1530  | Berlyn Calcinator Model CA-1530. Stainless steel | SVMAIN               |  |  |
|   | chamber containing fluidized bed of 400 pounds   |                      |  |  |
|   | of aluminum oxide into which metal parts are     |                      |  |  |
|   | submerged to remove plastic.                     |                      |  |  |
| Changes to the equipment described in this table are subject to the requirements of R 336.1201, |  |                      |  |  |
| except as allowed by R 336.1278 to R 336.1290.  |  |                      |  |  |

# **Flexible Group Identification**

| Flexible Group ID | Emission Units Included in Flexible Group | Stack Identification |
|-------------------|---|----------------------|
| FGCALCINATORS     | EUCA1015 and EUCA1530                     | SVMAIN               |

# The following conditions apply to: FGCALCINATORS

## **Emission Limits**

|      | Pollutant                        | Equipment | Limit  | Time Period   | Testing/<br>Monitoring<br>Method | Applicable<br>Requirements |
|------|----------------------------------|-----------|--|---------------|----------------------------------|----------------------------|
| 1.1a | PM                               | EUCA1015  | 0.10 lbs per<br>1000 lbs of<br>exhaust<br>gases* | Test Protocol | GC 13                            | R 336.1331                 |
| 1.1b | PM                               | EUCA1530  | 0.10 lbs per<br>1000 lbs of<br>exhaust<br>gases* | Test Protocol | GC 13                            | R 336.1331                 |
|      | * Calculated on a dry gas basis. |           |  |               |                                  |                            |

# **Visible Emission Limits**

1.2 Visible emissions from FGCALCINATORS shall not exceed a six-minute average of 10 percent opacity. (R 336.1301, R 336.1331, R 336.1901)

## Stack / Vent Restrictions

|     | Stack & Vent ID  | Maximum<br>Diameter (inches) | Minimum Height<br>Above Ground Level<br>(feet) | Applicable<br>Requirement |  |
|-----|--|------------------------------|--|---------------------------|--|
| 1.3 | SVMAIN   | 24                           | 42   | R 336.1901                |  |
|     | The exhaust gases shall be discharged unobstructed vertically upwards to the |                              |  |                           |  |