

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

December 8, 2017

PERMIT TO INSTALL
103-17

ISSUED TO
Opta Minerals (Milan)

LOCATED AT
345 East Main Street
Milan, Michigan

IN THE COUNTY OF
Monroe

STATE REGISTRATION NUMBER
B6622

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:

October 31, 2017

DATE PERMIT TO INSTALL APPROVED:

December 8, 2017

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO _{2e}	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H ₂ S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO _x	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM ₁₀	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM _{2.5}	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 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 48909-7760, 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 terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. 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.
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 SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EU-SILO1	Dolomitic Lime Silo equipped with a bin vent filter	1984/replaced 1994	FG-SILOS
EU-SILO2	Dolomitic Lime Silo equipped with a bin vent filter	1984	FG-SILOS
EU-SILO3	Fly Ash Silo equipped with a bin vent filter	1987	FG-SILOS
EU-SILO4	Carbon (MET CARB/Coke) Silo equipped with a bin vent filter	1990	FG-SILOS
EU-SILO5	Hi-Cal Lime Silo equipped with a bin vent filter	1995	FG-SILOS
EU-SILO6	Hi-Cal Lime Silo equipped with a bin vent filter	2004	FG-SILOS
EU-SILO7	Hi-Cal Lime Silo equipped with a bin vent filter	2004	FG-SILOS
EU-SYSTEM6	Mixing and Packaging area vented to Baghouse 10	2000	FG-BAGHOUSES
EU-SYSTEM7	Mixing and Packaging area vented to Baghouse 11 which discharges inside the building	2004	FG-BAGHOUSES
EU-SYSTEM8	Mixing and Packaging area vented to Baghouse 3	2017	FG-BAGHOUSES
EU-POWDER1	Mixing and Packaging area vented to Baghouse 3	1985 (estimate)	FG-BAGHOUSES
EU-POWDER2	Mixing and Packaging area vented to Baghouse 4	1985 (estimate)	FG-BAGHOUSES
EU-BIFLUX	Mixing and Packaging area vented to Baghouse 5	1988	FG-BAGHOUSES
EU-BISLAG1	Mixing and Packaging area vented to Baghouse 9	2000 (estimate)	FG-BAGHOUSES
EU-BISLAG2	Mixing and Packaging area vented to Baghouse 10	1991/replaced 2017	FG-BAGHOUSES
EU-BulkBagRack1	Bulk Bag Station to transfer raw material from bulk bags to portable bins.	unknown	FG-BAGHOUSES
EU-BulkFlyAsh	Bulk Station to transfer Fly Ash from Silo 3 into portable bins.	unknown	FG-BAGHOUSES
EU-BulkBagRack2	Bulk Bag Station to transfer raw material from bulk bags to portable bins.	unknown	FG-BAGHOUSES

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 SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-SILOS	Seven (7) silos for high volume dry materials, each equipped with a bin vent filter	EU-SILO1, EU-SILO2, EU-SILO3, EU-SILO4, EU-SILO5, EU-SILO6, EU-SILO7
FG-BAGHOUSES	All process equipment with emissions controlled by the eleven (11) facility baghouses. This includes the material transfer, mixing and packaging processes.	EU-SYSTEM6, EU-SYSTEM7, EU-SYSTEM8, EU-POWDER1, EU-POWDER2, EU-BIFLUX, EU-BISLAG1, EU-BISLAG2, EU-BulkBagRack1, EU-BulkFlyAsh, EU-BulkBagRack2

The following conditions apply to: FG-SILOS

DESCRIPTION: Seven silos for high volume dry materials

Emission Units: EU-SILO1,EU-SILO2,EU-SILO3,EU-SILO4, EU-SILO5, EU-SILO6, EU-SILO7

POLLUTION CONTROL EQUIPMENT: Bin Vent Filters

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate any equipment in any silo in FG-SILOS unless the associated bin vent filter is installed, maintained, and operated in a satisfactory manner. **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct all necessary maintenance and make all necessary attempts to keep the bin filters of FG-SILOS maintained and operating in a satisfactory manner at all times. The owner or operator shall maintain a log of all related maintenance activities and bin filter replacements. All records shall be kept on file and made available to the Department upon request. **(R 336.1910, R 336.1911)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-SILO1	14 X 24	34	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV-SILO2	14 X 24	34	R 336.1225, 40 CFR 52.21(c) & (d)
3. SV-SILO3	14 X 24	34	R 336.1225, 40 CFR 52.21(c) & (d)
4. SV-SILO4	14 X 24	36	R 336.1225, 40 CFR 52.21(c) & (d)
5. SV-SILO5	14 X 24	34	R 336.1225, 40 CFR 52.21(c) & (d)
6. SV-SILO6	14 X 24	34	R 336.1225, 40 CFR 52.21(c) & (d)
7. SV-SILO7	14 X 24	34	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENTS

NA

The following conditions apply to: FG-BAGHOUSES

DESCRIPTION: All process equipment with emissions controlled by the eleven (11) facility baghouses. This includes the material transfer, mixing and packaging processes.

Emission Units: EU-SYSTEM6, EU-SYSTEM7, EU-SYSTEM8, EU-POWDER1,EU-POWDER2, EU-BIFLUX, EU-BISLAG1, EU-BISLAG2, EU-BulkBagRack1, EU-BulkFlyAsh, EU-BulkBagRack2

POLLUTION CONTROL EQUIPMENT: Baghouses

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Cadmium	0.175 lb/yr	12-month rolling time period	FG-BAGHOUSES	SC VI.4, SC VI.5	R 336.1225

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Production Throughput	72,000,000 lbs/yr	12-month rolling time period	FG-BAGHOUSES	SC VI.3	R 336.1225
2. Cadmium containing material	766,500 lbs/yr	12-month rolling time period	FG-BAGHOUSES	SC VI.4	R 336.1225

3. The permittee shall not add any materials to the process in FG-BAGHOUSES which exceed 2 percent Cadmium content by weight. **(R 336.1225)**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FG-BAGHOUSES unless the Preventative Maintenance Program specified in Appendix A has been implemented and is maintained. **(R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any equipment in FG-BAGHOUSES unless the associated baghouse fabric filter dust collector is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the fabric filter dust collector requires a pressure drop range between 2 and 10 inches of water column. The minimum pressure drop shall not be less than 2 inches, water gauge, except when a large number of filter bags have been replaced or other reason acceptable to the AQD. **(R 336.1910)**

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor the pressure drop across each baghouse in FG-BAGHOUSES. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, R 336.2802, 40 CFR 52.21)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1224, R 336.1225)**
2. The permittee shall keep records of the chemical composition of each product and the maximum production rate of each product. The record shall include the chemical compositions of all materials used. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225)**
3. The permittee shall maintain monthly records of the production throughput for FG-BAGHOUSES on a monthly and 12-month rolling time period basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225)**
4. The permittee shall maintain monthly records of the amount of cadmium containing material used in FG-BAGHOUSES on a monthly and 12-month rolling time period basis. The permittee shall upkeep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225)**
5. The permittee shall maintain monthly calculations of the amount of cadmium emissions from FG-BAGHOUSES on a monthly and 12-month rolling time period basis. The permittee shall upkeep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225)**
6. The permittee shall conduct all necessary maintenance and make all necessary attempts to keep all fabric filter dust collector components of FG-BAGHOUSES maintained and operating in a satisfactory manner at all times. The owner or operator shall maintain a log of all significant maintenance activities conducted and all significant repairs made to the baghouses. Maintenance records shall be consistent with the Preventative Maintenance Program specified in Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1910, R 336.1911)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (feet)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-BH1	2.31	15.42	R 336.1225
2. SV-BH2	2.31	15.42	R 336.1225
3. SV-BH3	2.31	15.42	R 336.1225
4. SV-BH4	2.31	15.42	R 336.1225
5. SV-BH5	2.31	15.42	R 336.1225
6. SV-BH6	2.39	15.42	R 336.1225
7. SV-BH7	1	14	R 336.1225
8. SV-BH8	0.833	14	R 336.1225
9. SV-BH9	1.33	19	R 336.1225
10. SV-BH10	2.31	15.42	R 336.1225

Note: Baghouse 11 vents into the building

IX. OTHER REQUIREMENTS

NA

Appendix A
PREVENTATIVE MAINTENANCE PROGRAM FOR THE FABRIC FILTER DUST COLLECTORS

The Preventative Maintenance Program for the Fabric Filter Dust Collector is for the purpose of keeping the dust collector in good operating condition, and thereby, maintaining the rated capture efficiency of the dust collector for the control of particulate matter. ALL REFERENCES TO VISIBLE EMISSIONS IN THIS DOCUMENT, PARTICULARLY IN SEC. 4, REFER SPECIFICALLY TO VISIBLE EMISSIONS CAUSED BY A DUST (PARTICULATE) EMISSION.

1. FABRIC FILTER DUST COLLECTOR OPERATING PRESSURE DROP

- a. The pressure drop across the fabric filter dust collector shall be continuously measured and the minimum pressure drop shall not be less than 2 inches, water gauge, except when a large number of filter bags have been replaced or other reason acceptable to the AQD.
- b. The pressure drop across the fabric filter dust collector shall be recorded at least once per day and kept in a bound notebook. These data shall be recorded in the Daily Operations Log Book.

2. HANDLING AND STORAGE OF FABRIC FILTER DUST

Accumulated fabric filter dust (particulate) shall be stored and/or be disposed of in a manner which minimizes the introduction of the air contaminants to the outer air.

3. PIPING AND SEALS MAINTENANCE

Piping and seals shall be replaced as needed.

4. VISIBLE EMISSIONS AND ACTIONS TO BE TAKEN

In the event visible emissions, which appear to exceed the standard allowed in General Condition No. 11 of this Permit to Install, are observed at the discharge point of the stack, the following actions shall be taken:

If no certified visible emissions reader can be on-site within 60 minutes of observing the visible emissions to verify the emission density, operations shall be ceased immediately and the cause of the visible emissions determined and corrected prior to operating the plant again.

REMINDER: If the visible emissions continue for more than 2 hours, in excess of an emission standard, an excess emissions report must be made to MDEQ.

5. BLACK LIGHT INSPECTIONS

A black light test shall be conducted at least once per year. Black light inspection equipment and materials shall be available for use at the facility and used as needed during operation of the facility.

6. INVENTORY OF FILTER BAGS

An inventory of fabric filter bags shall be maintained by the facility owner or operator so that filter bags will be available to this site within four hours of requesting the filter bags. In addition, a minimum of 15 filter bags shall be kept on-site at all times. An inventory of other replacement parts for the fabric filter dust collector shall be maintained at all times.

Appendix A - Continued

7. FABRIC FILTER DUST COLLECTOR INSPECTION RECORD

A written record in a bound notebook of the following shall be maintained by the owner or operator of the facility:

- Visual inspections of the interior components of the fabric filter dust collector, including date, time, and findings;
- Black light inspections, including date, time, and findings;
- Number of filter bags installed as a result of each inspection to replace filter bags already in use in the fabric filter dust collector, including date, time, location, and whether the replacement filter bag was brand new or a cleaned, previously used filter bag;
- An explanation (i.e., a description of the damage found) for each filter bag removed from the fabric filter dust collector and confirmation that another filter bag was installed to replace it;
- Each observation of visible emissions at the stack discharge point and description of response to the observed visible emission, including date and time of visible emission occurrence and results of EPA Method 9 observation, if any. Any such visible emission shall be recorded in the Daily Operations Log Book and made available upon request to the AQD.
- All significant maintenance activities performed on the fabric filter dust collector.