

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

September 21, 2017

**PERMIT TO INSTALL**  
38-00C

**ISSUED TO**  
Sun Gro Horticulture

**LOCATED AT**  
1160 East Chicago Road  
Quincy, Michigan

**IN THE COUNTY OF**  
Branch

**STATE REGISTRATION NUMBER**  
N7132

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:

**April 28, 2017**

DATE PERMIT TO INSTALL APPROVED:

**September 21, 2017**

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

**PERMIT TO INSTALL**

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**Common Abbreviations / Acronyms**

<b>Common Acronyms</b>		<b>Pollutant / Measurement Abbreviations</b>	
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 <sub>2</sub> e	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 <sub>2</sub> 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 <sub>x</sub>	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	PM10	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM2.5	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 <sub>2</sub>	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-PERLITE	A 7 MM BTU/hr natural gas fired Perlite expansion furnace controlled by a cyclone and a baghouse (BH-2) in series.	*	FG-FACILITY
EU-VERMICULITE	A 5 MM BTU/hr natural gas fired Vermiculite exfoliation furnace controlled by a cyclone and a baghouse (BH-3) in series.  Destoner screen and associated baghouse (BH-5).	*	FG-FACILITY
EU-TRUCKTRAFFIC	Truck traffic associated with delivery of raw materials and final products.		FG-FUGITIVE
EU-STORAGE	Various material storage piles of peat, bark, sand, etc.		FG-FUGITIVE
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.			

**The following conditions apply to: EU-PERLITE**

**DESCRIPTION:** A 7 MM BTU/hr natural gas fired Perlite expansion furnace controlled by a cyclone and a baghouse (BH-2) in series.

**Flexible Group ID:**

**POLLUTION CONTROL EQUIPMENT:** a cyclone and a baghouse (BH-2) in series.

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.04 lb/1,000 lb. of exhaust gases	Hourly	EU-PERLITE	GC 13 VI.1 VI.3	R 336.1331, 40 CFR 60.730
2. PM	0.8 lb. per hour	Hourly	EU-PERLITE	GC 13 VI.1 VI.3	R 336.1331, 40 CFR 52.21 (c) & (d), 40 CFR 60.730

3. Visible emissions from EU-PERLITE shall not exceed 10 percent opacity. **(R 336.1301)**

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall only burn natural gas in EU - Perlite. **(R 336.1702, R 336.1901, 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate EU - Perlite unless the cyclone followed in series by a fabric filter dust collector is installed, maintained, and operated in a satisfactory manner. **(R 336.1301, R 336.1331, R 336.1901, R 336.1910, 40 CFR 52.21(c) and (d))**

**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 monitor in a satisfactory manner the condition of dry filter particulate control system through visual inspection (or other monitoring program proposed by the permittee) on a weekly basis during operations. **(R 336.1331, R 336.1910, 40 CFR 52.21 (c) & (d))**

2. The permittee shall comply with all provisions of the Federal Standards of Performance for New Stationary Sources, as specified in 40 CFR, Part 60, Subparts A and UUU. **(40 CFR 60.730)**
3. The permittee shall keep in a satisfactory manner records of visual inspections of the dry filter particulate control system which includes the dates and results of the inspections and the dates and reasons for repairs. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1331, R 336.1910, 40 CFR 52.21 (c) & (d))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV003	2.0 x 2.0	9.0	R 336.1225, R 336.1901, 40 CFR 52.21 (c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.			

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: EU-VERMICULITE**

**DESCRIPTION:** A 5 MM BTU/hr natural gas fired Vermiculite exfoliation furnace controlled by a cyclone and a baghouse (BH-3) in series.

**Flexible Group ID:**

**POLLUTION CONTROL EQUIPMENT:** a cyclone and a baghouse (BH-3) in series. Destoner screen and associated baghouse (BH-5).

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.04 lb/1,000 lb. of exhaust gases*	Hourly	EU-VERMICULITE	GC 13 SC VI.1 SC VI.3	R 336.1331, 40 CFR 60.730
2. PM	1.7 lb. per hour*	Hourly	EU-VERMICULITE	GC 13 SC VI.1 SC VI.3	R 336.1331, 40 CFR 52.21 (c) & (d), 40 CFR 60.730
3. PM	0.04 lb./1,000 lb. of exhaust gases**	Hourly	EU-VERMICULITE	GC 13 SC VI.1 SC VI.3	R 336.1331, 40 CFR 52.21 (c) & (d), 40 CFR 60.730
4. PM	0.90 lb. per hour**	Hourly	EU-VERMICULITE	GC 13 SC VI.1 SC VI.3	R 336.1331, 40 CFR 52.21 (c) & (d), 40 CFR 60.730
* Emission rates are for the expansion furnace only (which is vented through BH-3)					
** Destoner screen and associated baghouse (BH-5) portion only					

5. Visible emissions from EU-VERMICULITE shall not exceed 10 percent opacity. **(R 336.1301)**

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall only burn natural gas in EU - Perlite. **(R 336.1702, R 336.1901, 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate EU - Perlite unless the cyclone followed in series by a fabric filter dust collector is installed, maintained, and operated in a satisfactory manner. **(R 336.1301, R 336.1331, R 336.1901, R 336.1910, 40 CFR 52.21(c) and (d))**

**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 monitor in a satisfactory manner the condition of dry filter particulate control system through visual inspection (or other monitoring program proposed by the permittee) on a weekly basis during operations. **(R 336.1331, R 336.1910, 40 CFR 52.21 (c) & (d))**
2. The permittee shall comply with all provisions of the Federal Standards of Performance for New Stationary Sources, as specified in 40 CFR, Part 60, Subparts A and UUU. **(40 CFR 60.730)**
3. The permittee shall keep in a satisfactory manner records of visual inspections of the dry filter particulate control system which includes the dates and results of the inspections and the dates and reasons for repairs. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1331, R 336.1910, 40 CFR 52.21 (c) & (d))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV002	10.0	12.8	R 336.1225, R 336.1901, 40 CFR 52.21 (c) & (d)
2. SV007	14.0	12.5	R 336.1225, R 336.1901, 40 CFR 52.21 (c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.			

**IX. OTHER REQUIREMENTS**

NA

**FLEXIBLE GROUP SUMMARY TABLE**

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

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FG-FUGITIVE	Fugitive emissions sources at the facility	EU-TRUCKTRAFFIC EU-STORAGE
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	EU-TRUCKTRAFFIC EU-STORAGE EU-VERMICULITE EU-PERLITE

**The following conditions apply to: FG - Fugitive**

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall not operate FG - Fugitive unless the program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix A has been implemented and is maintained. **(R 336.1371, R 336.1372, Act 451 324.5521)**

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

**V. TESTING/SAMPLING**

NA

**VI. MONITORING/RECORDKEEPING**

NA

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: FG - FACILITY**

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

**V. TESTING/SAMPLING**

NA

**VI. MONITORING/RECORDKEEPING**

NA

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

1. The permittee shall not operate FG-FACILITY unless a malfunction abatement plan (MAP) as described in Rule 911(2), for all baghouses, has been submitted within 45 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
  - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
  - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1331, R 336.1910, R 336.1911, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

### APPENDIX AFUGITIVE DUST PLAN

- (i) On-site vehicles shall be loaded to prevent their contents from dropping, leaking, blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within six inches of the top of any sideboard, side panel or tailgate, otherwise, the truck shall be tarped.
- (ii) Site Roadways and the Plant Yard
  - (a) The dust on the site roadways and the plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds to meet an opacity limit of five percent. Applications of dust suppressants shall be done as often as necessary to meet the five percent opacity limit.
  - (b) All paved roadways and the plant yards shall be swept as needed between applications.
  - (c) Any material spillage on roads shall be cleaned up immediately.
  - (d) A record of all applications of dust suppressants and roadway and the plant yard sweepings shall be kept on file for the most recent five-year period and be made available to the AQD upon request.
- (iii) Storage Piles
  - (a) Stockpiling of all materials shall be performed to minimize drop distance and control potential dust problems.
  - (b) Stockpiles shall be watered on an as needed basis in order to meet the opacity limit of five percent. Equipment to apply water or dust suppressant shall be available at the site or on call for use at the site within a given operating day.
  - (c) A record of all watering shall be kept on file for the most recent five-year period and be made available to the AQD upon request.
- (iv) The provisions and procedures of this plan are subject to adjustment by written notification from the AQD, if following an inspection, the AQD finds the fugitive dust requirements and/or the permitted opacity limits are not being met.