

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

N657861122

FACILITY: Almond Products Inc		SRN / ID: N6578
LOCATION: 17150 148th Ave, SPRING LAKE		DISTRICT: Grand Rapids
CITY: SPRING LAKE		COUNTY: OTTAWA
CONTACT: Kim Cooper , Environmental/Lab Supervisor		ACTIVITY DATE: 12/10/2021
STAFF: Chris Robinson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY'22 on-site inspection to determine the facility's compliance status with PTI no. 340-08C, 361-06G and any other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

On December 10, 2021, AQD staff Chris Robinson (CR) conducted an onsite unannounced inspection of Almond Products, Inc. (SRN N6578) located at 17150 148th Avenue in Spring Lake, Michigan. The purpose of the inspection was to determine the facility's compliance status with respect to Permits to Install (PTI) no. 340-08C, 361-06G, and any other applicable State and Federal air quality rules and regulations.

The Weather conditions were approximately 40°F, mostly cloudy with east northeast winds at approximately 12 mph (www.weatherunderground.com). During the inspection no visible emissions were observed however, a slight coating/painting odor was noticed along the south side of the west building.

Upon arrival CR met with Kim Cooper and provided appropriate identification. CR informed Ms. Cooper of the purpose behind the visit. A pre-walk-through meeting took place and the PTIs were reviewed. Ms. Cooper provided pertinent information and afterwards a walk-through of the entire facility. Much of the production had ended prior to the inspection at 2:00 pm.

A) Facility Description

Almond Products Inc., (Almond) provides finishing services for the automotive, appliance, military, and office furniture industries. Primary operations include coating of metal products (powder and solvent based), and pre-treatment (anodize and Alodine).

B) Regulatory discussion

Almond is a Title V Opt-out source for both Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). The facility operates under Permits to Install (PTI) No. 340-08C for a fluidized bed sand stripper and PTI No. 361-06G, which contains the facility-wide opt-out limits and enforceable conditions.

Almond is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), Area Source Standards for Plating and Polishing Operations promulgated under 40 CFR Part 63 Subpart WWWW which AQD does not currently have delegation for.

C) Compliance Evaluation

Stack dimensions were not measured but appeared appropriate and per Ms. Cooper no changes to the stacks have occurred since installed (PTI 340-08C SCVIII.1, PTI361-06G EULINE1 SC VIII.1&2, EUDIPLINE2 SC VIII.1, and EUCOATING SC VIII.1-5). Most records were reviewed going back one year from date of the inspection (12/1/2020 – 11/31/2021) which are included on the attached CD.

1) PTI 340-08C

The only emission unit covered by this PTI is EUSANDSTRIPPER which is a fluidized bed sand stripper used to clean accumulated coatings from metal parts, racks, hooks, and/or hangers. The system includes a heated fluidized sand bed; a flame combustion zone maintained at the surface of the sand; a secondary afterburner; and a ceramic element filter particulate control system equipped with upstream exhaust air cooling.

EUSANDSTRIPPER is subject to Particulate Matter (PM), hydrogen chloride (HCL) and Hydrogen Fluoride (HF) emission limits per Special Conditions (SC) I.1-6. Total PM is limited to 0.006 lbs./1,000 lbs. exhaust gas; PM 10 and PM2.5 are limited to 2.2 pph; HCL is limited to 9.6 lbs./batch; and HF is limited to 11.5 lbs./batch. Testing (SC V.1) was performed in January 2014 which demonstrated that the facility could operate within the specified emission limits. A visible emissions (VE) limit is also applicable limiting VE to a six-minute average of 5%. The unit was not operating at the time of the inspection. However, CR did observe EUSANDSTRIPPER operating on May 12, 2021, and no VE was present. Maintenance/inspections are conducted as needed and logged. Example logs are attached.

Limits placed on material usage are specified in SCs II.1-4 and content limits for chromium and manganese are specified in SCs II.5 & 6. All these limits are summarized in the table below along with 12-month rolling batch records. Per Ms. Cooper, parts coated with Manganese are single hooked which are not cleaned in EUSANDSTRIPPER.

Material	Usage/content limit	Batches 12/1/2020 through 11/30/2021
coatings containing chromium or chromium compounds	1,095 batches	184
coatings containing manganese or manganese compounds	1,095 batches	--
coatings containing epoxy resins	1,870 batches	236
coatings containing polytetrafluoroethylene (PTFE) resins	1,560 batches	336
content of any coating removed from parts in EUSANDSTRIPPER shall not exceed 9.05 percent by weight of elemental chromium	9.05%	0.27%
content of any coating removed from parts in EUSANDSTRIPPER shall not exceed 5.5 percent by weight of manganese compounds	5.5%	--

Per discussions and observations with Ms. Cooper EUSANDSTRIPPER is only used for removing cured coatings from metal racks (SC III.2) and all waste material is put directly into a dumpster or containerized and stored until proper disposal (SC III.3).

As required by section four (4) of the PTI a secondary afterburner and ceramic element filter particulate control system is installed and appears to be maintained and operated satisfactorily (SC IV.1), a temperature recording device is installed and calibrated at least annually. The unit was last

inspected on April 1, 2021, and last calibrated on March 3, 2021 (SC IV.2), and automatic temperature control and interlocks were present (SC IV.3-4). Temperature records have been provided and are attached. Records indicate that the afterburner temperature is being operated above the required limit of 1,560°F (+/- 50). The typical operating temperature appears to range from 1,550°F - 1,600°F.

Records were requested and received which included a listing of chemicals taken from either SDS's and/or manufacturer's formulation data (SC VI.2); afterburner temperature records (SC VI.3); batch records, material usages, and material contents as required in SC VI.5 a-g.

2) PTI 361-06G

This PTI consists of four (4) emission unit tables and one facility wide (FGFACILITY) table. FGFACILITY is the facility's Title V opt-out for both Hazardous Air Pollutants (HAPS) and Volatile Organic Compounds (VOCs). The emission unit tables below share many of the same requirements, therefore those requirements will be addressed here, and the unique requirements will be discussed under the appropriate section below.

As required and discussed with Ms. Cooper all waste material, including any spent filters, are captured and stored in closed containers until shipped for proper disposal (EULINE1 SC III.1-3, EUDIPLINE SC III.1-2, EUCOATING SC III.1-3, EUANOD/ALOD SC III.1-2). Waste containers (New & waste) were closed during the inspection minimizing the generation of any fugitive emissions. Almond has a current Malfunction Abatement which was last updated to address the 2020 Modification of PTI no. 361-06F (EULINE1 SC III.4, EUDIPLINE2 SC III.3, EUANOD/ALOD SC III.3). A copy was received by the AQD on July 10, 2020.

A request to use manufacturers formulation data was requested and approved for Emission Units EULINE1 (SC V.1), EUDIPLINE2 (SC V.1), EUCOATING (SC V.1), and FGFACILITY (SC V.1-2). Based on a review of the data, manufacturer's formulation data is being used to calculate emissions. However, Mrs. Cooper did indicate that they were having difficulties getting formulation data for a few of the coatings but they were working to obtain those. For now concentrations for those coatings are based on the highest concentration listed on the Safety Data Sheet. All records required in Sections VI Monitoring/Recordkeeping (EULINE1 SC VI.1-6, EUDIPLINE SC VI.1-7, EUCOATING SC VI.1-4, FGFACILITY SC VI.1-3) of the PTI have been provided, as requested, and are summarized in the various tables below. All performance testing requirements have been met (EULINE1 SC V.1&3, EUDIPLINE2 SC IV.1-3 and no additional testing is being requested at this time (EULINE1 SC V.2,

EULINE1

Comprised of two (2) alkaline cleaning tanks, two (2) rinse tanks, and a surface pretreatment tank (polymer-based solution), followed by a dryer and cool down section, three (3) dry filter primer spray stations, and two (2) dip coating tanks each followed by draining stations, curing ovens, and a cool down section. The dip line tanks and ovens are controlled by a regenerative thermal oxidizer (RTO).

Pollutant	Limit type and amount allowed	Time Period / Operating Scenario	Equipment	12/1/2020 through 11/30/2021
VOCs	Emission - 75.0 tpy	12-month rolling	EULINE1	6.19 tons
	Emission - 410.8 lb./day	Calendar day		5.35 lbs. (based on 1 pot of paint and shift per day)
	Emission - 7.0 tpy	12-month rolling	Primer spray stations in EULINE1	0.62 tons
P-chlorobenzotrifluoride (PCBT, Cas No. 98-56-6)	Emission - 14.9 tpy			2.63 tons
VOC content of primer coatings	Material - 3.2 lb./gal (minus water) ^a as applied	Instantaneous	EULINE1	3.00 lbs. / gallon
VOC content of dip coating	Material - 6.7 lb./gal (minus water) ^a as applied prior to control			5.53 lbs./gallon
Primer coatings	Material - 25.0 gallons/day			Calendar Day

Based on the records provided, which are summarized above Almond appears to be operating within the emission limits specified in SCs I.1-4 and material limits specified in SC II.1-3. EULINE1 is also subject to design/equipment parameter(s) which prohibit the use of the primer spray stations unless all respective exhaust filters are installed and operating in a satisfactory manner (IV.1). Per observations all filters were installed and appear to be in good condition. Ms. Cooper and Mr. Stebbins confirmed that filters are changed per shift. All spray guns are HVLP as required by SC IV.2. The RTO for EULINE was operating during the inspection (SC IV.3). No odors or visible emissions were observed, and the RTO appeared to be in good condition. Maintenance is conducted as needed and tracked. See attached Maintenance log examples. This RTO was serviced in April 2021. No calibrations were necessary since it was within tolerances. The enclosure is installed and being maintained (SC (IV.4). Annual Natural Draft Opening (NDO) smoke testing is performed to ensure negative pressure is being always maintained inside the enclosure. The last test was conducted on May 12, 2021, which confirmed negative pressure inside the enclosure (SC IV.4 & V.3). No additional testing is being requested at this time (V.2). The RTO afterburner temperature data is continuously monitored and recorded (SC VI.2) Based on the attached afterburner temperature data Almond appears to be operating the RTO in accordance with the minimum temperature requirement of 1,400°F (SC IV.3).

EUDIPLINE2

The paint dip line includes metal surface cleaning/pretreatment operations consisting of a series of tanks containing aqueous cleaning and conditioning solutions followed by two (2) dip coating tanks, which consists of one water-based e-coat tank, one solvent-based paint dip tank, and six cure ovens. EUDIPLINE2 is subject to the following emission and material limits. Based on the records

provided, which are attached and summarized in the table below, almond appears to be operating within the limits specified in SCs I.1-3 and II.1.

Pollutant	Limit	Time Period / Operating Scenario	Equipment	12/1/2020 through 11/30/2021
VOC	21.8 tpy	12-month rolling	EUDIPLINE2	4.05 tons
VOC	161.3 lb./day	Calendar day	EUDIPLINE2	103.41 lbs. MAX on July 12, 2021
Cumene (CAS No. 98-82-8)	1,476.6 lb./yr.	12-month rolling	EUDIPLINE2	20.13 lbs. (Dec 2020)
VOC content of coating	3.0 lb./gal (minus water) ^a as applied	Instantaneous	EUDIPLINE2	1.75 lbs. / gallon (Max)

The RTO for EUDIPLINE2 has not operated since installed because the facility has not used coatings with VOC content limits exceeding the content limit specified in SC II.1 of 3.0 lb./gal. Special Condition IV.1 only requires use of the RTO if VOC content limits exceed 3.0 lbs./gal. However, the RTO is equipped with a continuous temperature monitor device and afterburner temperature data will be recorded when the RTO is in use (IV.2). EUDIPLINE2 is equipped with an enclosure (SC IV.3). Annual NDO smoke testing is performed to ensure negative pressure is being always maintained inside the enclosure. The last test was conducted on May 12, 2021, which confirmed negative pressure inside the enclosure (SC IV.3 & V.3).

EUCOATING

This emission unit is comprised of four (4) filter spray units and a curing oven. EUCOATING is subject to the following emission and material limits. Based on the records provided, which are attached and summarized in the table below, Almond appears to be operating within the limits specified in SCs I.1-5 and II.1-2. Almond is subject to Michigan Rules 702(d) which requires compliance with the emission limits established in Rule 621(2)(a-g). The emission limits below for SC's I.4 and I.5 (VOC Content) originate from Rule 621. However, additional coatings are used by Almond that are also subject. This includes a limit of 3.5 lbs. VOCs per gallon of coating for air dried coatings, and a limit of 3.0 lbs. VOCs per gallon of coating for all other types of coatings not mentioned in Rule 621 nor used by Almond, which are truck final repair coatings, glass adhesion body primer, and steel pail and drum interior coatings. Almond reviewed the Rule 621 classifications for the coatings used in EUCOATING and all of them were determined, by Almond, to be classified as "extreme Performance Coatings". Per Rule 105(i) extreme performance coatings are defined as "a coating which is designed to protect a coated part from extreme environmental conditions and which is applied to a part that, in its use as a finished product, is intended to be subject to extreme environmental conditions". Rule 105(h) further defines extreme environmental conditions as outdoor weather, temperatures above 95 degrees celsius, detergents, abrasive and scouring agents, solvents, corrosive atmospheres, and other similar harsh conditions". All of the parts observed by CR being coated were for the automotive, marine, and military industry, which are subjected to outdoor weather. Therefore, it appears as though these coatings would be classified as "extreme performance coatings". Based on the calculated emissions the maximum VOC's emitted was 3.43 lbs. on February 17, 2021. This is within the 3.5 lb. voc/gallon of coating limit. Per discussions with Ms. Cooper Almond coats some metal office furniture parts, however they are not coated in EUCOATING, they are powdercoated.

Pollutant	Limit	Time Period / Operating Scenario	Equipment	12/1/2020 through 11/30/2021
VOC and exempt solvents combined	50.0 tpy	12-month rolling	EUCOATING	14.25 tons Max in Nov. 2020
VOC and exempt solvents combined	1044 lb./day	Calendar day	EUCOATING	552.72 lbs. Max (10/12/21)
Combined Dibasic Esters*	2.37 tpy	12-month rolling	EUCOATING	Has not been used since December 2017
VOC	4.3 lb./gal (minus water) ^a as applied	Daily volume-weighted average	Clear coats used in EUCOATING	No clear coats used since February 2019
VOC	3.5 lb./gal (minus water) ^a as applied	Daily volume-weighted average	Extreme Performance coatings used in EUCOATING	3.43 lbs. MAX on 2/17/21
Tan Topcoat (F93H107)	27,000 gallons	12-month rolling	EUCOATING	532.5 gallons in 2021

EUCOATING is also subject to Design/Operational parameter(s) which prohibit the use of the equipment unless all respective exhaust filters are installed, maintained, and operating in a satisfactory manner (IV.1). Per observations all the filters were installed and appear to be in good condition. Ms. Cooper and Mr. Stebbins confirmed that filters are changed per shift. All spray guns are HVLP as required by SC IV.2.

A differential pressure gauge was present but may not be installed correctly. Opposite of the spraying area is a second set of filters, although many were missing, for filtering fresh air that enters the spray booth. It appears that the DP gauge is installed to monitor the inlet filter side not the exhaust filters where spraying takes place. DP gauges are not required nor is this a concern since filter change outs are done per shift not based on DP readings. However, Mr. Stebbins will verify and correct if they are not installed to measure DP across the exhaust side of the spray booth. In addition, for the booths to have a proper capture efficiency the booths need to remain under negative pressure. Since fresh air is introduced, this could cause a positive pressure environment which may increase fugitive emissions. Mr. Stebbins measured the inlet and outlet air flows, and the outlet remains higher confirming that if the exhaust filters are properly maintained negative pressure in the booth should be attained.

Special Condition VII.1 requires the facility to notify the AQD if a change in land use occurs. Per Ms. Cooper no such changes have occurred.

EUANOD/ALOD

This emission unit is a Surface treatment process line consisting of multiple tanks for anodizing or alodining metal parts. Emissions are controlled by a 25,000-cfm horizontal crossflow fume scrubber. All waste material is stored in closed containers (SC III.1), which minimizes fugitive HAP emissions (SC III.2). A current MAP is on file and Almond appears to be following it. Lastly, a fume scrubber is

required to be installed, maintained, and operated to operate EUANOD/ALOD (SC IV.1). This emission unit was operating at the time of the inspection and the fume scrubber was being used and appeared to be in good working order.

FGFACILITY

The conditions in this section are required to maintain an opt-out status in the Title V program by limiting the entire facility's potential to emit (PTE) for Hazardous Air Pollutants (HAPS) and VOCs. HAPs are limited to less than 9.0 TPY of any individual HAP and 22.5 TPY for all HAPs combined (SC I.1-2). Records were provided as requested. Total HAP emissions for 12/1/2020 through 11/30/2021 was 1.02 tons, which also demonstrates compliance with the individual HAP limit since it is less than 9.0 tons. Facility VOC emissions are limited to less than 90 TPY (SC I.3). Based on the records VOC emissions for 12/1/2020 through 11/30/2021 were approximately 23.33 tons. Almond appears to be operating within the facility-wide HAP and VOC emission limits. Per Ms. Cooper manufacturer formulation data is being used to determine HAP and VOC contents (SC V1.1-2).

3) Rule 201 Permitting Exemptions

A powder coating line exists, which appears exempt per Rule 287(2)(d). The spray booths vent internally. Fugitive PM emissions generated in the process are controlled by filter cartridges that appeared to be in good working condition. Almond uses one (1) water wash line, that appears exempt under Rule 281(2)(e). There is one (1) additional metal surface treatment line, which is internally vented, that appears exempt per Rule 285(2)(r)(i).

Rule 287(2)(c) is being utilized for a small paint booth located near EUCOATING, which is internally vented. This booth is used for small hand coated jobs and uses approximately six (6) gallons per month, which is well under the 200 gallon/month limit allowed by the exemption.

Two (2) diesel fuel emergency generators with capacities of 80kW (80KW/293KW = **~0.27 MMBTU**) and 275 kW (275 KW/293KW = **~ 0.94 MMBTU**), installed in 2008 and 2001, appear to be exempt under 285(2)(g) since the maximum heat input's are less than 10,000,000 Btus/hour. These generators appear to be subject to the provisions of 40 CFR Part 63 Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines. The 275-kW generator does not appear to be subject to the provisions of the New Source Performance Standards (NSPS) promulgated by 40 CFR Part 60 Subpart IIII for Stationary Reciprocating Compression Ignition Internal Combustion Engines based upon the date of installation; however, it is a certified engine and is compliant with the emission limitations of the NSPS.

** KW to MMBTU conversions discussed above were estimated by AQD using a conversion factor of 1 MMBTU = 293 KW**

4) MAERs

Almond's 2020 emissions data was submitted to MAERS on time (3/8/21) and was reviewed by AQD on May 17, 2021. No issues were noted, and the submittal was accepted as is. A summary of the submittal is below.

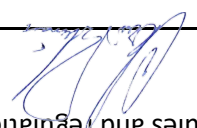
Pollutant	Amount (tons)
Ammonia	0.11
CO	2.83
NOX	3.37

D) Compliance Determination

Based on the observations and discussions made during the inspection and subsequent records review Almond Products, Inc appears to be in compliance with PTIs 340-08C, 361-06G, and other applicable air quality rules and regulations.

PM	1.67
SO2	0.03
VOC	22.03

NAME _____



DATE 3/14/2022

SUPERVISOR _____

