

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

FY 2015 Insp

N158128766

FACILITY: ADEPT PLASTIC FINISHING INC		SRN / ID: N1581
LOCATION: 30517 ANDERSEN COURT, WIXOM		DISTRICT: Southeast Michigan
CITY: WIXOM		COUNTY: OAKLAND
CONTACT: David Sadoway		ACTIVITY DATE: 03/06/2015
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY 2015 level-2 scheduled annual inspection of Adept Plastic Finishing, Inc. ("Adept") - Anderson Court		
RESOLVED COMPLAINTS:		

N1581_SAR_2015_03_06

Adept Plastic Finishing, Inc. (N1581)
30517 Anderson Court
(f.k.a. 30517 Beck Road)
Wixom, Michigan 48393-2817

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ROP & MACT Synthetic Minor PTI #274-98A dated March 28, 2001 (ROP Opt-out)

Rule 331.1702 BACT for coating process (VOC).

PTI Mod: PTI #274-98 → PTI #274-98A to resolve (with consent order AQD No. 25-2002) June 22, 2001, VN; VOC limits increased from 37.8 to 49 tpy. VN. PTI # 86-88 → PTI # 274-98 to resolve May 29, 1988, letter of violation.

Consent Order AQD No. 25-2002: Terminated on September 29, 2005; CO covers both N6319 and N1581.

PTI Voids: 274-98 (3/28/01) and 86-88 (9/10/98). PTI # 86-88 incorporated into PTI # 274-98.

PTI Application Voids: 324-87 (4/28/88)

VNs: May 29, 1998 (excessive VOC PTI 86-88 and Rule 201 for Monorail known as EU-MONORAIL; 4 of 8 batch booths were removed and replaced in 1995 with two large monorail (600 feet long) booths equipped with water wash system for overspray particulate matter control), June 22, 2001 (excessive VOC PTI 274-98).

Not subject to: NESHAP / MACT 4P, 40 CFR Part 63, Subpart PPPP: National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products (Federal Register / Vol. 69, No. 75 / Monday, April 19, 2004 / Rules and Regulations / Final Rule) because of Synthetic Minor PTI No. 274-98A. On Aug 4, 2003, AQD received a written statement that Adept is not a major source for HAPs. PTI #274-98A SC 1 [9 tpy single HAP] & 2 [22.5 tpy aggregate HAP]) limit HAP emissions to below major source thresholds for NESHAP / MACT.

May be NOT subject to (if coatings contain compounds of Cr, Pb, Mg, Ni, Cd keeping in mind this is a job-shop plastics parts coating facility): NESHAP / MACT 6H, 40 CFR, Part 63, Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources; Final Rule (Page 1738 Federal Register / Vol. 73, No. 6 / Wednesday, January 9, 2008 / Rules and Regulations / Final Rule). The NESHAP is for area sources engaged in paint stripping,

surface coating of motor vehicles and mobile equipment, and miscellaneous surface coating operations. AQD has decided not to take delegation of these standards and therefore no attempt has been made evaluate Adept's compliance with NESHAP / MACT 6H. Adept has claimed that it does not use Cr, Pb, Mg, Ni, Cd-containing coatings.

The **NESHAP / MACT 6H** Rule applies to **area sources**. An area source has the potential to emit less than 10 tons per year of a single hazardous air pollutant (HAP) and less than 25 tons per year of any combination of HAPs. If a facility emits more than these amounts, they are **major sources** and not subject to this Rule. However, they may be subject to (40 CFR 63) Subparts Mmmm or Pppp. A facility is subject to the Rule if it is an **area source** and the source performs **spray-application of coatings** containing compounds of chromium, lead, manganese, nickel, or cadmium to any part or product made of metal or plastic, or a combination of metal and plastic.

Not subject to: NESHAP / MACT 4W, 40 CFR, Part 63, Subpart WWWW, Reinforced Plastics Composites Production.

Subject to: Rule 336.1702 BACT (PTI No. 274-98A)

On February 12, March 06, 2015, I conducted a level-2 scheduled annual inspection of Adept Plastic Finishing, Inc. ("Adept") located at 30517 Anderson Court (f.k.a. 30517 Beck Road; City of Wixom changed the address upon development of the neighborhood), Wixom, Michigan. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules; and ROP Opt-Out PTI No. 274-98A.

During the inspection, Mr. David W. Sadoway (Ph: 248-374-5870 ext. 204; Fax: 248-374-1178; E-mail: dsadoway@adeptfinish.com) assisted me. Mr. Sadoway is responsible for keeping VOC records. Mr. David J. Connell (Ph: 248-374-5870 ext. 206; Fax: 248-374-1178; E-mail: dconnell@adeptfinish.com), President and Owner, was not present.

This permit covers the coating of automotive and non-automotive plastic parts in the flexible group and emission units defined in the following table.

Flexible Group ID	Emission Unit ID	Associated Equipment	Stack ID
FG-COATLINE	EU-MONORAIL	Monorail Booth #1 (waterwash)	SV0001
		Monorail Booth #2 (waterwash)	SV0002
		Monorail Cure Oven	SV0003
	EU-BATCH BOOTHS	Batch Booth #1 (dry filters)	SV0004
		Batch Booth #2 (dry filters)	SV0005
		Batch Booth #3 (R & D) (dry filters) -- removed	SV0006
		Batch Booth #4 (dry filters)	SV0007
		One of three (R & D) booths removed Sometimes known as booth #2 other times (previously) known as #3. This error is due to counting from left to right or right to left.	
		North Cure Oven	SV0008
		South Cure Oven	SV0009

STATIONARY SOURCE

Pollutant	Equipment	Limit	Time Period	Compliance Method	Applicable Rules
1. Individual Hazardous Air Pollutants (HAPs)	Stationary Source	9.0 tons	12-month rolling time period	Special Condition No. 20	R 336.1205 (3)
2. Aggregate HAPs	Stationary Source	22.5 tons	12-month rolling time period	Special Condition No. 20	R 336.1205 (3)

FG-COATLINE

Pollutant	Equipment	Limit	Time Period	Compliance Method	Applicable Rules
3. Volatile Organic Compounds (VOCs)	FG-COATLINE	30.0 pounds	per hour	Special Condition No. 21 General Condition No. 14	R 336.1225 R 336.1901
4. VOCs	FG-COATLINE	49.0 tons	12-month rolling time period	Special Condition No. 21	R 336.1205 R 336.1702(a)
5. VOCs	Each Individual Spray Booth	29.5 tons	12-month rolling time period	Special Condition No. 21	R 336.1205 R 336.1702(a)
6. VOCs	Automotive Air-dried Prime - exterior plastic parts coating (black/red)	5.52 pounds per gallon (minus water), as applied *	Calendar day - (volume-weighted average)	Special Condition No. 21	R 336.1702 (d)
7. VOCs	Automotive Air-dried Basecoat - interior/exterior plastic parts coating (black/red)	5.75 pounds per gallon (minus water), as applied *	Calendar day - (volume-weighted average)	Special Condition No. 21	R 336.1702 (d)
8. VOCs	Automotive Air-dried Basecoat - interior/exterior	5.0 pounds per gallon	Calendar day - (volume-weighted)	Special Condition No. 21	R 336.1702 (d)

	plastic parts coating (non-red/black)	(minus water), as applied *	average)		
9. VOCs	Automotive Air-dried Clearcoat – interior/exterior plastic parts coating	4.5 pounds per gallon (minus water), as applied *	Calendar day – (volume-weighted average)	Special Condition No. 21	R 336.1702 (d)
10. VOCs	Non-automotive Prime - plastic parts coating	6.55 pounds per gallon (minus water), as applied	Instantaneous	Special Condition No. 21	R 336.1702 (a)
11. VOCs	Non-automotive Basecoat – plastic parts coating	5.95 pounds per gallon (minus water), as applied	Instantaneous	Special Condition No. 21	R 336.1702 (a)
* Low use coatings that total 55 gallons or less (sum of all coating categories) per rolling 12-month period may be used and are exempt from the VOC content limits. (R 336.1632)					

Coating process

FG-COATLINE:

1. EU-BATCH-BOOTHES: Four booths (only three at this time (March 7, 2015) one of four booths [R&D] removed) with backdraft filters; 2 ovens known as North & South.
2. EU-MONORAIL: Two robotic (accommodating possible two manual sprays) painting booths with backdraft water curtain, one monorail oven. Booth water is recycled using a cartridge filter system and a centrifuge to remove paint solids.

The company is in the business of spray painting plastic parts; hot stamping and pad printing. Per FY2015 inspection, although Adept retains capability, the hot stamping and pad printing capabilities have not been utilized since CY2005 due to recent advances in laser technologies. 4 of 8 booths were removed and replaced in 1995 with two large monorail (600 feet long) booths equipped with water wash system for overspray particulate matter control (May 1998 VN: in violation of Rule 201). Two monorail booths (EU-MONORAIL) are equipped with robots (2 robots in all; one robot per booth), HVLP guns and back-draft water curtain wash system. There is only one Monorail line but two predominantly robotic booths; manual spray is used if needed. Manual painting can also be done in EU-MONORAIL. Rest of the paint spray booths (EU-BATCHBOOTHES, four batch booths; 1 [R & D] of 4 removed; about 2015 only three booths) in the plant are equipped with backdraft dry filter systems for overspray particulate matter control. At present there are six booths in all in the plant: two monorail booths (both booths located at one monorail line) and four batch booths. One batch booth (#3 booth aka#2, aka R&D Booth, aka idle booth) of four batch booths was not used for several years and eventually removed. The parts from two Monorail booths are cured in one common Monorail Cure Oven. The parts from EU-BATCHBOOTHES

(three of four booths; one [#3 or R&D] idled for years and eventually removed) are cured in either North Cure Oven and South Cure Oven; one Infra-red oven is permanently removed.

The facility coats both interior and exterior (extreme performance coatings) plastic automotive / truck parts with air-dried solvent (25%) and water-based (75%) coatings. It also coats small amount of non-automotive plastic parts for consumer electronics components (e.g. Bose speakers, remote controls, VCR cabinets, medical equipment, etc.). Recently, most coatings used are water-based. Per FY2015 inspection, 75 percent of the coatings are water-based and rest (25%) coatings are solvent-based. At this plant, oldest of four plants (one of four [Plant #2] is sold to Alta Lift Truck) in Wixom owned and operated by Adept, trend is towards increased use of water-based coatings. As one plant (Plant #2 to ALTA) is sold, currently, Adept operates only four plants. Plant #4 performs Cr+6 plating on plastic parts. Plant #5 operates injection molding machines. Plant # 3 uses only solvent based coatings due to air-reuse technology for booth and oven controls. Water based paints cannot be used due to incompatibility with control systems.

PTI revision to resolve June 2001, VN

The Permit-to-Install No. 274-98 is revised to 274-98A dated March 28, 2001 to resolve excessive VOC emissions violation cited in June 22, 2001, letter of violation. The revision (PTI No. 274-98 → PTI No.274-98A) increased VOC emission limits from 37.8 tons per year and 21 pounds per hour to 49 (PTI No.274-98A, FG-COATLINE, SC 4) tons per year and 30 (PTI No.274-98A, FG-COATLINE, SC 3) pounds per hour. The violation was resolved via Consent Order AQD No. 25-2002. Mr. G. Vinson Hellwig, AQD Chief, terminated the consent order on September 29, 2005.

Batch coating and monorail coating

Of four batch booths, three are being used for small plastic parts; one (No. 3 booth, aka R&D Booth, aka No. 2 booth) was idled for several years and now removed (FY 2015). Both water-based (75%) and solvent-based (25%) paints are used. While one infra-red oven is removed, two natural gas fired convection ovens, known as North Oven and South Oven, are still present. Each batch booth is equipped with Sata HVLP guns and a backdraft dry filter particulate control system. Each Monorail booth uses one robotic applicator and one possible manual applicator. After Monorail painting, parts are cured for 45 minutes at 180-190 (<194 °F air dried coating cut-off temperature) degrees Fahrenheit. EU-MONORAIL consists of two robotic booths (1 robot per booth) with backdraft water curtain for overspray paint. Booth water is recycled using cartridge filter system and centrifuge.

High-bake coatings (> 194 degrees F) are not used anymore (since 2001). All coatings used are classified as low-bake coatings (< 194 degrees F, air-dried coatings temperature cut-off). As plastic parts are non-conductive, electrostatic coating, which can increase transfer efficiency, is not done.

Monorail coating

The Monorail (not batch booth but continuous) parts are washed in a five-stage washing system with Ion Exchange and Reverse Osmosis (RO) water:

1. Stage 1 (Prewash): 153 degrees Fahrenheit, 10-30 psi prewash.
2. Stage 2 (Wash): 153 degrees Fahrenheit, 10-30 psi wash (1-3% Polytex Phosphate wash).
3. Stage 3 (City Wash): 140 degrees Fahrenheit, 10-30 psi city rinse (<0.25% Polytex Phosphate wash).
4. Stage 4 (Recirculating DI / RO Water): 140 degrees Fahrenheit, 10-30 psi city rinse (0.025% Polytex Phosphate wash). Conductivity 75 micro mho
5. Stage 5 (RO): 140 degrees Fahrenheit, 10-30 psi DI / RO rinse virgin RO rinse < 10 conductivity, micro-mho).

Reverse Osmosis (RO) water is recycled using RO membranes. Water from parts is dried in dry-off oven that uses warm air. One RO unit is present.

Monorail process sequence

The process sequence for Monorail Process (water curtain control) is: 5-stage wash parts → blow off dryer to remove water → dry-off oven to dry all water → primer → basecoat → 50' flash-off → clearcoat → 50' flash-off → Monorail bake oven (not to be confused with North & South ovens for dry filter booths aka batch booths). The

parts are baked for 45 minutes at 190 degrees Fahrenheit in NG fired Monorail oven. During the inspection, the baking was at 191 degrees Fahrenheit. To be classified as air-dried coatings the baking (low temperature bake or simply low bake) should occur at or below 194 degrees Fahrenheit (PTI No.274-98A FG-COATLINE, SC14).

Violation notices and Consent Order AQD No. 25-2002

AQD issued a letter of violation dated May 29, 1998, because two large monorail booths were installed without obtaining a Permit-to-Install (Rule 336.1201) and excessive VOC emissions; during 1997 VOC emissions were 23 tons per year exceeding PTI #86-88 (SC 14) limit of 8.26 tons of VOC per year. Adept obtained new PTI No. 274-98 dated September 10, 1998. Special condition 1 (274-98) limits Monorail & Batch VOC emissions to 21 pounds per hour and 37.8 tons per year based upon 12-month rolling time period. Special condition 2 (274-98) limits plastic automotive parts VOC emissions to 29 tons per year based upon 12-month rolling time period. Special condition 3 (274-98) limits plastic parts (any spray booth portion) VOC emissions to 25 tons per year based upon 12-month rolling time period. PTI No. 274-98A revised VOC limits to 30 pounds per hour and 49 tons per year (from 37.8 tpy) based upon 12-month rolling time period from all coating lines (FG-COATLINE). Although 49 tpy (PTI No. 274-98A, FG-COATLINE, SC 4) VOC limit is facility-wide limit, 29.5 tpy VOC (PTI No. 274-98A, FG-COATLINE, SC 5) is a limit for each booth as a result of 702 BACT analysis (PTI No. 274-98A).

Anderson Court facility emitted 43 tons per year for year 2000 based upon the records in violation of PTI #274-98 (SC1 limit = 37.8 tpy). Therefore, the company revised the PTI #274-98 to PTI #274-98A to resolve excessive VOC emissions violation. Of the 43 tons, 41.7 tons were from automotive coatings and the rest from non-automotive coatings. Based upon 1999 MAERS report, VOC emissions were again 44 tpy. Upon receiving the permit revision request, Julie Brunner of Permit Section referred the matter to Enforcement Section.

AQD initiated an escalated enforcement action; on September 05, 2001, AQD's Southeast Michigan District Office referred the case for an escalated enforcement action. The violation was resolved via Consent Order AQD No. 25-2002, which is terminated as of September 29, 2005. The consent order addresses two facilities and two permits: PTI No. 195-97 (Beck Road, N6319) and PTI No. 274-98 (Anderson Court, N1581).

In addition, AQD had issued May 29, 1988, letter of violation for excessive VOC emissions (23 tpy actual Vs. PTI No. 86-88 limit of 8.2 tpy) and installing Monorail booths without first obtaining Permit-to-Install pursuant Rule 336.1201.

VOC and HAPs emissions

For FY 2013, VOC emissions are 31.941 tpy (automotive = 31.941 & nonautomotive = 0.00) based upon 12-month rolling period (PTI #274-98A, FG-COATLINE, SC4 limit: 49 tpy). Diethylene Glycol Monobutyl Ether (CAS No. 112-34-5) usage records are kept and the emissions are 1.12 pounds per month (PTI #274-98A, FG-COATLINE, SC12 limit: 36 pounds per day). During the inspection, water wash and dry filters were operating properly (PTI #274-98A, FG-COATLINE, SC 15). Sata HVLP guns are used (PTI #274-98A, FG-COATLINE, SC 16). Oven temperature charts are present (PTI #274-98A, FG-COATLINE, SC 14, 18). Environmental data sheets are used for VOC information (PTI #274-98A, FG-COATLINE, SC17, 19, 20). VOC records and emission calculations are done using Excel spreadsheets (PTI #274-98A FG-COATLINE, SC21). HAP calculations are done. For CY 2013, HAP emissions are 1.08 tons per year (PTI #274-98A FG-FACILITY, SC1 & 2 limits: 9 [single] and 22.5 [aggregate] tons of HAPs per year on 12-mo basis, synthetic minor conditions for NESHAP / MACT). Since most coatings are water based US EPA Reference Method is complex and unreliable and therefore at this time only EDS VOC values are acceptable (PTI #274-98A FG-COATLINE, SC 17).

Based upon daily VOC records and operating hours, VOC emissions are less than 24 pounds per hour (Dec 2013, PTI #274-98A, FG-COATLINE, SC 3 limit: 30). Although Adept uses non-compliant coatings, the company is in compliance with VOC limits for automotive air-dried (low-bake) prime exterior, black & red (PTI #274-98A FG-COATLINE, SC 6 limit: 5.52 lbs./gal.); automotive air-dried (low-bake) basecoat interior / exterior, black & red (PTI #274-98A FG-COATLINE, SC7 limit: 5.75 lbs./gal.); automotive air-dried (low-bake) interior / exterior, non-red / black (PTI #274-98A FG-COATLINE, SC8 limit: 5.0 lbs./gal.); automotive air-dried (low-bake) clearcoat interior / exterior (PTI #274-98A FG-COATLINE, SC9 limit: 4.5 lbs./gal.); non-automotive prime (PTI #274-98A FG-COATLINE, SC10 limit: 6.55 lbs./gal.); non-automotive basecoat (PTI #274-98A FG-COATLINE, SC11 limit: 5.95 lbs./gal.) based upon daily averaging. Highest VOC content (PTI #274-98A FG-COATLINE, SC 6-11) is 4.8 for Dec 2013. During FY2011 inspection, I pointed out calculation errors for hourly VOC. The spreadsheets were promptly corrected by January 2011. Purge clean-up (FG-COATLINE) emissions are 0.524 tpy.

Although the company utilizes low-use coatings, Adept, to its disadvantage, counts them all for daily averaging. According the PTI #274-98A footnote low-use coating are exempt from VOC content limits based upon the Rule 336.1632.

Aggregate HAP emissions for CY 2013 are 1.08 tons per 12-month (PTI #274-98A FG-FACILITY, SC 1 [9 tpy single HAP] & 2 [22.5 tpy aggregate HAP])

The VOC and HAP records are kept and the calculations are performed (PTI #274-98A, FG-COATLINE, SC 19, 20, 21).

The exhaust gases are discharged via 30-foot stack (PTI #274-98A, FG-COATLINE, SC 22).

VOC emissions correspond to 12,822 total gallons sprayed (Jan-Dec 2013). All data based upon CY 2013 records.

AQD has determined that the plants (Plant No. 1 SRN = N1581 and Plant No. 2 sold to ALTA) were not adjacent and contiguous based upon lack of inter-dependency and inter-relationship between the two plants separated by 1.3 miles via Beck Road.

Paint sludge

Water from two robotic booths is recycled / reused using one common centrifuge and cartridge filter to remove paint solids from robotic booths' water. Dewatered paint solids are disposed of according RCRA (non-hazardous solid waste). US EPA inspected Adept few years ago for compliance with RCRA.

NESHAP / MACT 4P and 6H

The January 22, 2004, letter from Mr. Sadowy states that Adept (N1581) is not subject to Major Source (> 10 [single] / 25 [aggregate] tpy HAP) NESHAP / MACT PPPP for plastic parts coating because of the opt-out permit. However, Adept (N1581) may be subject to (if coatings contain compounds of Cr, Pb, Mg, Ni, Cd keeping in mind this is a job-shop plastics parts coating facility) NESHAP / MACT 6H, 40 CFR, Part 63, Subpart HHHHHH. AQD has decided not to take delegation of these standards and therefore no attempt has been made evaluate Adept's compliance with NESHAP / MACT 6H.

NESHAP / MACT 4W

On August 4, 2003, AQD received an Initial Notification Report (NESHAP / MACT 4W) stating that Adept (N1581) is not a HAP major source and does not manufacture Reinforced Plastic Composites.

Cold-cleaners

There are 3 parts cold-cleaners: one 5 ft. * 2 ft. power operated lid, one 5 ft. * 2 ft. power hand-crank operated lid and one 2 ft. * 2 ft. no lid. The cold-cleaners are subject rule 336.611 or 336.1707 depending on if it is new or existing. A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

On February 2, 2015, I gave DEQ's decals for "cold-cleaner operating procedures" for posting and complying with work-practice rules. I asked the company to follow the common sense work practice in the procedures. I asked the company to keep lids closed at all times except when access needed (including soaking times).

One 2 ft. * 2 ft. unit is not equipped with a lid. The company will make it.

MEK is used as solvent for parts cleaning.

The Cold-cleaners are NOT Subject to: 40 CFR, Part 63, Subpart T, NESHAP/ MACT T, since solvents containing halogenated compounds are not used.

Adept may revise the permit 9PTI #274-98A0 to simplify.

CONCLUSION

I did not find violation of PTI #274-98A. Consent Order has been terminated as of September 29, 2005. May be NOT subject NESHAP / MACT 6H per claims that Cr, Pb, Mg, Ni, Cd-containing coatings are not used. May be NOT subject NESHAP / MACT 4W.

NAME J.S. Venamahal DATE 03/10/15 SUPERVISOR CJE