

**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY  
 OREGON TITLE V OPERATING PERMIT REVIEW REPORT**

Mailing Address

Plant Site Address

**Masterbrand Cabinets, Inc.  
 PO Box 547  
 Hillsboro, OR 97123**

**Masterbrand Cabinets, Inc.  
 600 SW Walnut Street  
 Hillsboro, OR 97123**

PSEL CRED	SOURCE TEST	COMS	CEMS	RACT	COMPL SCHED	SPEC COND	REPORT			EXCESS		NSPS	NSR	NESHAP	SIZE	PUBLIC NOTICE
							A	S	Q	R	N					
				X			X	X		X				X	TV	III

**TABLE OF CONTENTS**

**PERMITTEE IDENTIFICATION AND PERMIT ACTION ..... 4**

**FACILITY DESCRIPTION.....4**

**EMISSION UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION.....4**

**CATEGORICALLY INSIGNIFICANT ACTIVITIES.....4**

**EMISSION LIMITS AND STANDARDS.....5**

**REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT).....6**

**NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS.....7**

**PLANT SITE EMISSION LIMIT (PSEL).....9**  
     **Baseline Emission Rate.....9**  
     **Current Plant Site Emission Limit.....10**  
     **Significant Emission Rate.....10**

**AGGREGATE INSIGNIFICANT EMISSION UNIT.....11**

**HAZARDOUS AIR POLLUTANTS.....11**

**TOXIC AND FLAMMABLE SUBSTANCES USAGE FOR ACCIDENTAL RELEASE PREVENTION.....12**

**MONITORING REQUIREMENTS.....13**

**TEST METHODS AND PROCEDURES.....13**

**RECORDKEEPING REQUIREMENTS.....14**

**PUBLIC NOTICE**.....15

**LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT**

ACDP	Air Contaminant Discharge Permit	O <sub>2</sub>	Oxygen
ASTM	American Society of Testing and Materials	OAR	Oregon Administrative Rules
Btu	British thermal unit	ODEQ	Oregon Department of Environmental Quality
CFR	Code of Federal Regulations	ORS	Oregon Revised Statutes
CO	Carbon Monoxide	O & M	Operation and Maintenance
CPMS	Continuous parameter monitoring system	Pb	Lead
DEQ	Department of Environmental Quality	PCD	Pollution control device
dscf	Dry standard cubic feet	PM	Particulate matter
EF	Emission factor	PM <sub>10</sub>	Particulate matter less than 10 microns in size
EPA	US Environmental Protection Agency	ppm	Parts per million
EU	Emission Unit	PSEL	Plant Site Emission Limit
FCAA	Federal Clean Air Act	psia	pounds per square inch, actual
FSA	Fuel sampling and analysis	RACT	Reasonably Available Control Technology
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)	SERP	Source emissions reduction plan
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	SO <sub>2</sub>	Sulfur dioxide
HCFC	Halogenated Chloro-Fluoro-Carbons	ST	Source test
ID	Identification number	VE	Visible emissions
I&M	Inspection and maintenance	VMT	Vehicle miles traveled
NA	Not applicable	VOC	Volatile organic compounds

**Modified EPA Method 9:** As used in this permit “Modified EPA Method 9” is defined as follows:

Opacity must be measured in accordance with EPA Method 9. For all standards, the minimum observation period must be six minutes, though longer periods may be required by a specific rule or permit condition. Aggregate times (e.g., 3 minutes in any one hour) consist of the total duration of all readings during the observation period that are equal to or greater than the opacity percentage in the standard, whether or not the readings are consecutive. Each EPA Method 9 reading represents 15 seconds of time. [See also the definition of “Opacity” in OAR 340-208-0010]

**These terms used in this permit for the Wood Furniture Manufacturing NESHAP, have the following meanings:**

C <sub>c</sub>	=	the VHAP content of a finishing material (c), in kilograms of volatile hazardous air pollutants per kilogram of coating solids (kg VHAP/kg solids), as supplied. Also given in pounds of volatile hazardous air pollutants per pound of coating solids (lb. VHAP/lb. solids).
E	=	the emission limit achieved by an emission point or a set of emission points, in kg VHAP/kg solids (lb. VHAP/lb. solids).
G	=	the VHAP content of a contact adhesive, in kg VHAP/kg solids (lb. VHAP/lb. solids), as applied.
M	=	the mass of solids in finishing material used monthly, kg solids/month (lb. solids/month).
S	=	the VHAP content of a solvent, expressed as a weight fraction, added to finishing materials.
VHAP	=	volatile hazardous air pollutants

W = the amount of solvent, in kilograms (pounds), added to finishing materials during the monthly averaging period.

#### **PERMITTEE IDENTIFICATION AND PERMIT ACTION**

1. Masterbrands Cabinets, Inc. operates a kitchen cabinet manufacturing facility located at 600 SW Walnut Street in Hillsboro, Oregon. The facility was previously operated as Schrock Cabinet Company. The proposed permit is a renewal of an existing Oregon Title V Operating Permit.

#### **FACILITY DESCRIPTION**

2. Masterbrands Cabinets manufactures kitchen cabinets. The type of wood varies depending upon market demand. Cabinet components are manufactured from plywood and particleboard. Raw wood moldings, doors and drawer fronts are purchased from various sources. Door frames are manufactured from molded pieces that are assembled into rectangular shapes. All hardwood components, doors, drawer fronts, door frames and other decorative components are sanded to prepare the surface for coating. Following woodworking activities, all hardwood components have coatings applied through the finishing process. The general process characteristics, application equipment, and number of coatings applied to a given cabinet part is dependent on the specific coating and type of wood. As is typical in most cabinet finishing operations, Masterbrands applies stains and colored coatings (toners) followed by sealers and topcoats. For some applications a primer stage is included in this sequential process. Parts that do not pass the quality assurance inspections are typically sanded and re-coated.

#### **EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION**

3. The emissions units regulated by this permit are identified as follows and are unchanged from the existing permit [OAR 340-28-2120(3)] :

Emission Unit 1: Painting/coating operation

Emission Unit 2: Cyclones and baghouses

Emission Unit 4: Unpaved roads

Emission Unit 5: Air handlers (heaters)

Emission Unit AI: Aggregate insignificant activities which includes Heaters (PM/PM<sub>10</sub>, SO<sub>2</sub>, and VOC and cyclone drop PM/PM<sub>10</sub>)

Emission Unit 3 (Paved Roads) has been dropped as a formal emission unit. Paved roads and parking lots within an urban growth area are considered categorically insignificant activities.

#### **CATEGORICALLY INSIGNIFICANT ACTIVITIES**

4. Masterbrands Cabinets has the following categorically insignificant activities on site, which are unchanged from the existing permit:
  - Constituents of a chemical mixture present at less than 1% by weight of any chemical or compound regulated under Divisions 20 through 32 of this chapter, or less than 0.1% by weight of any carcinogen listed in the U.S. Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year
  - Evaporative and tail pipe emissions from on-site motor vehicle operation
  - Distillate oil, kerosene, and gasoline fuel burning equipment rated at less than or equal to 0.4 million Btu/hr
  - Natural gas and propane burning equipment rated at less than or equal to 2.0 million Btu/hr

- Office activities
- Janitorial activities
- Personal care activities
- Groundskeeping activities including, but not limited to building painting and road and parking lot maintenance
- Maintenance and repair shop
- Automotive repair shops or storage garages
- Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment
- Refrigeration systems with less than 50 pounds of charge or ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems
- Temporary construction activities
- Warehouse activities
- Accidental fires
- Warehouse activities
- Air vents from air compressors
- Electrical charging stations
- Instrument air dryers and distribution
- Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking
- Electric motors
- Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids
- Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment
- Pressurized tanks containing gaseous compounds
- Vacuum sheet stacker vents
- Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities
- Fire suppression and training
- Paved roads and paved parking lots within an urban growth boundary
- Health, safety, and emergency response activities
- Oil/water separators in effluent treatment systems

## **EMISSION LIMITS AND STANDARDS**

5. The facility wide and emission unit specific emission limits and monitoring requirements are substantially unchanged in the proposed permit from the existing permit. The PSELs are also unchanged. There have been minor changes to the permit formatting. The limits and standards are summarized in the following table:

Emission Unit	Applicable Requirement	Limit	Monitoring Method
Facility Wide	340-208-0210(2)	Fugitive emissions	VE periodic monitoring
	340-208-0300	Odors	Complaints
	340-208-0450	Fallout	Complaints
	340-206-0050	Source Emission Reduction Plan (SERP)	Log of actions
	40 CFR Part 68	Risk management plan	NA
EU1 (Painting/Coating Operations)	340-208-0600	20%	VE periodic monitoring
	340-208-0110(2)	20%	VE periodic monitoring
	340-226-0210(1)(b)	0.1 gr/dscf	Recordkeeping
	40 CFR 63.802(a)(1)	1.0 lb/lb solids	Recordkeeping
	40 CFR 63.802(a)(1)	10% HAP by weight	Recordkeeping
	40 CFR 63.802(a)(1)	3% HAP by weight	Recordkeeping
	40 CFR 63.802(a)(2)	1.0 lb/lb solids	Recordkeeping
	40 CFR 63.802(a)(3)	0.8 lb/lb solids	Recordkeeping
	40 CFR 63.803	Work Practice Standards	Recordkeeping
	340-232-0040	RACT	Recordkeeping
EU2 (Material Handling)	340-208-0600	20%	VE periodic monitoring
	340-208-0110(2)	20%	VE periodic monitoring
	340-226-0210(1)(b)	0.1 gr/dscf	Recordkeeping
	340-021-0040 & 0045	Process wt. limit	I&M monitoring
EU4 (Unpaved Roads)	340-208-0600	20%	VE periodic monitoring
	340-208-0110(2)	20%	VE periodic monitoring
Plant Wide	340-222-0040 through 340-222-0043	PSEL	Mass balance and recordkeeping
	340-200-0020	Insignificant Activities	Not required

#### REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT)

6. OAR 340-232-0040 requires that any source existing in the Portland Metropolitan area and which has the potential to emit 100 ton/yr or more of VOCs and for which no categorical RACT exists, must have RACT requirements developed on a case-by-case basis by the Department. The Department completed a RACT determination for the facility, held a public hearing, and issued a permit addendum to cover the RACT requirements. EPA approved the RACT determination on May 6, 1997. RACT became effective on May 6, 1998.
7. RACT limits the VOC content of coatings. The permittee must not apply any coatings to wood furniture products, kitchen cabinets and associated decorative hardwood components, which contain volatile organic

compound content in excess of the following limits, based on monthly usage, except individual coating categories may exceed the specified limits if there is a corresponding decrease in the actual VOC content of other coating categories such that total VOC emissions do not increase above the levels which would have been achieved had only compliant coatings been used, i.e.:  $\sum \text{coating}_i \times \text{VOC content}_i$  is  $\leq \sum \text{compliant coating} \times \text{VOC limit}$  in the following table.

COATINGS CATEGORY	LB VOC/GAL <sup>a</sup>	LB VOC/LB SOLID
Water Based Topcoats	(3.0)	0.8
Pigmented Coatings	4.5	NA
High Solids Topcoats <sup>b</sup>	NA	1.8
Alkyd Amino Vinyl Topcoats	(5.0)	2.0
High solids Sealers	(5.1)	1.9
Alkyd Amino Sealers	(5.4)	2.3
Sealers used with Water Based Topcoats	5.6	NA

- a. As applied. The approximate equivalent, shown in parentheses, is calculated using the standard solvent density of 7.36 lb/gal and the density of the solid material in typical coatings of the category. The lb VOC/gal should be used to estimate emissions (for replacement and/or substitution purposes, etc.). The permittee must comply with the limits stated in the table above in lb VOC/lb solid for calculation of actual facility emissions.
- b. High solids topcoats other than alkyd amino vinyl topcoats.

#### NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

8. As part of implementing the Clean Air Act, the Environmental Protection Agency (EPA) has established National Emission Standards for Hazardous Air Pollutants (NESHAP) for various industries. The intent of the standards is to protect the public by requiring new and existing major sources to control emissions to the level attainable by implementing the maximum achievable control technology (MACT), taking into consideration the cost of achieving such emission reductions, any non air quality and other air quality-related health and environmental impacts and energy requirements. On December 7, 1995, the EPA issued the final NESHAP standards for hazardous air pollutant emissions from wood furniture manufacturing operations. (40 CFR Part 63, Subpart JJ)

Many wood furniture manufacturing facilities are major sources of hazardous air pollutant (HAPs) emissions emitting more than 25 tons per year (tons/yr) of organic HAPs, including, but not limited to toluene, xylene, methanol, methyl ethyl ketone, methyl isobutyl ketone, and formaldehyde. All of these pollutants can cause reversible or irreversible toxic effects following exposure. These adverse health effects are associated with a wide range of ambient concentrations and exposure times and are influenced by source specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect human variability such as genetics, age, health status, (i.e., the presence of pre-existing disease), and lifestyle.

The affected source for the promulgated standards is each facility that is engaged, either in part or in whole, in the manufacture of wood furniture or wood furniture components and that is located at a plant that is a major

source. A major source is any facility, which emits 10 or more tons per year of any one HAP, or any facility, which emits 25 or more tons per year of any combination of HAPs. The promulgated standards include emission limits on the finishing materials and contact adhesives used by the wood furniture industry and work practice standards to reduce emissions from all sources of HAP emissions. To allow owners and operators flexibility in meeting the emission limits the promulgated standards include multiple options for complying with the limits.

These standards reduce nationwide emissions of HAPs from wood furniture manufacturing operations by approximately 33,000 tons/yr. While the emission limits do not require the use of lower-VOC materials, the work practice standards should reduce the use of VOC containing materials and, therefore, VOC emissions. No significant adverse secondary air, water, solid waste, or energy impacts are anticipated from the promulgation of these standards.

For the purposes of these standards; 'wood furniture' means any product made of wood, a wood product such as rattan or wicker, or an engineered wood product such as particleboard that is manufactured under any of the following standard industrial classification (SIC) codes: 2434, 2511, 2512, 2517, 2519, 2531, 2541, 2599, or 5712; 'wood furniture component' means any part that is used in the manufacture of wood furniture. Examples include, but are not limited to, drawer sides, cabinet doors, and laminated tops; 'wood furniture manufacturing' means the finishing, gluing, cleaning, and washoff operations associated with the production of wood furniture or wood furniture components.

Masterbrand Cabinets, primary SIC code 2434, is considered a major source of HAPs, and therefore subject to the NESHAP for wood furniture manufacturing operations. Masterbrand must comply with the following emission limits and work practice standards:

The permittee must limit VHAP emissions from finishing operations by meeting the following emission limitations:

- a. Achieve a weighted average VHAP content across all coatings maximum of 1.0 kg VHAP/kg solids [lb VHAP/lb solids], as applied; or
- b. Use the following compliant finishing materials (maximum kg VHAP/kg solids [lb VHAP/lb solids], as applied):

stains	1.0
washcoats	1.0
sealers	1.0
topcoats	1.0
basecoats	1.0
enamels	1.0
thinners	10 (maximum % by weight HAP allowable)
thinners	(when used with washcoats, basecoats, and enamels formulated onsite)
	3 (maximum % by weight HAP allowable);

or

Use any combination of a or b to achieve 1.0 kilogram of VHAP emitted per kilogram of solids used. [40 CFR 63.802 (a)(1)]

Work practice implementation plan: The permittee must maintain a written work practice implementation plan that defines environmentally desirable work practices for each of the following wood furniture manufacturing operation:

- a. Operator training course.
- b. Inspection and maintenance plan.
- c. Cleaning and washoff solvent accounting system.
- d. Chemical composition of cleaning and washoff solvents.
- e. Spray booth cleaning.
- f. Storage requirements.
- g. Application equipment requirements.
- h. Line cleaning
- i. Gun cleaning.
- j. Washoff operations.
- k. Formulation assessment plan for finishing operations.

The NESHAP requirements in the proposed permit are unchanged from the requirements in the existing permit. Masterbrand Cabinets has operated in continuous compliance with these requirements. Masterbrand Cabinets uses the averaging method of demonstrating compliance. They do not use contact adhesives, washoff operation, continuous coater or conventional spray guns. They use a solvent recovery still.

**PLANT SITE EMISSION LIMIT (PSEL) INFORMATION:**

**Baseline Emission Rate**

9. The operating schedule material use and production for the baseline year 1978 was:

- 9.a. The plant: 8 hrs/day x 5 days/wk x 50 wks/yr = 2,000 hrs/yr
- 9.b. Paint and solvent (average solvent 5.25 lbs VOC/gal): 105,290 gal/yr
- 9.c. Cabinet production: 200,000 cabinets

10. The baseline emission rate has been corrected to include fugitive emissions from unpaved roads and particulate emissions from the painting/coating operation. Emissions from paved roads were incorrectly included in the emissions calculations in the original Oregon Title V Operating Permit. Emissions for paved roads are considered categorically insignificant within the urban growth boundary and have been deleted from baseline year emissions and the PSEL. The corrected PM, PM10, and gaseous emissions in the baseline year 1978 were as follows:

Emissions Unit		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Painting/Coating	ton/yr	24.1	24.1	NA	NA	NA	276
Cyclones	ton/yr	5.4	2.7	NA	NA	NA	NA
Cyclone drop	ton/yr	Negl.*	Negl.*	NA	NA	NA	NA
Unpaved roads	ton/yr	11.2	4.0	NA	NA	NA	NA
Heaters	ton/yr	0.1	0.1	0.1	3.7	0.8	0.2
Insignificant Emissions Unit	ton/yr	1.0	1.0	1.0	1.0	1.0	1.0
<b>Total Baseline</b>	<b>ton/yr</b>	<b>42</b>	<b>32</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>277</b>

\* less than 0.1 ton/yr.

NA Not applicable

11. The netting basis is different from the baseline emission rate for VOC. When the source specific RACT requirements became applicable (May 6, 1998) the VOC netting basis was reduced to reflect use of RACT compliant coatings in the baseline year. RACT compliant coatings were estimated to average 4.04 pounds of VOC per gallon of coating. Baseline year coatings averaged 5.25 pounds of VOC per gallon of coating. 105,290 gallons of coatings were used in the baseline year. Therefore, the VOC netting basis becomes 214 tons.

VOC Baseline	277.4 tons
Correction	$\frac{-63.7}{2000} [105,290 \text{ gal.} \times (5.25 \# \text{ VOC/gal gal.} - 4.04 \# \text{ VOC/gal})]$
Netting Basis	214 tons

**Current Plant Site Emission Limit**

12. The normal operating schedule material usage and production are different from the baseline year and is shown below:

12.a.	The plant: 24 hrs/day x 7 days/wk x 52 wks/yr =	8,736 hrs/yr
12.b.	Paint and solvent:	134,000 gal/yr
12.c.	Cabinet production:	800,000 cabinets

13. The annual plant site emission limits are as follows:

Basis	PM tons/yr	PM <sub>10</sub> tons/yr	SO <sub>2</sub> tons/yr	CO tons/yr	NO <sub>x</sub> tons/yr	VOC tons/yr
Facility wide	49	46	39	99	39	253

**Significant Emission Rate**

14. The Plant Site Emission Limit increase over the netting basis is less than the Significant Emission Rate (SER) as defined in OAR 340-200-0020 for all pollutants. No further air quality analysis is required for those pollutants.

Pollutant	Baseline Emissions (tons/year)	Netting Basis	Proposed PSEL (tons/year)*	Increase over Netting Basis (tons/year)	SER (tons/year)
Particulate, PM	42	42	49	7	25
Particulate, PM <sub>10</sub>	32	32	46	14	15
CO	2	2	99	97	100
NO <sub>x</sub>	5	5	44	39	40
VOC	277	214	253	39	40
SO <sub>2</sub>	1	1	39	38	40

- \* The proposed PSELs are unchanged from the existing PSELs.

The proposed plant site emission limit (PSEL) is greater than the netting basis for each pollutant. There are no unassigned emissions. The increase allows for increased production in accordance to Department rules. The PSELs for CO and SO<sub>2</sub> are set at the SER minus 1. The potential to emit CO and SO<sub>2</sub> are less than the SER. The PSELs for PM<sub>10</sub>, NO<sub>x</sub> and VOC are set at the netting basis plus SER minus 1. The PSELs for PM is set at the PTE. The potential to emit PM, PM<sub>10</sub>, NO<sub>x</sub> and VOC is equal to or greater than the proposed PSEL for the respective pollutant. Any increase above the proposed PSELs for PM<sub>10</sub>, NO<sub>x</sub> and VOC may require air quality analysis, offsets and installation of Best Achievable Control Technology.

Actual emissions as shown in the following table are significantly less than the existing and proposed PSELs.

	PM, tpy	PM <sub>10</sub> , tpy	SO <sub>2</sub> , tpy	CO, tpy	NO <sub>x</sub> tpy	VOC, tpy
PSEL	49	46	39	99	39	253
2005 calendar year emissions	17	16	1	2	3	152

#### AGGREGATE INSIGNIFICANT EMISSIONS UNIT

15. The emissions from the activities included in the aggregate insignificant emissions include PM emissions from the cyclone drops; PM/PM<sub>10</sub>, VOC and SO<sub>2</sub> emissions from the heaters (EU5) and opacity and grain loading from EU5.

#### HAZARDOUS AIR POLLUTANTS

16. The unregulated potential to emit and PSEL limited potential to emit hazardous air pollutants as estimated by Masterbrands Cabinets as follows:

Hazardous Air Pollutant	CAS Number	Unregulated PTE (Capacity to Emit) tons/year	PSEL limited PTE ** tons/year
Cumene	98-82-8	2	<1
Ethanediol	107-21-1	2.7	<1
Ethylbenzene	100-41-4	57	11
Formaldehyde	50-00-0	1	<1
Glycol Ethers	n/a	217	43
Methylene Chloride	75-09-2	22.8	5
Methyl Alcohol	67-56-1	58	12
MEK*	78-93-3	75.4	15
Methyl Isobutyl Ketone	108-10-1	187.6	38
Toluene	108-88-3	334	67

Hazardous Air Pollutant	CAS Number	Unregulated PTE (Capacity to Emit) tons/year	PSEL limited PTE ** tons/year
Vinyl Acetate	108-05-4	0.11	<1
Xylene	1330-20-7	305	61
Total		1264	253*

- \* As of December 19, 2007, EPA dropped MEK from the list of HAPs. However, as of the date of issuance of the permit renewal, MEK is still listed as a HAP by the Department. When the Department formally delists MEK, the permittee may drop MEK from any required calculations for quantification of HAPs.
- The HAP potential to emit is limited by the VOC PSEL and is approximately 20% of the capacity to emit.

#### TOXIC AND FLAMMABLE SUBSTANCE USAGE FOR ACCIDENTAL RELEASE PREVENTION

17. The following toxic and/or flammable substances are used at Masterbrands Cabinets in the approximate quantities listed below:

CAS Number	Chemical name	Insignificant	1,001-10,000 lbs/yr	10,001-20,000 lbs/yr	20,001-50,000 lbs/yr	>50,000 lbs/yr
67-64-1	Acetone					x
1344-28-1	Aluminum Oxide		x			
	Barium Compounds					x
123-72-8	Butanol					x
78-92-2	sec-Butanol		x			
1897-45-6	Clorothalonil	x				
98-82-8	Cumene		x			
107-21-1	1,2-Ethanediol		x			
100-41-4	Ethylbenzene					x
50-00-0	Formaldehyde		x			
107-21-1	Ethylene Glycol		x			
75-09-2	Methylene Chloride				x	
67-56-1	Methyl Alcohol					x

CAS Number	Chemical name	Insignificant	1,001-10,000 lbs/yr	10,001-20,000 lbs/yr	20,001-50,000 lbs/yr	>50,000 lbs/yr
78-93-3	Methyl Ethyl Ketone					x
108-10-1	Methyl Isobutyl ketone					x
67-63-0	Isopropyl Alcohol					x
108-88-3	Toluene					x
95-63-6	1,2,4 Trimethyl benzene		x			
108-05-4	Vinyl Acetate	x				

### MONITORING REQUIREMENTS

18. The monitoring requirements for the following emissions units are not conventional because of certain problems/difficulties associated with the emissions unit:

18.a. The Department believes that the particulate filter media used on the spray booths, if properly maintained, would easily meet the state-wide grain loading and opacity limits. Therefore, rather than require source testing or visible emissions observations as methods to monitor compliance, the Department is requiring inspection and maintenance activities for all of the spray booths at least once per day, and is requiring these activities to be kept in a log.

18.b. Material balance determinations (gallons of coating x lbs/gallon x % VOC by weight) must be used to demonstrate compliance with the VOC PSEL.

18.c. Aggregate Insignificant: Section 70.6(a)(3)(i) requires that all monitoring and analysis procedures or test methods required under applicable requirements be contained in Title V permits. In addition, where the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirement to include in a permit testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor with respect to all emissions units and applicable requirement situations. It does not require extensive testing or monitoring to assure compliance with the applicable requirements for emissions units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. Where compliance with the underlying applicable requirement for an insignificant emission unit is not threatened by a lack of a regular program of monitoring and where periodic testing or monitoring is not otherwise required by the applicable requirement, then in this instance, the status quo (i.e., no monitoring) will meet section 70.6(a)(3)(i).

18.d. Monitoring associated with NESHAP is accomplished by recordkeeping.

### TEST METHODS AND PROCEDURES

19. This section, is provided so that the permittee and Department will know what test methods should be used to measure pollutant emissions in the event that testing is conducted for any reason. This section does not by itself require the permittee to conduct any more testing than was previously included in the permit. Although the permit may not require testing because other routine monitoring is used to assure compliance, the Department and EPA always have the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct testing to confirm the compliance status. In either case, the methods to be used for testing in the event that testing is conducted are included in the permit. This is true for SIP as well as NSPS emission limits and standards.

#### **RECORDKEEPING REQUIREMENTS**

20. The permittee is required to maintain records of all inspection and maintenance activities, complaints, and material usage.

The permittee must maintain the applicable specific records required by 40 CFR Part 63 Subpart JJ, including but not limited to, certified product data sheets, VHAP content of products used, and VOC content of products used, quantity of products used to support equations cited, records associated with compliance procedures and all records associated with fulfilling the requirements of the work practice implementation plan.

## **REPORTING REQUIREMENTS**

21. The permittee is required to submit semi-annual and annual reports including a semi-annual NESHAP report. The semi-annual reports are for certifying compliance with the applicable requirements contained in the permit. The report must include a list of all emission limits and monitoring deviations, the reason, and the corrective action as a result of the deviation. The permittee is also required to report to the Department any nuisance complaints within 5 days of receiving the complaint.

## **GENERAL BACKGROUND INFORMATION**

22. The proposed permit is a renewal for an existing Oregon Title V Operating Permit (ACDP 34-2060) which was issued on January 1, 1998 and renewed on July 23, 2002. The existing permit is scheduled to expire on April 1, 2007.
23. Other permits issued or required by the Department of Environmental Quality for this source include a DEQ Hazardous Waste Generator Registration.
24. A Land Use Compatibility Statement signed by the City of Hillsboro on September 6, 1995 granted unconditional approval.
25. This source is located in a maintenance area for Carbon Monoxide (CO) and a maintenance area for ozone. It is a major source of VOC emissions which is a precursor to ozone formation, but emits only 1.4 tons of CO in a year. The area is in attainment for all other pollutants.
26. The source is located within 100 kilometers (62 miles) of a Class I air quality protection area: Mt. Hood Wilderness Area.
27. This source is not subject to federal regulations for New Source Performance Standards (NSPS).
28. The plant may operate up to 24 hours per day, 7 days per week, and 52 weeks per year.

## **COMPLIANCE HISTORY**

29. The facility was inspected on 9/17/02, 9/22/04 and 06/08/06 and was found to be in compliance with Department regulations and permit conditions.

## **PUBLIC NOTICE**

30. The proposed permit is considered a Category III permit action and public notice is required. The proposed permit will be placed on public notice for 35 days from February 20, 2007 through March 28, 2007, 5pm to allow the public to submit comments.

PLANT SITE EMISSION DETAIL SHEETS  
BASELINE YEAR

Pollutant/Emission Unit	Emission Unit ID	Operating Parameter	Emission Factor	Reference	Process Emissions tons/year
PM					
(Painting/Coating)	EU1	105,290 gal/yr	55.35% solids & 8.28 lb/gal @ 90% filter eff.	Mass balance	24.1
Material Handling	EU2				5.4
Cyclones		21,485 BDT/yr	0.5 lb/BDT	ODEQ	AI
Cyclone drop		12,891 tons/yr	0.00035 lb/ton	AP-42	
Unpaved Roads	EU4	*	*		11.2
Heaters	EU5	74.71 MMscf/yr	2.5 lb/MMscf	DEQ	0.1
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total PM Baseline					42
PM <sub>10</sub>					
(Painting/Coating)	EU1	105,290 gal/yr	55.35% solids @ 8.28 lb/gal @ 90% filter eff.	Mass balance	24.1
Material Handling	EU2				
Cyclones		21,485 BDT/yr	0.25 lb/BDT	ODEQ	2.7
Cyclone drop		12,891 tons/yr	0.00012 lb/ton	AP-42	IA
Unpaved Roads	EU4	*	*		4.0
Heaters	EU5	74.71 MMscf/yr	2.5 lb/MMscf	DEQ	0.1
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total PM <sub>10</sub> Baseline					32
SO <sub>2</sub>					
Heaters	EU5	74.71 MMscf/yr	3.8 lb/MMscf	DEQ	AI
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total SO <sub>2</sub> Baseline					1
NO <sub>x</sub>					
Heaters	EU5	74.71 MMscf/yr	100 lb/MMscf	DEQ	3.7
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total NO <sub>x</sub> Baseline					5
CO					
Heaters	EU5	74.71 MMscf/yr	20 lb/MMscf	DEQ	0.8
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total CO Baseline					2
VOC					
(Painting/Coating)	EU1	105,290 gal/yr	5.25 lb/gal	Mass balance	276
Heaters	EU5	74.71 MMscf/yr	5.3 lb/MMscf	DEQ	0.2
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total VOC Baseline					277**

\* Baseline PM/PM<sub>10</sub> emissions were calculated using vehicle miles traveled. For calculations see appendix to original Oregon Title V Operating Permit.

\*\* The 277 ton VOC baseline minus 63 tons RACT adjustment for source specific RACT equals 214 ton Netting Basis.

PLANT SITE EMISSION DETAIL SHEETS  
PROJECTED EMISSIONS AT FULL PRODUCTION

Pollutant/Emission Unit	Emission Unit ID	Operating Parameter	Emission Factor	Reference	Process Emissions tons/year
PM					
(Painting/Coating)	EU1	362,500 gal/yr	0.24 lb/gal	Dept. est.	43.5
Material Handling	EU2	5000 BDT	0.001 lb/BDT	DEQ	Negl.
Unpaved Roads	EU4	800,000 cabinets	0.01022 lb/cabinet	Est	4.1
Heaters	EU5	343 MMscf/yr	2.5 lb/MMscf	DEQ	0.4
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total PM					49
PM <sub>10</sub>					
(Painting/Coating)	EU1	362,500 gal/yr	0.24 lb/gal	Dept. est.	43.4
Material Handling	EU2	5000 BDT	0.001 lb/BDT	AP-42	Negl.
Unpaved Roads	EU4	800,000 cabinets	0.00368 lb/cabinet	Est	1.5
Heaters	EU5	343 MMscf/yr	2.5 lb/MMscf	DEQ	0.4
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total PM <sub>10</sub>					46
SO <sub>2</sub>					
Heaters	EU5	343 MMscf/yr	3.8 lb/MMscf	DEQ	0.7 **
Other**					37.3
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total SO <sub>2</sub>					39
NO <sub>x</sub>					
Heaters	EU5	343 MMscf/yr	100 lb/MMscf	DEQ	17
Other					21 **
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total NO <sub>x</sub>					39
CO					
Heaters	EU5	343 MMscf/yr	84 lb/MMscf	AP-42	14
Other					84 **
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total CO					99
VOC					
(Painting/Coating)	EU1	variable	variable	Mass balance	252
Heaters	EU5	343 MMscf/yr	5.3 lb/MMscf	DEQ	0.9 (AI)
Insignificant Emissions Unit	IEU	NA	NA	DEQ	1.0
Total VOC					253

\* All cyclones are either baghouse controlled or exhausted indoors

\*\* Fictional emission unit used only to account for the difference between expected actual emissions and rule requirement to set the minimum PSELs at the Generic PSEL level (See OAR 340-222-0041(1) ), or at the Netting Basis minus 1.