Teton Sales Company, LLC

Permit to Construct Application

Caldwell Facility

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EXECUTIVE SUMMARY

Teton Sales Company (Teton) – Caldwell is applying for a revision to their current Permit to Construct, P-060032, issued May 8, 2007. This revision includes the request to reduce annual coating throughputs for the following operations or specific products:

- Roll Coater #1 – Burnishing Sealer
- Fan Coater #1 – Brown Basecoat
- Fan Coater #2 – White Basecoat
- Fan Coater #3 – Topcoat
- Fan Coater #4A – White Basecoat
- Printer #1 – Ink
- 5005 Teton Thinner
- Glycol Ether

Additionally, the Spray Booth coating throughputs will remain unchanged. A previously constructed Fan Coater 4B will be used to test a new White Lacquer, water-based paint. Printer#2 is now out of service and no longer operational. The table below illustrates the changes in throughput being requested in this revision. The requested new limits will result in Teton no longer qualifying as a Title V source. Therefore, as part of this application, Teton is requesting the termination of the Tier I Operating Permit, No. T1-050025, issued January 16, 2008, concurrent to issuance of the revised Permit to Construct.

Table A Requested Change in Throughput (gal/yr)

Operation/Coating	Current Permitted Limit	Proposed New Limit
Spray Booth - Primer	39,600	39,600
Spray Booth - Lacquer	39,600	39,600
Roll Coater # 1- Burnishing Sealer	3,080	600
Fan Coater # 1- Brown Basecoat	8,800	4,000
Fan Coater # 2- White Basecoat	14,080	1,500
Fan Coater # 3- Topcoat	4,400	1,200
Fan Coater # 4A- White Basecoat	19,360	5,000
Fan Coater # 4B- White Lacquer	N/A	9,000
Printer # 1- Ink	3,520	1,000
5005 Teton Thinner	25,080	4,426
Glycol Ether	65	38

Teton will become a minor facility regarding Title V with a potential to emit (PTE) less than 100 tons per year (tpy) for all criteria pollutants and hazardous air pollutant (HAP) thresholds of 10 tpy of a single HAP and 25 tpy for all aggregated HAP emissions.

1.0 PROCESS DESCRIPTION

1.1 Coating Process

Unpainted doors and molding are brought to the facility where they are coated with water and solvent-based coatings respectively prior to sale. The coating operations are located in 518 Kit Avenue and 604 Kit Avenue.

518 Kit Avenue

Operational equipment in this building is the spray booth, four oven heaters and three space heaters.

Doors are hand attached to hangers that are mechanically conveyed along a suspended rail past the spray booth where workers spray coat the doors with hand-held, air-assisted airless spray guns. The two airless spray guns have an operational maximum throughput capacity of 15 total gallons per hour. This physical limit is based on the required drying time in the oven. Because of that limitation, the assumed throughput of 9 gal/hr/gun is conservative. After coating, the doors are routed through a heated drying oven, which is a paneled, ventilated enclosure with natural gas fired oven heaters (560,000 Btu per hour total heat input). The oven ventilation system consists of an exhaust blower operating at 5,000 cfm. After passing through the oven each door is removed from its hanger. There are also three 100,000 Btu/hr natural gas fired heaters used as space heaters for heating the building 518 Kit Avenue. For emissions calculations the oven and space heaters are assumed to combust natural gas at maximum capacity and operate 8,760 hours per year.

The spray booth is a wide, ventilated booth that draws air past the spraying activity through a 99% efficient polyester filter, discharging air outside the building at a rate of 25,000 cubic feet per minute (cfm). Discharged air may contain volatile organic compounds (VOC), volatile hazardous air pollutants (HAPs), volatile toxic air pollutants (TAPs) and particulate matter (PM, PM_{10} and $PM_{2.5}$). The filtration system controls particulate matter emissions, but VOC emissions are uncontrolled. The spray booth utilizes water-based paint to tremendously reduce the VOC, HAP and TAP emitted to the ambient air.

604 Kit Avenue

Two molding coating processes along with a drying oven and a paint mix area are located in this building. Molding coating equipment for the Paint and Print Process consists of:

- Roll Coater #1
- Fan Coater #1
- Fan Coater #3
- Printer #1
- Two Buffers

When the Paint and Print process is operating, molding is conveyed through Roll Coater #1 which rolls a high solid sealer onto the molding. The molding is then sent to the oven for drying. There are no PM emissions from Roll Coater #1 and emissions are drawn out of the building by a nearby 5,000 cfm wall vent. From the oven, the molding passes through one of two buffers which generate negligible emissions. No coating is applied. Rather, the buffers use paint brush bristles to remove any excess dust and smooth out the coating. Additionally, no particulate emissions from the dust escape the building to ambient air. Therefore, emissions from the buffers are not included in any emissions inventory or PTE calculations or tables. The molding then passes through Fan Coater #1 which discharges a fan-shaped curtain of brown basecoat over the molding. There are no PM emissions from any of the fan coaters and VOC, HAP and TAP emissions are captured by a ventilation hood and vented through the wall or the roof. The molding then enters the oven for drying before it is routed through Printer #1 which can be shuffled on and off line depending on the type of molding being patterned, if any. The printers imprint a wood grain pattern such as oak or pine onto the molding. There are no PM emissions from the printer and VOC, HAP and TAP emissions are captured by a ventilation hood and vented through the wall. The molding then passes through Fan Coater #3 which applies a satin lacquer topcoat to the molding.

After proper coating and printing, the molding is routed through a heated drying oven, which is a paneled, ventilated enclosure with four natural gas fired heaters (560,000 Btu per hour total heat input). There are also one 100,000 Btu/hr natural gas fired heater used as a space heater for heating the building 604 Kit Avenue. For emissions calculations the oven and space heater are assumed to combust natural gas at maximum capacity and operate 8,760 hours per year. The oven ventilation system consists of an exhaust blower operating at 5,000 cfm.

Molding coating equipment for the White Molding Process consists of:

- Roll Coater #1
- Fan Coater #2
- Fan Coater #4A & B

When the White Molding process is operating, molding is conveyed through roll coater #1 and then enters the oven for drying. From the oven, the molding passes through one of two buffers and is then conveyed through Fan Coater #4 which applies a layer of white basecoat onto the molding. The application of white basecoat is option A for Fan Coater #4. Teton will also be testing a water-based white lacquer in Fan Coater #4 which will be Option B. Worst case VOC emissions are calculated for Fan Coater #4A. The molding passes through the oven for additional drying before being coated by another layer of white basecoat from Fan Coater #2. After proper coating, the molding is routed again through the drying oven.

Only one of the two molding coating processes can run at a time due to the equipment configuration in 604 Kit Avenue. Fan coaters #1 and #4 are in parallel along with fan coaters #2 and #3, and therefore are unable to operate simultaneously.

612 Kit Avenue

612 Kit contains a small dato machine used to square the ends of the unpainted doors prior to being coated in Kit 518. Dust from the dato machine is collected in socks located under the blade. There is no air flow through the socks and therefore dust is collected by gravity. Ambient air impact from the dato machine is determined to be negligible. Therefore, particulate matter emissions from the dato machine are not included in any emissions inventory or PTE calculations or tables. There is one 100,000 Btu per hour space heater located in 612 Kit. For emissions calculations it is assumed to combust natural gas at maximum capacity and operate 8,760 hours per year.

1.2 Equipment List

The current equipment list is:

Table 1.2-1 Major Process Equipment

EQUIPMENT	CONSTRUCTION DATE
Spray Booth	1995
Roll Coater # 1	1990
Fan Coater # 1	1976
Fan Coater # 2	1976
Fan Coater # 3	1995
Fan Coater # 4A&B	1993/2012
Printer # 1	1990

1.3 Process Flow Diagram

Teton's process flow diagram for 518 Kit Avenue is shown in Figure 1.3-1. The process flow diagram for 604 Kit Avenue is shown in Figure 1.3-2.

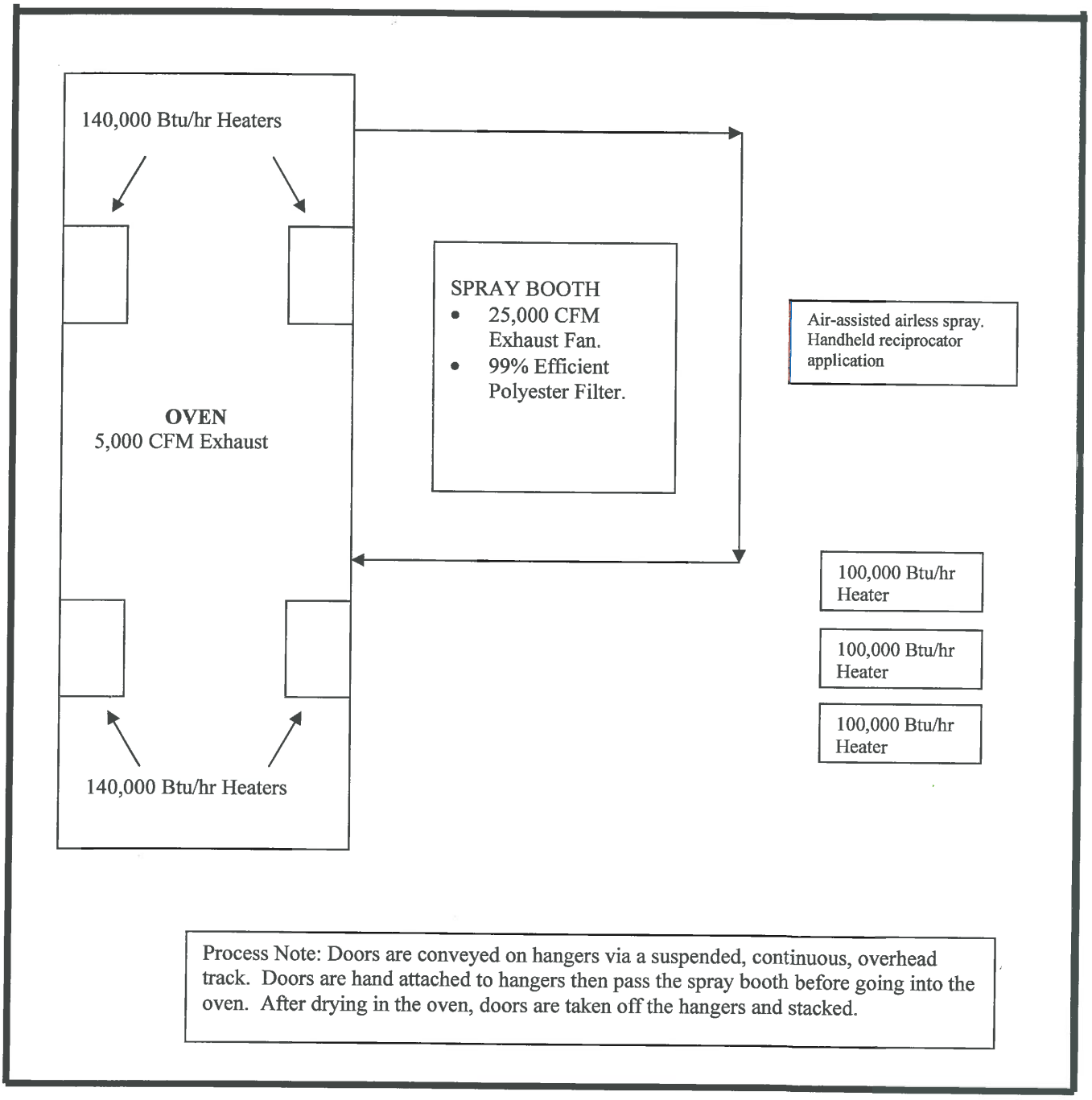


Figure 1.3-1 Spray Booth Flow Chart – 518 Kit Avenue

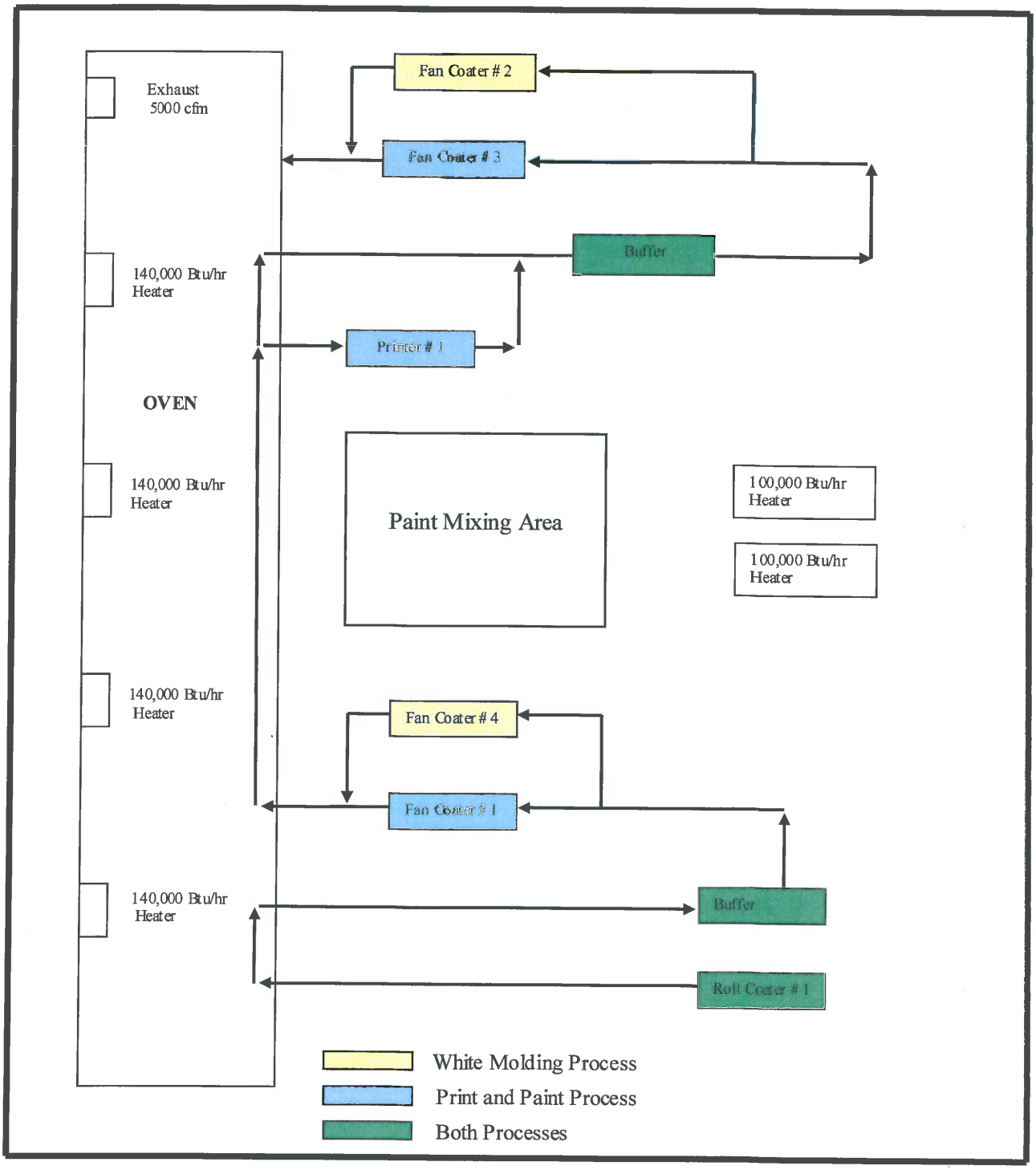


Figure 1.3-2 Molding Line Flow Chart – 604 Kit Avenue

2.0 REGULATORY APPLICABILITY

A review of state and local air quality regulations is provided in Table 2-1. Each regulation is described in the following sections. Included in Appendix B is the completed federal regulatory applicability PTC form.

Table 2.0-1 Regulatory Applicability Summary

	Program Description	Regulatory Citation	Applicable
2.1	National Ambient Air Quality Standards (NAAQS)- (dispersion modeling)	40 CFR Part 50	No
2.2	Title V Operating Permit	40 CFR Part 70	No
2.3	Air Pollutants (NESHAPs)	40 CFR Parts 61, 63	Yes
2.4	New Source Review (NSR)	40 CFR Part 52	No
2.5	New Source Performance Standards (NSPS)	40 CFR Part 60	No
2.6	Acid Rain Requirements	40 CFR Parts 72–78	No
2.7	Risk Management Programs For Chemical Accidental Release Prevention	40 CFR Part 68	No
2.8.	State Rules		
2.8.1	Certification of Documents	IDAPA 58.01.01.123	Yes
2.8.2	Excess Emissions	IDAPA 58.01.01.130-136	Yes
2.8.3	Demonstration of Preconstruction Compliance with Toxic Standards	IDAPA 58.01.01.210	Yes
2.8.4	Ambient Air Quality Standards for Specific Air Pollutants	IDAPA 58.01.01.577	Yes
2.8.5	Toxic Air Pollutants	IDAPA 58.01.01.585 and 586	Yes
2.8.6	National Emission Standards for Hazardous Air Pollutants	IDAPA 58.01.01.591	Yes
2.8.7	Open Burning	IDAPA 58.01.01.600-616	Yes
2.8.8	Visible Emissions	IDAPA 58.01.01.625	Yes
2.8.9	Rules for Control of Fugitive Dust	IDAPA 58.01.01.650	Yes
2.8.10	Fuel Burning Equipment	IDAPA 58.01.01.676	Yes
2.8.11	Odors	IDAPA 58.01.01.775-776	Yes

2.1 National Ambient Air Quality Standards (NAAQS)

Primary National Ambient Air Quality Standards (NAAQS) are identified in 40 CFR Part 50 and define levels of air quality, which the United States Environmental Protection Agency (USEPA) deems necessary to protect the public health. Secondary NAAQS define levels of air quality, which the USEPA judges necessary to protect public welfare from any known, or anticipated adverse effects of a pollutant. Examples of public welfare include protecting wildlife, buildings, national monuments, vegetation, visibility, and property values from degradation due to excessive emissions of criteria pollutants.

Specific standards for the following pollutants have been promulgated by USEPA: PM_{10}, SO_2, NO_x, CO, ozone, lead, and $PM_{2.5}$. The Teton facility will emit $PM_{10,}$, $PM_{2.5,}$ SO_2, NO_x, CO, and VOCs, a precursor to ozone. There is no need for a NAAAQS demonstration for the permitting action as there is a decrease of all NAAQS pollutants. As a result, all modeling thresholds are not exceeded. Refer to email correspondence between DEQ regarding this issue in Appendix C.

2.2 Title V (Part 70) Operating Permit

Title V of the Clean Air Act (CAA) created the federal operating permit program. These permitting requirements are codified in 40 CFR Part 70. These permits are required for major sources with a PTE (considering federally enforceable limitations) greater than 100 tpy for any criteria pollutant, 25 tpy for all hazardous air pollutants (HAPs) in aggregate, or 10 tpy of any single HAP. Teton is proposing to take appropriating operating limitations to no longer be a major facility. Therefore, a Title V Operating Permit is no longer required and this application is requesting that the current permit be terminated upon issuance of the revised Permit to Construct.

2.3 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Two sets of National Emissions Standards for Hazardous Air Pollutants (NESHAPs) may potentially apply to Teton. The first NESHAP regulations were developed under the auspices of the original CAA. These standards are codified in 40 CFR Part 61, and address a limited number of pollutants and industries. 40 CFR Part 61 regulations do not apply to this facility.

Newer regulations are codified in 40 CFR Part 63 under the authority of the 1990 Clean Air Act Amendments (CAAA). These standards regulate HAP emissions from specific source categories and typically affect only major sources of HAPs, however some affect minor sources of HAPs. Part 63 regulations are frequently called Maximum Achievable Control Technology (MACT) standards. Major HAP sources have the PTE 10 tpy or more of any single HAP or 25 tpy or more of all combined HAP emissions. At Teton, potential emissions of individual HAPs will be less than 10 tpy and combined HAP emissions will be less than 25 tpy. A review of all potential NESHAPS concluded that, while Teton will no longer be a major source for HAPs, it is still

applicable to the MACT, Subpart QQQQ. This is due to the May 16th, 2005 EPA memorandum entitled "Potential to Emit for MACT Standards – Guidance on Timing Issues", also known as the "Once In Always In" policy. Although Teton will be considered an Area Source following the proposed action, the facility will continue to comply with the applicable sections of the subpart.

2.4 New Source Review (NSR) Requirements

Ada County is designated as an attainment area for all criteria pollutants. Therefore, the prevention of significant deterioration (PSD) regulations codified in 40 CFR Part 52 could potentially apply to the proposed facility. The PSD rule applies to: (1) a new major source that has the potential to emit 100 tons per year or more for any criteria pollutant for a facility that is one of the 28 industrial source categories listed in 40 CFR § 52.21(b)(1)(i)(a); or (2) a new major source that has the potential to emit 250 tons per year or more if the facility is not on the list of industrial source categories; or (3) a modification to an existing major source that results in a net emission increase greater than a PSD significant emission rate as specified in 40 CFR § 52.21 (b)(23)(i); or (4) a modification to an existing minor source that is major in itself. The proposed permitting action does not trigger any PSD actions.

2.5 New Source Performance Standards (NSPS)

New Source Performance Standards (NSPS) in 40 CFR Part 60 are applicable to new, modified, or reconstructed stationary sources that meet or exceed specified applicability thresholds. There are no applicable NSPS requirements for Teton.

2.6 Acid Rain Requirements

The acid rain requirements codified in 40 CFR Parts 72-78 apply only to utilities and other facilities that combust fossil fuel and generate electricity for wholesale or retail sale. The proposed facility will not produce electrical power for sale. Therefore, the facility is not subject to the acid rain provisions and will not require an acid rain permit.

2.7 Risk Management Programs for Chemical Accidental Release Prevention

The facility is not subject to the Chemical Accidental Release Prevention Program and will not be required to develop a Risk Management Plan (RMP). Facilities that produce, process, store, or use any regulated toxic or flammable substance in excess of the thresholds listed in 40 CFR Part 68 must develop a RMP. The facility does not store any regulated toxic or flammable substances in excess of the applicable thresholds. A RMP is not necessary for this facility.

2.8 State Rules

The Idaho Administrative Procedure Act (IDAPA) promulgates several emissions regulations that apply to Teton in addition to those listed above.

2.8.1 Certification of Documents

IDAPA 58.01.01.123 requires all documents including application forms for permits to construct, records, and monitoring reports submitted to the Department shall contain a certification by a responsible official. Teton will comply with this requirement and the appropriate certifications by a responsible official are being submitted with this application.

2.8.2 Excess Emissions

IDAPA 58.01.01.130-136 establishes procedures and requirements to be implemented in all excess emissions events. Teton will comply with the procedures and requirements outlined in Section 131-136 and submit the necessary information and reports to DEQ related to excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

2.8.3 Demonstration of Preconstruction Compliance with Toxic Standards

IDAPA 58.01.01.210 establishes requirements for preconstruction compliance with toxic standards. Teton will comply with this rule by identifying and calculating the toxic pollutant emission rates from the facility.

2.8.4 Ambient Air Quality Standards for Specific Air Pollutants

IDAPA 58.01.01.577 establishes ambient air quality standards for specific air pollutants including PM_{10}, $PM_{2.5}$, Sulfur Dioxide, Ozone, Nitrogen Oxide, Carbon Monoxide, Fluorides and Lead. Teton is below the IDEQ modeling emissions threshold for all pollutants of which there is a standard. Therefore, modeling was not conducted for these pollutants.

2.8.5 Toxic Air Pollutants

IDAPA 58.01.01.585 and 586 establishes requirements for compliance with toxic air pollutants. Teton demonstrates compliance with all Emission Screen Levels (EL). See Section 3 and Appendix E for details. Teton is also requesting that a permit condition be included to allow for potential future changes or updates to coating, whereby the EL of a new TAP constituent is not exceeded. This flexibility would limit future modification or revision submittals to IDEQ.

2.8.6 National Emission Standards for Hazardous Air Pollutants

IDAPA 58.01.01.591 states that any applicable 40 CFR Part 61 or Part 63 requirements are complied with by a stationary source. Teton will meet this requirement by complying with all

applicable sections of subpart QQQQ. See Form FRA for a detailed breakdown of the applicable portions of the subpart.

2.8.7 Open Burning

IDAPA 58.01.01.600 and 616 establishes requirements for open burning. Teton does not expect to conduct open burning at the facility however will comply with the requirements under Section 600-616 if any allowable burning is to be conducted at the facility.

2.8.8 Visible Emission Limitation

IDAPA 58.01.01.625 restricts discharge of air pollutants into the atmosphere which is greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. Teton will comply with this rule by conducting monthly facility-wide inspections of potential sources of visible emissions, during daylight hours and under normal operating conditions. The inspection will consist of a see/no see evaluation for each potential source. If any visible emissions are observed Teton will take corrective action or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. Teton will keep records onsite documenting the monthly visible emission inspection and Method 9 test conducted.

2.8.9 Rules for Control of Fugitive Dust

IDAPA 58.01.01.650 requires that all reasonable precautions be taken to prevent the generation of fugitive dust. Teton will continue to comply with fugitive particulate matter regulations.

2.8.10 Fuel Burning Equipment – Particulate Matter

IDAPA 58.01.01.677 restricts any fuel burning source of less than 10 MMBtu to limit the PM released from combustion to 0.015 gr/dscf for gas fuel. The oven and space heaters are below 10 MMBtu/hr and will comply with this standard as provided in the attached emission inventory in Appendix E.

2.8.11 Odors

IDAPA 58.01.01.775-776 requires no emissions of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution. Teton will comply with this requirement by keeping records of all odor complaints received and will take appropriate action for each complaint which has merit.

3.0 EMISSION SUMMARY

3.1 Emission Calculations

A summary of the emissions based on the potential to emit of the following equipment are presented in Table 3.1-1.

- Spray Booth
- Roll Coater #1.
- Fan Coater #1-4B.
- Printer #1.
- Storage Tanks (Acetone & 5005 Thinner)
- Oven Heaters #1-8
- Space Heaters #1-5

Detailed emission calculations are included in Appendix E. Permit application forms are included as Appendix B.

Table 3.1-1 PTE for Facility-Wide Criteria Pollutant Emissions

Source	$PM_{2.5}/PM_{10}$		VOC[c,d]		SO_2		NO_x		CO		Lead		GHG
	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(tpy)
Spray Booth	0.79	1.73	6.30	13.86	--	--	--	--	--	--	--	--	
Roll Coater #1	--	--	3.52	1.51	--	--	--	--	--	--	--	--	
Fan Coater #1	--	--		7.43	--	--	--	--	--	--	--	--	
Fan Coater #2	--	--	13.25	3.11	--	--	--	--	--	--	--	--	
Fan Coater #3	--	--		2.92	--	--	--	--	--	--	--	--	
Fan Coater #4A	--	--	18.22	10.35	--	--	--	--	--	--	--	--	
Fan Coater #4B	--	--		2.57	--	--	--	--	--	--	--	--	
Printer #1	--	--	21.8	13.5	--	--	--	--	--	--	--	--	
Acetone Tank[a]	--	--		--	--	--	--	--	--	--	--	--	
5005 Thinner Storage Tank[b]	--	--	0.0045	0.020	--	--	--	--	--	--	--	--	
Oven Heaters 1-8	0.008	0.04	0.01	0.03	7.0E-04	0.003	0.11	0.48	0.09	0.40	5.5E-07	2.4E-06	761.91
Space Heaters 1-5	0.004	0.016	0.005	0.012	0.005	0.012	0.07	0.30	0.06	0.25	3.4E-07	1.5E-06	
Total PTE	**0.8**	**1.78**	**63.15**	**55.3**	**0.001**	**0.005**	**0.18**	**0.78**	**0.15**	**0.65**	**8.9E-07**	**3.9E-06**	**761.91**

a. Acetone is not a VOC, thus not criteria emissions.
b. The acetone fraction is not included in the calculation
c. Fan Coater #2 and #3 operate in parallel and therefore are unable to operate simultaneously. Worst case emissions are from #2.
d. Fan Coater #1 and #4 operate in parallel and therefore are unable to operate simultaneously. Worst case emissions are from #4A.

3.2 Toxic Air Pollutants

A summary of the total facility-wide Toxic Air Pollutant (TAP) emissions are presented in Table 3.2-1 through Table 3.2-3 below. Detailed emission calculations are included in Appendix E. All pollutants remain below their respective EL. Although this a revision, the Pre-Project emissions are assumed to be zero because the "increase" is the total amount of each pollutant that could be emitted based on the new proposed limits rather than an incremental change. Subsequently, the difference is an overestimate of what the incremental change truly is. This is a conservative approach because it assumes absolute worst-case TAPs emissions as the calculations are 1-hr maximum lb/hr values rather than 24-hour or annual averages for the coating operations. Also, the calculations assume simultaneous operations amongst the fan coater. However, fan #2 and #3 and #1 and #4 operates in parallel. They cannot operate simultaneously; thus this is another reason why these calculations are overestimates. Combustion is assumed 8,760 operating hours, thus the values are identical to the previous permit.

Table 3.2-1 TAPs PTE

NON-CARCINOGENS COATING OPERATIONS

Pollutant	CAS #	TAP Emissions (lb/hr)	Pre-Project TAP Emissions (lb/hr)	Difference (lb/hr)	Screening Level (lb/hr)	Modeling (Yes/No)
Acetone	67-64-1	100.12	0.0	100.12	119	No
Butanol	71-36-3	0.33	0.0	0.33	7.5	No
Butyl Acetate	123-86-4	7.43	0.0	7.43	35.5	No
Calcium Carbonate	13765-19-0	0.12	0.0	0.12	0.667	
Cumene	98-82-8	0.0009	0.0	0.0009	16.3	No
Dipropylene glycol methyl ether	34590-94-8	1.47	0.0	1.47	30	No
Ethyl Acetate	141-78-6	1.74	0.0	1.74	93.3	No
Ethyl Alcohol	64-17-5	0.02	0.0	0.02	126	No
Ethyl Benzene	100-41-4	0.33	0.0	0.33	29	No
Glycol Ether	111-76-2	1.52	0.0	1.52	8	No
Isobutyl Acetate	110-19-0	12.14	0.0	12.14	46.7	No
Isobutyl Alcohol	78-83-1	1.00	0.0	1.00	10	No
Isopropanol	67-63-0	9.79	0.0	9.79	65.3	No
Ligroine (VM&P Naphtha)	8032-32-4	0.30	0.0	0.30	91.3	No
Methyl Alcohol	67-56-1	0.58	0.0	0.58	17.3	No
Methyl Ethyl Ketone	78-93-3	3.92	0.0	3.92	39.3	No
Methyl Isobutyl Ketone	108-10-1	0.83	0.0	0.83	13.7	No
Methyl n-amyl Ketone	110-43-0	0.58	0.0	0.58	15.7	No
Methyl Propyl Ketone	107-87-9	5.99	0.0	5.99	46.7	No

Pollutant	CAS #	TAP Emissions (lb/hr)	Pre-Project TAP Emissions (lb/hr)	Difference (lb/hr)	Screening Level (lb/hr)	Modeling (Yes/No)
Quartz	14808-60-7	8.9E-04	0.0	8.9E-04	0.0067	No
Stoddard Solvent	8052-41-3	0.69	0.0	0.69	35	No
Toluene[a]	108-88-3	12.51	0.0	12.51	25	No
Trimethylbenzene	25551-13-7	0.01	0.0	0.01	8.2	No
Xylene	1330-20-7	1.50	0.0	1.50	2.9	No

a. The calculation of toluene includes the portion from combustion. As a result, it is not in Table 3.2.2.

Table 3.2-2 TAPs PTE

NON-CARCINOGENS NATURAL GAS COMBUSTION

Pollutant	CAS #	TAP Emissions (lb/hr)	Pre-Project TAP Emissions (lb/hr)	Difference (lb/hr)	Screening Level (lb/hr)	Modeling (Yes/No)	TAP Emissions (tpy)
Barium	7440-39-3	6.99E-06	6.99E-06	0.0	3.30E-02	No	3.06E-05
Chromium	7440-47-3	2.22E-06	2.22E-06	0.0	3.30E-02	No	9.72E-06
Cobalt	7440-48-4	1.33E-07	1.33E-07	0.0	3.30E-03	No	5.83E-07
Cooper	7440-50-8	1.35E-06	1.35E-06	0.0	1.30E-02	No	5.91E-06
Hexane	110-54-3	2.86E-06	2.86E-06	0.0	12	No	1.25E-05
Manganese	7439-96-5	6.04E-07	6.04E-07	0.0	6.70E-02	No	2.65E-06
Molybdenum	7439-98-7	1.75E-06	1.75E-06	0.0	0.333	No	7.67E-06
Naphthalene	91-20-3	9.69E-07	9.69E-07	0.0	3.33	No	4.24E-06
Pentane	109-66-0	4.13E-03	4.13E-03	0.0	118	No	1.81E-02
Selenium	7782-49-2	3.81E-08	3.81E-08	0.0	1.30E-02	No	1.67E-07
Vanadium	1314-62-1	3.65E-06	3.65E-06	0.0	3.00E-03	No	1.60E-05
Zinc	7440-66-6	4.61E-05	4.61E-05	0.0	0.667	No	2.02E-04

Table 3.2-3 TAPs PTE

CARCINOGENS NATURAL GAS COMBUSTION

Pollutant	CAS #	TAP Emissions (lb/hr)	Pre-Project TAP Emissions (lb/hr)	Difference (lb/hr)	Screening Level (lb/hr)	Modeling (Yes/No)	TAP Emissions (tpy)
Arsenic	7440-38-2	3.18E-07	3.18E-07	0.0	1.50E-06	No	1.39E-06
Benzene	74-43-2	3.34E-06	3.34E-06	0.0	8.00E-04	No	1.4E-05
Beryllium	7440-41-7	1.91E-08	1.91E-08	0.0	2.80E-05	No	8.37E-08
Cadmium	7440-43-9	1.75E-06	1.75E-06	0.0	3.70E-06	No	7.67E-06
Formaldehyde	50-00-0	1.19E-04	1.19E-04	0.0	5.10E-04	No	5.21E-04
3-Methylcholanthrene	56-49-5	2.86E-09	2.86E-09	0.0	2.5E-06	No	1.25E-08
Naphthalene	91-20-3	9.69E-07	9.69E-07	0.0	9.10E-05	No	4.24E-06
Nickel	7440-02-0	3.34E-06	3.34E-06	0.0	2.70E-05	No	1.46E-05
POM (7-PAH)	50-32-8	1.81E-08	1.81E-08	0.0	2.00E-06	No	7.93E-08

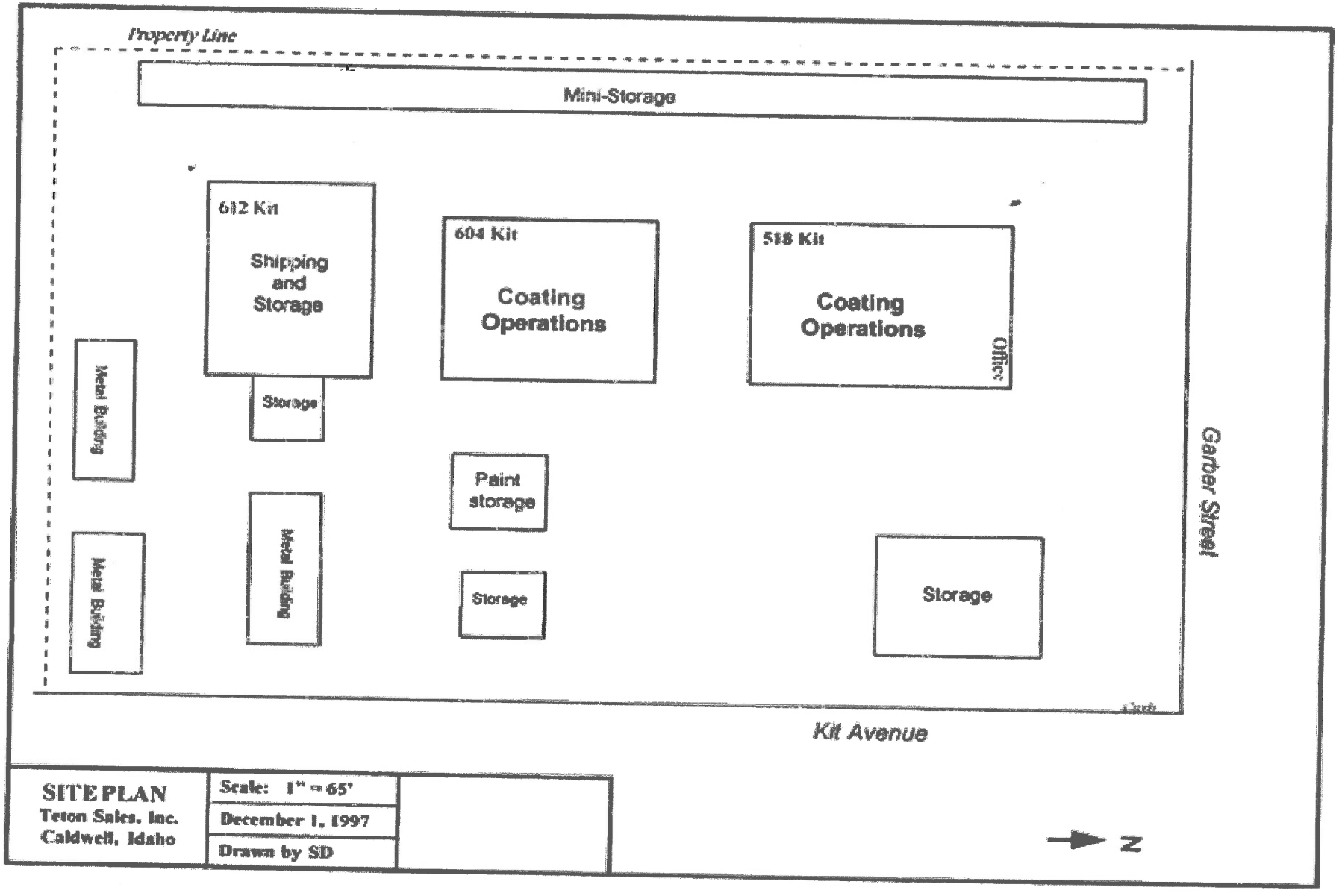
APPENDIX A

Site Location Map and Plot Plan

The coating operations are located at Universal Transverse Mercator (UTM) Zone 11 coordinates of 523.878 km east, 4834.928 km north. The terrain surrounding the plant is considered industrial urban and fairly flat. The following figures are a layout of the facility or plot plan and site location map with the ambient air boundary indicated.

UTM Zone 11: 523.878 km east, 4834.928 km, Elevation 718 meters

UTM Zone 11 Coordinates: 523.878 km East, 4834.928 km North



SITE PLAN
Teton Sales, Inc.
Caldwell, Idaho

Scale: 1" = 65'
December 1, 1997
Drawn by SD

DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Teton Sales Company	Caldwell	027-00067

4. Brief Project Description: Reduction of throughput for several coatings, inclusion of Fan #4B, termination of Tier I OP

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name: OVEN HEATER #1-8

6. EU ID Number:

7. EU Type: ☐ New Source ☐ Unpermitted Existing Source
☒ Modification to a Permitted Source -- Previous Permit #:P-060032 Date Issued: May 8, 2007

8. Manufacturer: UNKNOWN

9. Model:

10.. Maximum Capacity: 0.14 MMBTU/HR

11. Date of Construction: #1&2 - 1992, #3&4 - 1995, #5,7,8 - 1989, #6 - 1977

12. Date of Modification (if any): NONE

13. Is this a Controlled Emission Unit? ☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation: 24 HOUR/DAY ASSUMED FOR ALL 8

23. Maximum Operation: 8,760 HOUR/YEAR ASSUMED FOR ALL 8

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☒ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

25. Rationale for Requesting the Limit(s):

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Teton Sales Company	Caldwell	027-00067

4. Brief Project Description: Reduction of throughput for several coatings, inclusion of Fan #4B, termination of Tier I OP

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name: PRINTER #1

6. EU ID Number:

7. EU Type: ☐ New Source ☐ Unpermitted Existing Source
☒ Modification to a Permitted Source -- Previous Permit #:P-060032 Date Issued: May 8, 2007

8. Manufacturer: BUCKLEY

9. Model:

10.. Maximum Capacity: 2.5 GAL/HR

11. Date of Construction: JUNE 1990

12. Date of Modification (if any): NONE

13. Is this a Controlled Emission Unit? ☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation:

23. Maximum Operation:

REQUESTED LIMITS

24. Are you requesting any permit limits? ☒ Yes ☐ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☒ Material Usage Limit(s): 1,000 GAL/YR

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

25. Rationale for Requesting the Limit(s): STAY BELOW VOC/HAPS MAJOR SOURCE THRESHOLDS

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Teton Sales Company	Caldwell	027-00067

4. Brief Project Description: Reduction of throughput for several coatings, inclusion of Fan #4B, termination of Tier I OP

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name:	ROLLER COATER #1
6. EU ID Number:	
7. EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-060032 Date Issued: May 8, 2007
8. Manufacturer:	TETON SALES
9. Model:	
10.. Maximum Capacity:	1.55 GAL/HR
11. Date of Construction:	JANUARY, 1990
12. Date of Modification (if any):	NONE
13. Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation:

23. Maximum Operation:

REQUESTED LIMITS

24. Are you requesting any permit limits? ☒ Yes ☐ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☒ Material Usage Limit(s):	600 GAL/YR
☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
☐ Other:	

25. Rationale for Requesting the Limit(s): STAY BELOW VOC/HAPS MAJOR SOURCE THRESHOLDS

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Teton Sales Company	Caldwell	027-00067

4. Brief Project Description: Reduction of throughput for several coatings, inclusion of Fan #4B, termination of Tier I OP

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	SPACE HEATER #1-5
6.	EU ID Number:	
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-060032 Date Issued: May 8, 2007
8.	Manufacturer:	UNKNOWN
9.	Model:	
10..	Maximum Capacity:	0.10 MMBTU/HR
11.	Date of Construction:	#1-3 - 1981, #4 - 1977, #5 - 1989
12.	Date of Modification (if any):	NONE
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	24 HOUR/DAY ASSUMED FOR ALL 8
23.	Maximum Operation:	8,760 HOUR/YEAR ASSUMED FOR ALL 8

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☒ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

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Air Permit Hotline – 1-877-5PERMIT

AIR PERMIT APPLICATION

Revision 6
10/7/09

For each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: Teton Sales Company	2. Facility Name: Caldwell
3. Brief Project Description:	Reduction of throughput for several coatings, inclusion of Fan #4B, termination of Tier I OP

APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): ☑ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): QQQQ ☐ Not Applicable
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	☑ A detailed regulatory review is provided (Follow instructions and example). ☑ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT

It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand what those requirements are prior to the application being submitted but that DEQ will not perform the required technical or regulatory analysis on the applicant's behalf.

March 1, 2004

RE: 40 CFR Part 63, Subpart QQQQ: Surface Coating of Wood Building Products – Options, Requirements and Alternatives; Teton Sales Company, Caldwell, Idaho

Background/Applicability

Subpart QQQQ establishes NESHAP for wood building products surface coating sources. The following citations are the criteria for determining applicability:

> §63.4681 (a), the source category to which this subpart applies is surface coating of wood building products, which means the application of coatings using, for example, roll coaters or curtain coaters in the finish or laminating of any wood building product that contains more than 50 percent by weight wood or wood fiber excluding the weight the weight of any glass components, and is used in the construction, either interior or exterior, of a residential, commercial or institutional building.
>
> §63.4681 (b), you are subject to this subpart if you own or operate a new, reconstructed, or existing affected source that uses 1,100 gallons per year or more, of coatings in the source category defined in paragraph §63.4681 (a) and that is a major source, is located at a major source, or is part of a major source of emissions of hazardous air pollutants (HAP).

All coating operations of wood building products is considered an existing affected source if constructed before June 21, 2002 in accordance with §63.4682.

For an existing affected source, the compliance date is the date 3 years after May 28, 2003.

Teton was constructed prior to June 21, 2002 and an affected source. Teton is no longer a major source for HAPs following this permitting application. However, due to the "Potential to Emit for MACT Standards – Guidance on Timing Issues", also known as the "Once In Always In" policy, based on the initial compliance date. For an existing affected source, the initial compliance date is June 1, 2006[1] *and the compliance period is the 12 months following the initial compliance date. Because the compliance date has passed, Teton must maintain compliance with all applicable requirements. Teton has previously submitted all notification requirements to date.*

Options & Requirements

EPA has designed three options for demonstrating compliance with Subpart QQQQ. Any of the compliance options may be applied to an individual coating operation or to multiple coating

[1] The actual compliance date is May 28, 2006, but if the compliance date occurs on any day other than the first day of the month, then the initial compliance period extends through the end of that month plus the next 12 months.

operations as a group or to the entire facility. All three compliance options have the same HAP emission limit of 1.93 lb HAP/gal Solid. The three compliance options are as follows:

1. Compliant Material Option
2. Emission Rate Without Add-On Controls Option
3. Emission Rate With Add-On Controls Option

Compliant Material Option

To demonstrate initial compliance using the compliant material option, Teton must use no coating, thinner or cleaning material with a HAP content that exceeds the applicable emission limit of 1.93 lb HAP/gal Solid.

This option is based on the HAP content of each individual coating, thinner and cleaning materials. Teton's existing coatings can be calculated for HAP content to determine if any, or all, demonstrate compliance with applicable emission limit. Teton would then be able to decide if the coating, thinner or cleaning materials that don't demonstrate compliance will be replaced with coating, thinner or cleaning materials that do comply or that the coating operation materials will be subject to another option.

Emission Rate Without Add-On Controls Option

To demonstrate initial compliance using the emission rate without add-on control option, Teton's facility-wide coating operations or group of coating operations must meet the applicable emission limit of 1.93 lb HAP/gal Solid.

This option is based on the HAP emissions of the remaining coating operation materials, if any, from the compliant material option. This option is a yearly HAP emission rate of Teton's combined coating operation materials, i.e. an average. It could be beneficial to bypass the compliant material option completely, even if there are coatings, thinners or cleaning materials that comply, to help weight the average of the remaining facility HAP emissions. If bypassing the compliant material option is chosen it could mean Teton would have to replace less coatings, thinners and cleaning materials.

Emission Rate With Add-On Controls Option

To demonstrate initial compliance using the emission rate with add-on control option, Teton's facility-wide coating operations or group of coating operations must meet the applicable emission limit of 1.93 lb HAP/gal Solid and comply with the operating limits and work practice standards of §63.4692 and §63.4693 respectively.

It has been demonstrated in Teton's previous BACT analysis that add-on controls are not an option due to the tremendous capital and operation costs. Therefore the emission rate with add-on control option will not be considered in demonstration compliance with Subpart QQQQ. Therefore, Teton has chosen the Emission rate without add-on controls and will continue to comply with these requirements. In accordance with §63.4692(a) and §63.4693(a), Teton is not

required to meet any other operating limits or work practice standards if complying with §63.4691(b).

Teton is also required to meet the 1.93 lb HAP/gal solid emission limit at all times, in accordance with §63.4700(a)(1). The affected source will be maintained appropriately in accordance with MACT General Provisions (63.6(e)(1)(i)).

Notification Requirements

(a) *General.* You must submit the notifications in §63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) that apply to you by the dates specified in those sections, except as provided in paragraphs (b) and (c) of this section.

(b) *Initial Notification.* You must submit the Initial Notification required by §63.9(b) for a new or reconstructed affected source no later than 120 days after initial startup or 120 days after May 28, 2003, whichever is later. For an existing affected source, you must submit the Initial Notification no later than 120 days after May 28, 2003.

(c) *Notification of Compliance Status.* You must submit the Notification of Compliance Status required by §63.9(h) no later than 30 calendar days following the end of the initial compliance period described in §63.4740, §63.4750, or §63.4760 that applies to your affected source. The Notification of Compliance Status must contain the information specified in paragraphs (c)(1) through (9) of this section and in §63.9(h).

Teton submitted an initial compliance demonstration letter to the Boise Regional Office on June 22, 2007. Within the letter it indicated that they have been transitioning toward compliance beginning May 28, 2006.

Reporting Requirements

(a) *Semiannual compliance reports.* You must submit semiannual compliance reports for each affected source according to the requirements of paragraphs (a)(1) through (7) of this section. The semiannual compliance reporting requirements may be satisfied by reports required under other parts of the Clean Air Act (CAA), as specified in paragraph (a)(2) of this section.

Teton has been submitting semiannual reports between January-June 2007 in accordance with §63.4720.

Recordkeeping Requirements

Teton is keeping all necessary records as stated in the current PTC, P-060032. The applicable conditions include: 2-25 through 2-26.

Initial Compliance Demonstration

As stated earlier, Teton sent its initial demonstration in a June 22, 2007 letter to BRO. The following are the methods and calculations Teton uses to demonstrate compliance with all applicable requirements of Subpart QQQQ.

Teton Sales must comply with subpart QQQQ as discussed below:

Calculate the mass of organic HAP emissions. The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners, and cleaning materials used during each month minus the organic HAP in certain waste materials. Calculate it using Equation 1 of this section.

$$H_e = A + B + C - R_w \qquad \text{(Eq. 1)}$$

Where:
H_e= Total mass of organic HAP emissions during the month, grams.
A = Total mass of organic HAP in the coatings used during the month, grams, as calculated in Equation 1A of this section.
B = Total mass of organic HAP in the thinners used during the month, grams, as calculated in Equation 1B of this section.
C = Total mass of organic HAP in the cleaning materials used during the month, grams, as calculated in Equation 1C of this section.
R_w= Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, grams, determined according to paragraph (e)(4) of this section. (You may assign a value of zero to $R_w$if you do not wish to use this allowance.)

(1) Calculate the mass of organic HAP in the coatings used during the month, using Equation 1A of this section:

$$A=\sum_{i=1}^{m}(Vol_{c,i})(D_{c,i})(W_{c,i}) \qquad \text{(Eq. 1A)}$$

Where:
A = Total mass of organic HAP in the coatings used during the month, grams.
$Vol_{c,i}$= Total volume of coating, i, used during the month, liters.
$D_{c,i}$= Density of coating, i, grams coating per liter coating.
$W_{c,i}$= Mass fraction of organic HAP in coating, i, grams organic HAP per gram coating.
m = Number of different coatings used during the month.

(2) Calculate the mass of organic HAP in the thinners used during the month, using Equation 1B of this section:

$$B=\sum_{j=1}^{n}(Vol_{t,j})(D_{t,j})(W_{t,j}) \qquad \text{(Eq. 1B)}$$

Where:
B = Total mass of organic HAP in the thinners used during the month, grams.
$Vol_{t,j}$= Total volume of thinner, j, used during the month, liters.
$D_{t,j}$= Density of thinner, j, grams per liter.
$W_{t,j}$= Mass fraction of organic HAP in thinner, j, grams organic HAP per gram thinner.
n = Number of different thinners used during the month.

(3) Calculate the mass of organic HAP in the cleaning materials used during the month using Equation 1C of this section:

$$C=\sum_{k=1}^{p}(Vol_{s,k})(D_{s,k})(W_{s,k}) \qquad \text{(Eq. 1C)}$$

Where:
C = Total mass of organic HAP in the cleaning materials used during the month, grams.
$Vol_{s,k}$= Total volume of cleaning material, k, used during the month, liters.

$D_{s,k}$= Density of cleaning material, k, grams per liter.
$W_{s,k}$= Mass fraction of organic HAP in cleaning material, k, grams organic HAP per gram material.
p = Number of different cleaning materials used during the month.

f) *Calculate the total volume of coating solids used.* Determine the total volume of coating solids used which is the combined volume of coating solids for all the coatings used during each month, using Equation 2 of this section:

$$V_{st} = \sum_{i=1}^{m} (Vol_{c,i})(V_{s,i}) \qquad \text{(Eq. 2)}$$

Where:
V_{st}= Total volume of coating solids used during the month, liters.
$Vol_{c,i}$= Total volume of coating, i, used during the month, liters.
$V_{s,i}$= Volume fraction of coating solids for coating, i, liter solids per liter coating, determined according to §63.4741(b).
m = Number of coatings used during the month.

(g) *Calculate the organic HAP emission rate.* Calculate the organic HAP emission rate for the 12-month compliance period, grams organic HAP per liter coating solids used, using Equation 3 of this section:

$$H_{yr} = \frac{\sum_{y=1}^{12} H_e}{\sum_{y=1}^{12} V_{st}} \qquad \text{(Eq. 3)}$$

Where:
H_{yr}= Organic HAP emission rate for the 12-month compliance period, grams organic HAP per liter coating solids.
H_e= Total mass of organic HAP emissions, grams, from all materials used during month, y, as calculated by Equation 1 of this section.
V_{st}= Total volume of coating solids used during month, y, liters, as calculated by Equation 2 of this section.
y = Identifier for months.

(h) *Compliance demonstration.* The organic HAP emission rate for the initial 12-month compliance period, calculated using Equation 3 of this section, must be less than or equal to the applicable emission limit in §63.4690. You must keep all records as required by §§63.4730 and 63.4731. As part of the Notification of Compliance Status required by §63.4710, you must identify the coating operation(s) for which you used the emission rate without add-on controls option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in §63.4690, determined according to this section.

APPENDIX C

DEQ Email Correspondence

From: Cheryl.Robinson@deq.idaho.gov
To: Eric Clark
Cc: Melissa L. Armer
Subject: RE: Teton Sales, Caldwell - Preliminary modeling determination follow-up
Date: Friday, July 13, 2012 12:53:19 PM

Eric/Melissa:

Based on the information provided in the emails below, DEQ concurs that modeling is not required for PM10 or PM2.5 emissions for this proposed project. Please include a copy of these emails with the application.

Best regards,
Cheryl

Cheryl A. Robinson, P.E.
Air Quality Engineer/Modeling Analyst
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706
Tel: (208) 373-0220 Main: (208) 373-0502
cheryl.robinson@deq.idaho.gov
www.deq.idaho.gov

From: Eric Clark [mailto:eclark@jbrenv.com]
Sent: Friday, July 13, 2012 8:50 AM
To: Cheryl Robinson
Cc: Melissa L. Armer
Subject: Teton Sales, Caldwell - Preliminary modeling determination follow-up

Cheryl –

Prior to submitting the PTC revision and T1 termination request for Teton Sales Company I wanted to verify with you and Kevin that modeling is still not required.

The current PTC , P-060032, issued May 8, 2007, states the following particulate limits:

Paint Booth: 0.58 lb/hr on a 24-average for PM_{10}. The total PM_{10} is 0.594 lb/hr as stated in the associated SOB. There is a minor contribution from the natural gas combustion units, hence the slight increase. Based on the emission calculations that have been prepared for the upcoming submittal, we are estimating the Paint Booth emissions to be 0.79 lb/hr. Obviously, that is a 0.21 lb/hr increase, but the Level I Threshold is 0.22 lb/hr. Therefore, modeling for PM_{10} is not required, correct? It is also important to note that the change in emissions is not due to a physical change in the operations, but rather a slight update to the formulation of the paints.

Note that the 0.79 lb/hr estimate is the one hour maximum rather than a 24-hr average stated in the permit. The facility has stated that the paint booth operates a maximum of 8 hours per day. Therefore, the equivalent 24-hr average calculation would be 0.26 lb/hr resulting in a permitted

decrease.

We are also assuming that $PM_{2.5}$ is equivalent to PM_{10}. Therefore, is it our understanding that modeling for $PM_{2.5}$ would not be required as well. Thank you.

Eric Clark, EIT
JBR Environmental Consultants, Inc.
Environmental Analyst II
(208)853-0883

From: Cheryl.Robinson@deq.idaho.gov [mailto:Cheryl.Robinson@deq.idaho.gov]
Sent: Thursday, August 11, 2011 4:50 PM
To: Melissa L. Armer
Subject: FW: Teton Sales, Caldwell - Preliminary modeling determination

Hi Melissa,

I received Kevin's concurrence regarding not requiring modeling for shifting Teton from a Title V to a synthetic minor facility, based on my understanding of the proposed changes described below. As noted below, I understand that you opt to voluntarily submit modeling for a unit emission rate from each stack/vent to establish dispersion coefficients for evaluating changes to TAPs emissions.

I was good to talk with you today, and a real pleasure meeting Diane. Could you pass this along to her? Her card doesn't include an email address.

Best regards,
Cheryl

From: Kevin Schilling
Sent: Thursday, August 11, 2011 3:31 PM
To: Cheryl Robinson; Kevin Schilling (Kevin.Schilling@deq.idaho.gov)
Cc: Darrin Mehr
Subject: RE: Teton Sales, Caldwell

Thank you for the update. I agree that it appears there is nothing that would trigger criteria pollutant modeling.

From: Cheryl Robinson
Sent: Thu 8/11/2011 3:18 PM
To: Kevin Schilling (Kevin.Schilling@deq.idaho.gov)
Cc: Darrin Mehr
Subject: Teton Sales, Caldwell

Hi Kevin,

Teton Sales will likely be coming in sometime in the next few months with a request to reduce their permitted VOC levels to less than 100 TPY. They currently have a Title V permit because of the VOC emissions. Dan Pitman represented permitting at the meeting today. We discussed a couple of options with regard to adding flexibility in their permit, e.g., a permit limit that any

emission of a new TAP be less than the EL, or conducting modeling to define dispersion coefficients to that the permit would automatically limit any new or increased emission of a TAP to be below the AAC or AACC.

The facility uses natural gas heaters for their drying ovens, but as of today, they are not proposing to make any physical changes to their facility. If they're just lowering their limits and perhaps modeling to define TAPs dispersion coefficients, I'm thinking that a requirement to update their modeling for criteria pollutants for all averaging periods would not be triggered (unless they make a physical mod). **Do you concur?**

Total emissions of pollutants subject to updated NAAQS listed in the 2006 SOB are:

PM10 = 0.14 lb/hr
PM2.5 = 0.14 lb/hr Presume PM2.5 = PM10
NOx = 0.178 lb/hr

Stack parameters:
20 ft, dia 0.667 m, , 175 F , 50 acfm, with rain cap
30 ft, dia 2 ft, ambient temp, 25,000 acfm
23 ft high vents, dia 3 ft, ambient temp, 5,000 acfm

Cheryl A. Robinson, P.E.
Air Quality Engineer/Modeling Analyst
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706
Tel: (208) 373-0220 Main: (208) 373-0502
cheryl.robinson@deq.idaho.gov
www.deq.idaho.gov

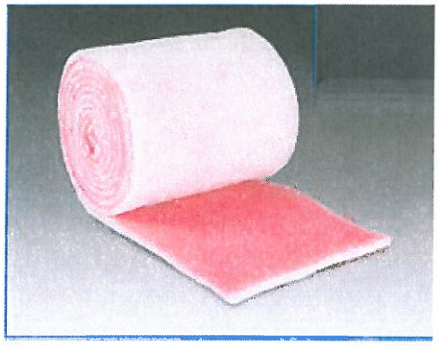
APPENDIX D

Manufacturer Information

CHEMCO MANUFACTURING COMPANY, INC.

CHEMLOFT ™

REMOVE UP TO 99.7% OF PAINT PARTICULATES FROM THE AIR WITHOUT SACRIFICING YOUR BUDGET



CHEMLOFT™ MEDIA

CHEMLOFT ™ is a progressively dense, high efficiency 100% Polyester Media. Due to its fiber density and 2" thickness, CHEMLOFT™ captures more paint overspray particulate than conventional polyester or fiberglass filters. Up to 99.7% of entrained droplets are captured by the filter, averaging over 3 Lbs. of paint per 20"x20" pad. CHEMLOFT ™ with its exceptional effectiveness serves as a cost saving alternative to Paint Pocket Collectors. It performs ideally; with minimal run offs when used in high solids paint applications. CHEMLOFT ™captures particles remarkably well when used in tandem with a variety of collectors in order to achieve maximum efficiency, as well as in powder applications and aerospace applications governed by NESHAP Method 319. CHEMLOFT ™ overspray collectors are available, oiled or dry in cut pads, custom-cut blankets or rolls. Chemco products were engineered specifically to reduce the frequency of booth shutdowns, and cost of exhaust system maintenance.

EVERYTHING YOU NEED TO MAINTAIN A SAFE, EFFICIENT SPRAY BOOTH OPERATION

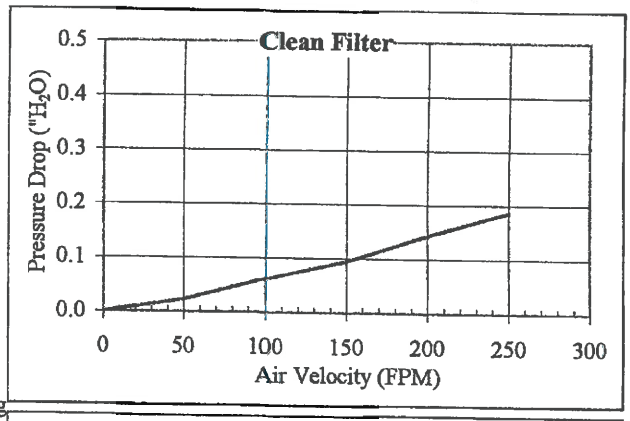
•Paint Overspray Collectors • Peelable Wall Coating • Flame Retardant Floor Covering
• Powder And Dust Cartridges •Spray Booth Accessories

3225 Commercial Avenue • Northbrook, Illinois 60062-1920
Toll Free (800) 323-043 • Fax (800) 336-7706
www.chemcomfg.com • e-mail:nbinfo@chemcomfg.com

PAINT ARRESTANCE FILTER TEST REPORT

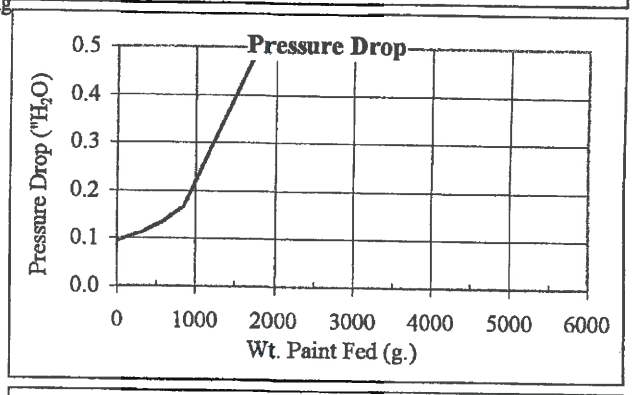
Spray Removal Efficiency & Paint Holding Capacity

Tested for:	**Chemco Mfg. Co.**
Filter Mfr.:	**Chemco Mfg. Co.**
Filter Name/Model:	**Chem Loft**
Report#./Test#	**R 169 T 231**
Report Date:	**Oct. 30, 1998**



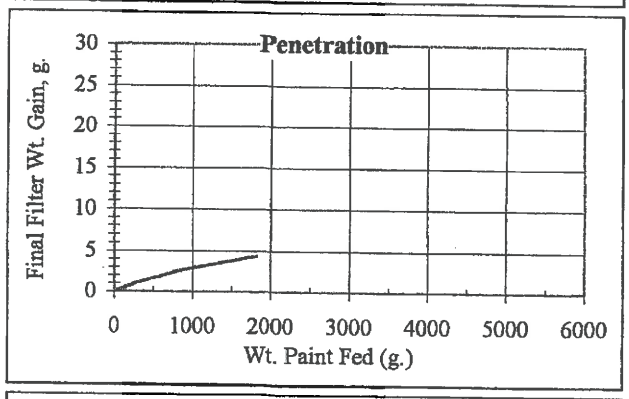
Test Information

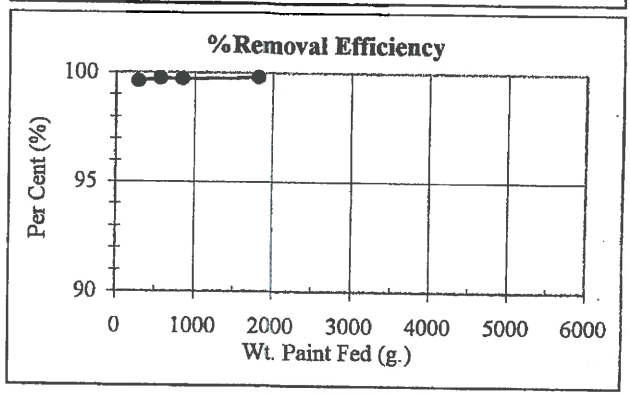
FILTER DESCRIPTION (20" x 20" pad):
poly foam pad, 1"dense foam on 1/2" very dense foam backing
PAINT DESCRIPTION:
High Solids Baking Enamel (S.W. Permaclad 2400, red)
PAINT SPRAY METHOD:
Conventional Air Gun at 40 PSI
SPRAY FEED RATE:
139 gr./min. **130** cc./min.
AIR VELOCITY:
150 FPM



Test Results

INITIAL PRESSURE DROP of Clean Test Filter
0.10 in. water
FINAL PRESSURE DROP of Loaded Test Filter
0.51 in. water
WEIGHT GAIN on TEST FILTER & Test Frame Trough
1436 grams
PAINT HOLDING CAPACITY of TEST FILTER
1410 grams = **3.1** lbs.
PAINT RUN-OFF
26 grams
WEIGHT GAIN - FINAL FILTER
4.4 grams = **PENETRATION**
AVERAGE REMOVAL EFFICIENCY of TEST FILTER
99.69 %





Test Engineer: P. Tuzinski
Supervising Engineer: K. C. Kwok, Ph.D.

Tel.: (612) 832-5353

LMS Technologies, Inc.
4570 West 77th St., Suite 102; Edina, MN 55435

Fax: (612) 832-5354

Univar USA Inc Material Safety Data Sheet

MSDS No:	CDS0425
Version No:	001 2008-04-15
Order No:	

Univar USA Inc., 17425 NE Union Hill Rd., Redmond WA 98052
(425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call
Chemtrec - (800) 424-9300

The Version Date and Number for this MSDS is : 04/15/2008 - #001

PRODUCT NAME:	BLEND 5005 TETON THINNER
MSDS NUMBER:	CDS0425
DATE ISSUED:	04/14/2008
SUPERCEDES:	NEW
ISSUED BY:	000099

****
****

MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1, using the International Chemical Safety Cards of the Global Harmonizing System
THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)
IMPORTANT: Read this MSDS before handling & disposing of this product.
Pass this information on to employees, customers, & users of this product.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT IDENTITY: BLEND 5005 TETON THINNER
COMPANY IDENTITY: UNIVAR USA INC.
COMPANY ADDRESS: 17425 NE UNION HILL
COMPANY CITY: REDMOND, WA 98052
COMPANY PHONE: 1-425-889-3400
CHEMTREC PHONE: 1-800-424-9300

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CONTAINS:
25-35% ACETONE (67-64-1)(200-662-2),
15-25% ISOPROPANOL (67-63-0)(200-661-7),
10-20% ETHYL ACETATE (141-78-6)(205-500-4),
5-15% ISOBUTYL ACETATE (110-19-0)(203-745-1),
0-10% METHYL N-AMYL KETONE (110-43-0),
0-10% METHANOL (67-56-1)(200-659-6)
Number in parentheses is CAS #, number in second parentheses is European EC #.

SECTION 3. HAZARDS IDENTIFICATION

EXPOSURE PREVENTION: AVOID EXPOSURE OF ADOLESCENTS, CHILDREN!

RISK STATEMENTS:
R36/37/38 Irritating to eyes, respiratory system and skin.

Annotation:

R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

R12 Extremely Flammable.

R20/22 Harmful by inhalation and if swallowed.

R41 Risk of serious damage to eyes.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapors may cause drowsiness and dizziness.

SAFETY STATEMENTS:

S24/25 Avoid contact with skin and eyes.

S2 Keep out of the reach of children.

S7/9 Keep container tightly closed, in a well-ventilated place.

S16 Keep away from sources of ignition. No smoking.

S23 Do not breathe gas, fumes, vapor, or spray.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S29 Do not empty into drains.

S33 Take precautionary measures against static discharges.

S45 In case of accident, or if you feel unwell, seek medical advice immediately. (Show the label where possible).

SECTION 4. FIRST AID MEASURES

EYE CONTACT:

For eyes, flush with plenty of water for 15 minutes & get medical attention.

SKIN CONTACT:

In case of contact with skin immediately remove contaminated clothing. Wash thoroughly with soap & water. Wash contaminated clothing before reuse.

INHALATION:

After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR).

SWALLOWING:

Induce vomiting. GET MEDICAL ATTENTION IMMEDIATELY.
If no medical personnel are available & patient is conscious, ingestion of an alcoholic beverage may prevent blindness, death.
Do NOT induce vomiting to an unconscious or convulsing person.

SECTION 5. FIRE FIGHTING MEASURES

FIRE & EXPLOSION PREVENTIVE MEASURES

NO open flames, NO sparks, & NO smoking. Above flash point, use a closed system, ventilation, explosion-proof electrical equipment, lighting. Do NOT use compressed air for filling, discharging, or handling.

EXTINGUISHING MEDIA

Use dry powder, alcohol-resistant foam, water in large amounts, carbon

dioxide.

SPECIAL FIRE FIGHTING PROCEDURES

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used.
Do not enter confined fire-space without full bunker gear.
(Helmet with face shield, bunker coats, gloves & rubber boots).
Use NIOSH approved positive-pressure self-contained breathing apparatus.

UNUSUAL EXPLOSION AND FIRE PROCEDURES

EXTREMELY FLAMMABLE!! VAPORS CAN CAUSE FLASH FIRE

Keep container tightly closed.
Isolate from oxidizers, heat, sparks, electric equipment & open flame.
Closed containers may explode if exposed to extreme heat.
Applying to hot surfaces requires special precautions.
Empty container very hazardous! Continue all label precautions!

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTIVE MEASURES:

EVACUATE DANGER AREA! Consult an expert!
Vapors may ignite explosively & spread long distances. Prevent vapor buildup.
Keep unprotected personnel away. Ventilate spill area. Remove all ignition sources. Use complete chemical protective suit with self-contained breathing apparatus.

CONTAINMENT AND CLEAN-UP MEASURES:

Stop spill at source. Dike and contain. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Remove to safe place. Do NOT wash away into sewer.

SECTION 7. HANDLING AND STORAGE

HANDLING

Isolate from oxidizers, heat, sparks, electric equipment & open flame.
Use only with adequate ventilation. Avoid breathing of vapor or spray mist.
Avoid contact with skin & eyes. Wear OSHA Standard goggles or face shield.
Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse. Avoid free fall of liquid.
Ground containers when transferring. Do not flame cut, saw, drill, braze, or weld. Empty container very hazardous! Continue all label precautions!

STORAGE

Vapors may ignite explosively & spread long distances. Prevent vapor buildup.
Put out pilot lights & turn off heaters, electric equipment & other ignition sources during use & until all vapors are gone.
Keep in fireproof surroundings. Keep separated from strong oxidants, strong acids, strong bases, food & feedstuffs. Keep cool.
Do not store above 49 C/120 F. Keep container tightly closed & upright when not in use to prevent leakage.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

RESPIRATORY EXPOSURE CONTROLS
A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z86.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

VENTILATION

LOCAL EXHAUST	: Necessary
MECHANICAL (GENERAL)	: Acceptable
SPECIAL	: None
OTHER	: None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

PERSONAL PROTECTIONS:
Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse.

WORK & HYGIENIC PRACTICES:
Provide readily accessible eye wash stations & safety showers.
Wash at end of each workshift & before eating, smoking or using the toilet.
Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

SECTION 9. PHYSICAL DATA

APPEARANCE :	Liquid, Water-White
ODOR :	Ketone
BOILING RANGE :	56 83 155 C / 133 182 311 F
AUTO IGNITION TEMPERATURE :	398 C / 750 F (Lowest Component)
LOWER FLAMMABLE LIMIT IN AIR (% by vol):	2.6
FLASH POINT (TEST METHOD):	-16 C / 2 F (TCC) (Lowest Component)
FLAMMABILITY CLASSIFICATION:	Class I B
GRAVITY @ 68/68 F / 20/20 C :	
API :	41.6
SPECIFIC GRAVITY (Water=1) :	0.818
POUNDS/GALLON :	6.810
VOC'S (>0.44 Lbs/Sq In) :	92.0 Vol. % / 752.2 g/L / 6.266 Lbs/Gal
TOTAL VOC'S (TVOC) :	100.0 Vol. % / 817.6 g/L / 6.810 Lbs/Gal
NONEXEMPT VOC'S (CVOC) :	67.0 Vol. % / 556.0 g/L / 4.631 Lbs/Gal
HAZARDOUS AIR POLLUTANTS (HAPS) :	8.0 Wt. % / 65.4 g/L / 0.544 Lbs/Gal
VAPOR PRESSURE (mm of Hg)@20 C	100.6
NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C)	34.2
VAPOR DENSITY (air=1) :	2.2
WATER ABSORPTION :	Appreciable
REFRACTIVE INDEX :	1.371

SECTION 10. STABILITY & REACTIVITY

STABILITY
Stable under normal conditions.

CONDITIONS TO AVOID
Isolate from oxidizers, heat, sparks, electric equipment & open flame.

MATERIALS TO AVOID
Reacts violently with strong oxidants, strong acids, strong bases, causing fire & explosion hazard. Attacks.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon Monoxide, Carbon Dioxide from burning.

HAZARDOUS POLYMERIZATION
Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

MATERIAL	CAS #	TWA (OSHA)	TLV (ACGIH)	HAP
Acetone	67-64-1	1000 ppm	500 ppm A4	No
Isopropanol	67-63-0	400 ppm	200 ppm A4	No
Ethyl Acetate	141-78-6	400 ppm	400 ppm	No
Isobutyl Acetate	110-19-0	150 ppm	150 ppm	No
Methyl n-Amyl Ketone	110-43-0	100 ppm	50 ppm	No
Methanol	67-56-1	200 ppm S	200 ppm S	Yes

Each component showing Yes under "HAP" is an EPA Hazardous Air Pollutant.

MATERIAL	CAS #	CEILING	STEL(OSHA/ACGIH)
Acetone	67-64-1	None Known	750 ppm
Isopropanol	67-63-0	None Known	400 ppm
Methanol	67-56-1	None Known	250 ppm

ACUTE HAZARDS

EYE & SKIN CONTACT:
Primary irritation to skin, defatting, dermatitis.
Primary irritation to eyes, redness, tearing, blurred vision.
Liquid can cause eye irritation. Wash thoroughly after handling.

INHALATION:
Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful.
Breathing vapor can cause irritation.
Acute overexposure can cause harm to kidneys, blood, nerves, liver, lungs.
Repeated exposure over TLV can cause blindness.

SWALLOWING:
Can be fatal or cause blindness if swallowed. Cannot be made non-poisonous.
POISON ! Can cause irreversible nervous system damage & death.
Harmful or fatal if swallowed.
Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.

SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED

CONDITIONS AGGRAVATED
Chronic overexposure can cause harm to kidneys, blood, nerves, liver, lungs.
Persons with severe skin, liver or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:
This product has no carcinogens listed by IARC, NTP, NIOSH,
OSHA or ACGIH, as of this date, greater or equal to 0.1%.
Depending on degree of exposure, periodic medical examination is indicated.

SECTION 12. ECOLOGICAL INFORMATION

MAMMALIAN INFORMATION:

MATERIAL	CAS #	LOWEST KNOWN LETHAL DOSE DATA LOWEST KNOWN LC50 (VAPORS)
Ethyl Acetate	141-78-6	1600 ppm (Rats)

AQUATIC ANIMAL INFORMATION:
The most sensitive known aquatic group to any component of this product is:
Goldfish 250 ppm or mg/L (24 hour exposure).
Keep out of sewers and natural water supplies.

MOBILITY
This material is a mobile liquid.

DEGRADABILITY
This product is completely biodegradable.

ACCUMULATION
This product does not accumulate or bio-magnify in the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Processing, use or contamination may change the waste management options.
Recycle/dispose of observing national, regional, state, provincial and local
health, safety & pollution laws. If in doubt, contact appropriate agencies.

SECTION 14. TRANSPORT INFORMATION

IF CONTAINER HAS > PRODUCT RQ (SEE SECTION 15) PUT "RQ," BEFORE SHIPPING NAME.
DOT SHIPPING NAME: UN1263, Paint Related Material, 3, PG-II
(Contains: Acetone, Methanol)
DRUM LABEL: (FLAMMABLE LIQUID)
IATA / ICAO: UN1992, Flammable Liquids, Toxic, n.o.s.
(Acetone, Methanol), 3, (6.1), PG-II
IMO / IMDG: UN1992, Flammable Liquids, Toxic, n.o.s.
(Acetone, Methanol), 3, (6.1), PG-II

EMERGENCY RESPONSE GUIDEBOOK NUMBER: 131

SECTION 15. REGULATORY INFORMATION

EPA REGULATION:
SARA SECTION 311/312 HAZARDS: Acute Health, Fire

All components of this product are on the TSCA list.
SARA Title III Section 313 Supplier Notification
This product contains the indicated <*> toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.

SARA TITLE III INGREDIENTS	CAS#	WT. %	(REG. SECTION)	RQ(LBS)
Acetone	67-64-1	32	(311,312)	5000
Ethyl Acetate	141-78-6	18	(311,312)	5000
*Methanol	67-56-1	8	(311,312,313,RCRA)	5000

> 15625 LB / 7102 KG OF THIS PRODUCT IN 1 CONTAINER EXCEEDS THE "RQ" OF ACETONE.
Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively.
Failure to report may result in substantial civil and criminal penalties.
State & local regulations may be more restrictive than federal regulations.

STATE REGULATIONS:
THIS PRODUCT MEETS REQUIREMENTS OF SOUTHERN CALIFORNIA AQMD RULE 443.1 & SIMILAR REGULATIONS
California Proposition 65: This product does not contain any chemicals known to the State of California which may cause cancer or reproductive harm.

INTERNATIONAL REGULATIONS
The components of this product are listed on the chemical inventories of the following countries:
Australia, Canada, China, Europe (EINECS), Japan, Korea, United Kingdom.

SECTION 16. OTHER INFORMATION

HAZARD RATINGS:
HEALTH (NFPA): 1, HEALTH (HMIS): 3, FLAMMABILITY: 3, REACTIVITY: 0
(Personal Protection Rating to be supplied by user based on use conditions.)
This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING
See Section 3 for Risk & Safety Statements. Employees should be made aware of all hazards of this material (as stated in this MSDS) before handling it.

Univar USA Inc Material Safety Data Sheet

For Additional Information contact MSDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

Univar USA Inc. ("Univar") expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 450-B020-340 – BLACK LACQUER BASECOAT

Product Density: 9.89 lb/gal(US)

Organic Solvent Density: 6.962 lb/gal(US)

	Volume%	Weight%
Solids:	35.214	54.401
Total Volatiles:	64.786	45.599
Water Content:	0.000	0.000
Volatile Content:	64.786	45.599
Exempt Content:	9.831	6.551
VOC Content:	54.955	39.048

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	4.965	Non-Reactive:	32.804
20% (R3):	47.056	Exempt VOC:	15.174
R1+R2+R3:	52.022	Water:	0.000

VHAPS Content: 24.576 Weight%

VHAP weight / weight solids:	0.45 lb / lb	0.45 Kilograms / Kilogram	0.45 grams / gram
VHAP weight / volume solids:	6.90 lb / gal(US)	0.83 Kilograms / Liter	826.81 grams / Liter
VOC (less water & exempts):	4.28 lb / gal(US)	0.51 Kilograms / Liter	513.21 grams / Liter
VOC non-exempt solvents:†	3.86 lb / gal(US)	0.46 Kilograms / Liter	462.75 grams / Liter
VOC weight / weight solids:	0.72 lb / lb	0.72 Kilograms / Kilogram	0.72 grams / gram
VOC weight / volume solids:	10.96 lb / gal(US)	1.31 Kilograms / Liter	1,313.72 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000108883	TOLUENE	Yes	R3	50.057	48.034	29.796	21.903
0000078933	METHYL ETHYL KETONE	No	NR	19.135	19.893	13.370	9.071
0000067641	DIMETHYL KETONE	No	E	13.571	14.366	9.831	6.551
0000067630	ISOPROPANOL	No	NR	10.507	11.207	7.728	5.110
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	4.939	4.746	2.948	2.164
0000100414	ETHYLBENZENE	Yes	R3	1.156	1.110	0.690	0.506
	AROMATIC SOLVENT	No	R2	0.231	0.222	0.138	0.101
0000095636	1,2,4-TRIMETHYLBENZENE	No	R2	0.117	0.112	0.069	0.051
0008052413	MINERAL SPIRITS	No	NR	0.088	0.094	0.065	0.043
0064742489	HYDROTREATED HEAVY NAPHTHA	No	NR	0.085	0.094	0.067	0.043
0064742898	ALIPHATIC HYDROCARBON	No	R2	0.074	0.082	0.058	0.037
0064742898	NAPHTHA	No	NR	0.011	0.013	0.009	0.006
0000057556	1,2-PROPANEDIOL	No	NR	0.014	0.011	0.006	0.005
0000078831	ISOBUTANOL	No	NR	0.008	0.009	0.006	0.004
0000098828	CUMENE	Yes	R2	0.005	0.005	0.003	0.002
0000556672	SUBSTITUTED SILOXANE	No	NR	0.002	0.002	0.001	0.001
			Total Volatiles:	100.000	100.000	64.786	45.599

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 29,2012
Time: 3:30 pm

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Notes: **VHAP** means any volatile hazardous air pollutant as listed on Table 2 to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 29,2012
Time: 3:31 pm

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 450-R020-339 – RED LACQUER BASECOAT

Product Density: 10.42 lb/gal(US)

Organic Solvent Density: 6.966 lb/gal(US)

	Volume%	Weight%
Solids:	36.015	57.244
Total Volatiles:	63.985	42.756
Water Content:	0.000	0.000
Volatile Content:	63.985	42.756
Exempt Content:	9.337	5.903
VOC Content:	54.648	36.853

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	5.024	Non-Reactive:	32.741
20% (R3):	47.642	Exempt VOC:	14.592
R1+R2+R3:	52.666	Water:	0.000

VHAPS Content: 23.316 Weight%

VHAP weight / weight solids:	0.41 lb / lb	0.41 Kilograms / Kilogram	0.41 grams / gram
VHAP weight / volume solids:	6.75 lb / gal(US)	0.81 Kilograms / Liter	808.30 grams / Liter
VOC (less water & exempts):	4.24 lb / gal(US)	0.51 Kilograms / Liter	507.68 grams / Liter
VOC non-exempt solvents:†	3.84 lb / gal(US)	0.46 Kilograms / Liter	460.28 grams / Liter
VOC weight / weight solids:	0.64 lb / lb	0.64 Kilograms / Kilogram	0.64 grams / gram
VOC weight / volume solids:	10.66 lb / gal(US)	1.28 Kilograms / Liter	1,277.60 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000108883	TOLUENE	Yes	R3	50.622	48.604	29.794	20.781
0000078933	METHYL ETHYL KETONE	No	NR	18.919	19.681	13.071	8.415
0000067641	DIMETHYL KETONE	No	E	13.035	13.807	9.337	5.903
0000067630	ISOPROPANOL	No	NR	10.620	11.335	7.724	4.846
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	4.992	4.800	2.946	2.052
0000100414	ETHYLBENZENE	Yes	R3	1.168	1.123	0.689	0.480
	AROMATIC SOLVENT	No	R2	0.233	0.225	0.138	0.096
0000095636	1,2,4-TRIMETHYLBENZENE	No	R2	0.118	0.113	0.069	0.048
0008052413	MINERAL SPIRITS	No	NR	0.089	0.095	0.065	0.041
0064742489	HYDROTREATED HEAVY NAPHTHA	No	NR	0.086	0.095	0.067	0.041
0064742898	ALIPHATIC HYDROCARBON	No	R2	0.075	0.083	0.058	0.035
0064742898	NAPHTHA	No	NR	0.011	0.013	0.009	0.005
0000057556	1,2-PROPANEDIOL	No	NR	0.014	0.011	0.006	0.005
0000078831	ISOBUTANOL	No	NR	0.009	0.009	0.006	0.004
0000098828	CUMENE	Yes	R2	0.006	0.005	0.003	0.002
0000556672	SUBSTITUTED SILOXANE	No	NR	0.002	0.002	0.001	0.001
			Total Volatiles:	100.000	100.000	63.985	42.756

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 29,2012
Time: 3:31 pm

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Notes: **VHAP** means any volatile hazardous air pollutant as listed on Table 2 to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 22,2012
Time: 3:14 pm

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 20-D0-215 – BURNT UMBER TINT PASTE

Product Density: 11.82 lb/gal(US)

Organic Solvent Density: 6.148 lb/gal(US)

	Volume%	Weight%
Solids:	66.308	80.700
Total Volatiles:	33.692	19.300
Water Content:	2.696	1.900
Volatile Content:	30.996	17.400
Exempt Content:	0.000	0.000
VOC Content:	30.996	17.400

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	PASS
8% (R2):	4.059	Non-Reactive:	79.793
20% (R3):	8.146	Exempt VOC:	0.000
R1+R2+R3:	12.205	Water:	8.002

VHAPS Content: 2.527 Weight%

VHAP weight / weight solids:	0.03 lb / lb	0.03 Kilograms / Kilogram	0.03 grams / gram
VHAP weight / volume solids:	0.47 lb / gal(US)	0.06 Kilograms / Liter	56.06 grams / Liter
VOC (less water & exempts):	2.11 lb / gal(US)	0.25 Kilograms / Liter	253.27 grams / Liter
VOC non-exempt solvents:†	2.06 lb / gal(US)	0.25 Kilograms / Liter	246.44 grams / Liter
VOC weight / weight solids:	0.22 lb / lb	0.22 Kilograms / Kilogram	0.22 grams / gram
VOC weight / volume solids:	3.22 lb / gal(US)	0.39 Kilograms / Liter	385.97 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0064742887	PETROLEUM HYDROCARBON	No	NR	24.645	25.907	9.106	5.000
0007732185	WATER	No	W	12.020	9.845	2.696	1.900
0000110190	ISOBUTYL ACETATE	No	NR	9.360	8.808	2.772	1.700
0008032324	LIGROINE	No	NR	8.069	8.808	3.215	1.700
0000071363	BUTANOL	No	NR	8.664	8.756	2.959	1.690
0000078831	ISOBUTANOL	No	NR	8.574	8.756	2.990	1.690
0064742478	PETROLEUM DISTILLATES	No	NR	8.343	8.756	3.073	1.690
	ALIPHATIC HYDROCARBON	No	NR	6.381	7.268	2.768	1.403
0000108883	TOLUENE	Yes	R3	6.279	5.893	1.849	1.137
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	4.632	4.352	1.368	0.840
0000100414	ETHYLBENZENE	Yes	R3	3.033	2.850	0.895	0.550
			Total Volatiles:	100.000	100.000	33.692	19.300

† The Exempt VOC values reported for this product are US Federal values only and are not to be confused with State and local regulations in the state and local jurisdictions where you do business. It is the responsibility of the users of this report to know and understand the local and state regulations regarding Exempt VOC's

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 29,2012
Time: 3:27 pm

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 30-A020-98 – BRIGHT BLUE INK PASTE

Product Density: 8.35 lb/gal(US)

Organic Solvent Density: 7.136 lb/gal(US)

	Volume%	Weight%
Solids:	35.159	45.142
Total Volatiles:	64.841	54.858
Water Content:	0.000	0.000
Volatile Content:	64.841	54.858
Exempt Content:	0.000	0.000
VOC Content:	64.841	54.858

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	7.220	Non-Reactive:	86.684
20% (R3):	6.096	Exempt VOC:	0.000
R1+R2+R3:	13.316	Water:	0.000

VHAPS Content: 7.506 Weight%

VHAP weight / weight solids:	0.17 lb / lb	0.17 Kilograms / Kilogram	0.17 grams / gram
VHAP weight / volume solids:	1.75 lb / gal(US)	0.21 Kilograms / Liter	210.04 grams / Liter
VOC (less water & exempts):	4.58 lb / gal(US)	0.55 Kilograms / Liter	549.18 grams / Liter
VOC non-exempt solvents:†	4.58 lb / gal(US)	0.55 Kilograms / Liter	549.18 grams / Liter
VOC weight / weight solids:	1.22 lb / lb	1.22 Kilograms / Kilogram	1.22 grams / gram
VOC weight / volume solids:	12.81 lb / gal(US)	1.54 Kilograms / Liter	1,535.06 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000111762	2-BUTOXYETHANOL	No	NR	28.636	27.053	16.510	14.841
0000123864	BUTYL ACETATE	No	NR	26.092	25.324	15.878	13.892
0064742887	ALIPHATIC HYDROCARBON	No	NR	18.340	20.111	14.246	11.033
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	7.589	7.416	4.682	4.068
0000078831	ISOBUTANOL	No	NR	4.737	5.032	3.452	2.760
0000108883	TOLUENE	Yes	R3	4.633	4.522	2.851	2.481
0000067630	ISOPROPANOL	No	NR	3.024	3.281	2.299	1.800
0000100414	ETHYLBENZENE	Yes	R3	1.786	1.745	1.102	0.958
0000110190	ISOBUTYL ACETATE	No	NR	1.416	1.386	0.876	0.760
0000071363	BUTANOL	No	NR	1.318	1.386	0.941	0.760
0008032324	LIGROINE	No	NR	1.212	1.376	1.009	0.755
	ALIPHATIC SOLVENT	No	NR	1.215	1.369	0.996	0.751
			Total Volatiles:	100.000	100.000	64.841	54.858

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 22,2012
Time: 3:11 pm

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 20-B0-216 – LAMPBLACK INK PASTE

Product Density: 9.00 lb/gal(US)

Organic Solvent Density: 6.523 lb/gal(US)

	Volume%	Weight%
Solids:	62.514	72.400
Total Volatiles:	37.486	27.600
Water Content:	0.000	0.000
Volatile Content:	37.486	27.600
Exempt Content:	0.000	0.000
VOC Content:	37.486	27.600

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	10.262	Non-Reactive:	87.268
20% (R3):	2.470	Exempt VOC:	0.000
R1+R2+R3:	12.732	Water:	0.000

VHAPS Content: 3.850 Weight%

VHAP weight / weight solids:	0.05 lb / lb	0.05 Kilograms / Kilogram	0.05 grams / gram
VHAP weight / volume solids:	0.56 lb / gal(US)	0.07 Kilograms / Liter	67.05 grams / Liter
VOC (less water & exempts):	2.48 lb / gal(US)	0.30 Kilograms / Liter	297.65 grams / Liter
VOC non-exempt solvents:†	2.48 lb / gal(US)	0.30 Kilograms / Liter	297.65 grams / Liter
VOC weight / weight solids:	0.38 lb / lb	0.38 Kilograms / Kilogram	0.38 grams / gram
VOC weight / volume solids:	4.01 lb / gal(US)	0.48 Kilograms / Liter	480.70 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0008052413	MINERAL SPIRITS	No	NR	27.809	28.442	10.886	7.850
0000071363	BUTANOL	No	NR	14.185	13.949	5.133	3.850
0000078831	ISOBUTANOL	No	NR	14.038	13.949	5.187	3.850
0064742478	PETROLEUM DISTILLATES	No	NR	13.660	13.949	5.331	3.850
0064742898	NAPHTHA	No	NR	13.323	13.949	5.465	3.850
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	12.297	11.243	3.847	3.103
0000100414	ETHYLBENZENE	Yes	R3	2.884	2.637	0.902	0.728
0064742489	HYDROTREATED HEAVY NAPHTHA	No	NR	1.728	1.812	0.711	0.500
0000108883	TOLUENE	Yes	R3	0.077	0.070	0.024	0.019
			Total Volatiles:	100.000	100.000	37.486	27.600

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 22,2012
Time: 3:12 pm

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 20-R0-214 – RED TINT PASTE

Product Density: 14.60 lb/gal(US)

Organic Solvent Density: 5.550 lb/gal(US)

	Volume%	Weight%
Solids:	63.514	83.600
Total Volatiles:	36.486	16.400
Water Content:	0.000	0.000
Volatile Content:	36.486	16.400
Exempt Content:	0.000	0.000
VOC Content:	36.486	16.400

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	PASS
8% (R2):	4.442	Non-Reactive:	94.488
20% (R3):	1.069	Exempt VOC:	0.000
R1+R2+R3:	5.512	Water:	0.000

VHAPS Content: 1.000 Weight%

VHAP weight / weight solids:	0.01 lb / lb	0.01 Kilograms / Kilogram	0.01 grams / gram
VHAP weight / volume solids:	0.26 lb / gal(US)	0.03 Kilograms / Liter	30.77 grams / Liter
VOC (less water & exempts):	2.39 lb / gal(US)	0.29 Kilograms / Liter	286.91 grams / Liter
VOC non-exempt solvents:†	2.39 lb / gal(US)	0.29 Kilograms / Liter	286.91 grams / Liter
VOC weight / weight solids:	0.20 lb / lb	0.20 Kilograms / Kilogram	0.20 grams / gram
VOC weight / volume solids:	4.21 lb / gal(US)	0.50 Kilograms / Liter	504.59 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0008032324	LIGROINE	No	NR	19.718	20.732	7.942	3.400
0000071363	BUTANOL	No	NR	18.790	18.293	6.489	3.000
0000078831	ISOBUTANOL	No	NR	18.595	18.293	6.557	3.000
0064742478	PETROLEUM DISTILLATES	No	NR	18.094	18.293	6.738	3.000
0008052413	MINERAL SPIRITS	No	NR	18.066	18.293	6.749	3.000
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	5.430	4.915	1.621	0.806
0000100414	ETHYLBENZENE	Yes	R3	1.273	1.152	0.380	0.189
0000108883	TOLUENE	Yes	R3	0.034	0.030	0.010	0.005
			Total Volatiles:	100.000	100.000	36.486	16.400

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 22,2012
Time: 3:07 pm

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 422-F020-25A – HIGH SOLIDS BURNISHING SEALER

Product Density: 9.36 lb/gal(US)

Organic Solvent Density: 6.940 lb/gal(US)

	Volume%	Weight%
Solids:	27.517	46.273
Total Volatiles:	72.483	53.727
Water Content:	0.000	0.000
Volatile Content:	72.483	53.727
Exempt Content:	0.000	0.000
VOC Content:	72.483	53.727

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	0.831	Non-Reactive:	49.025
20% (R3):	50.144	Exempt VOC:	0.000
R1+R2+R3:	50.975	Water:	0.000

VHAPS Content: 28.261 Weight%

VHAP weight / weight solids:	0.61 lb / lb	0.61 Kilograms / Kilogram	0.61 grams / gram
VHAP weight / volume solids:	9.62 lb / gal(US)	1.15 Kilograms / Liter	1,152.21 grams / Liter
VOC (less water & exempts):	5.03 lb / gal(US)	0.60 Kilograms / Liter	602.74 grams / Liter
VOC non-exempt solvents:†	5.03 lb / gal(US)	0.60 Kilograms / Liter	602.74 grams / Liter
VOC weight / weight solids:	1.16 lb / lb	1.16 Kilograms / Kilogram	1.16 grams / gram
VOC weight / volume solids:	18.28 lb / gal(US)	2.19 Kilograms / Liter	2,190.53 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000108883	TOLUENE	Yes	R3	54.821	52.511	36.332	28.213
0000078933	METHYL ETHYL KETONE	No	NR	24.287	25.205	18.895	13.542
0000067630	ISOPROPANOL	No	NR	10.064	10.715	8.242	5.757
0064742898	ALIPHATIC HYDROCARBON	No	NR	5.353	6.275	5.314	3.372
0000123864	BUTYL ACETATE	No	NR	3.002	2.860	1.968	1.537
0000110190	ISOBUTYL ACETATE	No	NR	0.962	0.924	0.641	0.496
0000064175	ETHYL ALCOHOL	No	NR	0.556	0.590	0.452	0.317
	AROMATIC SOLVENT	No	R2	0.575	0.552	0.383	0.297
0000095636	1,2,4-TRIMETHYLBENZENE	No	R2	0.292	0.278	0.192	0.149
0000067561	METHYL ALCOHOL	Yes	NR	0.030	0.031	0.024	0.017
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	0.027	0.026	0.018	0.014
0000108101	METHYL ISOBUTYL KETONE	Yes	R3	0.018	0.019	0.014	0.010
0000098828	CUMENE	Yes	R2	0.013	0.013	0.009	0.007
			Total Volatiles:	100.000	100.000	72.483	53.727

† The Exempt VOC values reported for this product are US Federal values only and are not to be confused with State and local regulations in the state and local jurisdictions where you do business. It is the responsibility of the users of this report to know and understand the local and state regulations regarding Exempt VOC's

Notes: **VHAP** means any volatile hazardous air pollutant as listed on Table 2 to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

Disclaimer: The values on this report are determined by theoretical means that have adopted the median of given ranges of ingredients which are used for the purpose of computer calculations (algorithms) that may truncate some numbers down to significant digits. This product is manufactured by a batch process and analytical measurements may yield different values than given here . The user must consider their specific use permit requirements and utilize the calculated values that best apply to the application conditions. The user must assume responsibility for compliance with the permits of their respective site.

MATERIAL SAFETY DATA SHEET

M64WXW5126-1426
00 01

DATE OF PREPARATION
Apr 8, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
M64WXW5126-1426
PRODUCT NAME
SHER-WOOD* KEM AQUA* Pigmented Lacquer, 6001 NEWEST Door Paint used on mouldings also
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300

*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
1	34590-94-8	2-Methoxymethylethoxypropanol		
		ACGIH TLV	100 ppm (Skin)	0.4 mm
		ACGIH TLV	150 ppm (Skin) STEL	
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
3	29911-28-2	1-(2-Butoxymethylethoxy)-propanol		
		ACGIH TLV	Not Available	0.06 mm
		OSHA PEL	Not Available	
1	5131-66-8	Butoxypropanol		
		ACGIH TLV	Not Available	0.6 mm
		OSHA PEL	Not Available	
9	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2*
Flammability	0
Reactivity	0

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

In a confined area vapors in high concentration may cause headache, nausea or dizziness.

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.

CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

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SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	N.A.	N.A.	Not Applicable

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Alcohol Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY
Not Applicable
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	9.16 lb/gal	1097 g/l
SPECIFIC GRAVITY	1.10	
BOILING POINT	212 - 449 °F	100 - 231 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	71%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	8.5	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

1.60 lb/gal	192 g/l	Less Water and Federally Exempt Solvents
0.57 lb/gal	69 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
34590-94-8	2-Methoxymethylethoxypropanol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5135 mg/kg
29911-28-2	1-(2-Butoxymethylethoxy)-propanol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
5131-66-8	Butoxypropanol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		1900 mg/kg
13463-67-7	Titanium Dioxide			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

#2 : #4

MATERIAL SAFETY DATA SHEET

P65WL4
13 00

DATE OF PREPARATION
May 1, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
P65WL4
PRODUCT NAME
SHER-WOOD® Basecoat (HAPS Compliant), White
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300

*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

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SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
5	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
4	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
0.2	100-41-4	Ethylbenzene		
		ACGIH TLV	100 PPM	7.1 mm
		ACGIH TLV	125 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
1	1330-20-7	Xylene		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
7	67-63-0	2-Propanol		
		ACGIH TLV	200 PPM	33 mm
		ACGIH TLV	400 PPM STEL	
		OSHA PEL	400 PPM	
1	78-83-1	2-Methyl-1-propanol		
		ACGIH TLV	50 PPM	8.7 mm
		OSHA PEL	50 PPM	
11	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
9	107-87-9	Methyl n-Propyl Ketone		
		ACGIH TLV	150 PPM STEL	27.8 mm
		OSHA PEL	200 PPM	
		OSHA PEL	250 PPM STEL	
1	123-86-4	n-Butyl Acetate		
		ACGIH TLV	150 PPM	10 mm
		ACGIH TLV	200 PPM STEL	
		OSHA PEL	150 PPM	
		OSHA PEL	200 PPM STEL	
16	110-19-0	Isobutyl Acetate		
		ACGIH TLV	150 PPM	12.5 mm
		OSHA PEL	150 PPM	
18	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

HMIS Codes	
Health	2*
Flammability	3
Reactivity	0

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the hematopoietic (blood-forming) system
- the cardiovascular system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.
CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
4 °F PMCC	0.9	12.8	RED LABEL -- Extremely Flammable, Flash below 21 °F (-6 °C)

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY
DOL Storage Class IB
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Contents are EXTREMELY FLAMMABLE. Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION
Wear safety spectacles with unperforated sideshields.
OTHER PRECAUTIONS
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.75 lb/gal	1048 g/l
SPECIFIC GRAVITY	1.05	
BOILING POINT	132 - 325 °F	55 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	74%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

4.83 lb/gal	579 g/l	Less Water and Federally Exempt Solvents
4.14 lb/gal	496 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable
CONDITIONS TO AVOID
None known.
INCOMPATIBILITY
None known.
HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION
Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.
IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
64742-89-8	V. M. & P. Naphtha			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
108-88-3	Toluene			
		LC50 RAT	4HR	4000 ppm
		LD50 RAT		5000 mg/kg
100-41-4	Ethylbenzene			
		LC50 RAT	4HR	Not Available
		LD50 RAT		3500 mg/kg
1330-20-7	Xylene			
		LC50 RAT	4HR	5000 ppm
		LD50 RAT		4300 mg/kg
67-63-0	2-Propanol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5045 mg/kg
78-83-1	2-Methyl-1-propanol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		2460 mg/kg
67-64-1	Acetone			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5800 mg/kg
107-87-9	Methyl n-Propyl Ketone			
		LC50 RAT	4HR	Not Available
		LD50 RAT		1600 mg/kg
123-86-4	n-Butyl Acetate			
		LC50 RAT	4HR	2000 ppm
		LD50 RAT		13100 mg/kg
110-19-0	Isobutyl Acetate			
		LC50 RAT	4HR	Not Available
		LD50 RAT		13400 mg/kg
13463-67-7	Titanium Dioxide			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

5 Liters (1.3 Gallons) and Less may be Classed as CONSUMER COMMODITY, ORM-D
Larger Containers are Regulated as:
UN1263, PAINT, 3, PG II, (ERG#128)

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Toluene 1000 lb RQ
Xylenes (isomers and mixture) 100 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):

UN1263, PAINT, 3, PG II, (ERG#128)

Canada (TDG)

UN1263, PAINT, CLASS 3, PG II, (ERG#128)

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, CLASS 3, PG II, (-18 C c.c.), EmS F-E, S-E, ADR (D/E)

IATA/ICAO
UN1263, PAINT, 3, PG II

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* **SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	4	
100-41-4	Ethylbenzene	0.1	
1330-20-7	Xylene	1	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

E60WL524
19 00

DATE OF PREPARATION
Dec 27, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
E60WL524
PRODUCT NAME
SHER-WOOD® Wood Building Products Primer, Off-White
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300

for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
0.2	14808-60-7	Quartz		
		ACGIH TLV	0.025 mg/m3 as Resp. Dust	
		OSHA PEL	0.1 mg/m3 as Resp. Dust	
16	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
26	471-34-1	Calcium Carbonate		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	15 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
7	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

HMIS Codes	
Health	1*
Flammability	0
Reactivity	0

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.
EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

In a confined area vapors in high concentration may cause headache, nausea or dizziness.
SIGNS AND SYMPTOMS OF OVEREXPOSURE
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.
CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

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SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	N.A.	N.A.	Not Applicable

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Alcohol Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY
Not Applicable
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	12.55 lb/gal	1504 g/l
SPECIFIC GRAVITY	1.51	
BOILING POINT	212 - 213 °F	100 - 100 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	57%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	8.5	

1.1 wt % VOC
15 g/L VOC − vol H_2O
0.442 = 36 g/L

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

0.30 lb/gal	36 g/l	Less Water and Federally Exempt Solvents
0.13 lb/gal	15 g/l	Emitted VOC

VOC content limit; certif. removed H_2O volume so VOC remains same but w/ smaller overall volume.

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable
CONDITIONS TO AVOID
None known.
INCOMPATIBILITY
None known.
HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION
Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.
IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
14808-60-7	Quartz			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
14807-96-6	Talc			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
471-34-1	Calcium Carbonate			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
13463-67-7	Titanium Dioxide			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

Not Regulated for Transportation.

Canada (TDG)

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

IATA/ICAO

Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Report #: LC613
Requested by: MEHLHOJL
Location: SALM

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 29,2012
Time: 3:32 pm

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 450-W020-337 – WHITE LACQUER BASECOAT

Product Density: 10.85 lb/gal(US)

	Volume%	Weight%
Solids:	38.308	60.451
Total Volatiles:	61.692	39.549
Water Content:	0.000	0.000
Volatile Content:	61.692	39.549
Exempt Content:	9.265	5.627
VOC Content:	52.428	33.922

Organic Solvent Density: 6.957 lb/gal(US)

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	5.176	Non-Reactive:	33.698
20% (R3):	46.108	Exempt VOC:	15.017
R1+R2+R3:	51.284	Water:	0.000

VHAPS Content: 21.018 Weight%

VHAP weight / weight solids:	0.35 lb / lb	0.35 Kilograms / Kilogram	0.35 grams / gram
VHAP weight / volume solids:	5.95 lb / gal(US)	0.71 Kilograms / Liter	713.17 grams / Liter
VOC (less water & exempts):	4.06 lb / gal(US)	0.49 Kilograms / Liter	486.09 grams / Liter
VOC non-exempt solvents:†	3.68 lb / gal(US)	0.44 Kilograms / Liter	441.06 grams / Liter
VOC weight / weight solids:	0.56 lb / lb	0.56 Kilograms / Kilogram	0.56 grams / gram
VOC weight / volume solids:	9.61 lb / gal(US)	1.15 Kilograms / Liter	1,151.03 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000108883	TOLUENE	Yes	R3	49.044	47.029	27.760	18.599
0000078933	METHYL ETHYL KETONE	No	NR	19.521	20.281	12.971	8.021
0000067641	DIMETHYL KETONE	No	E	13.449	14.227	9.265	5.627
0000067630	ISOPROPANOL	No	NR	10.959	11.682	7.666	4.620
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	5.157	4.952	2.927	1.958
0000100414	ETHYLBENZENE	Yes	R3	1.207	1.159	0.685	0.458
	AROMATIC SOLVENT	No	R2	0.241	0.231	0.137	0.092
0000095636	1,2,4-TRIMETHYLBENZENE	No	R2	0.122	0.117	0.069	0.046
0008052413	MINERAL SPIRITS	No	NR	0.091	0.098	0.065	0.039
0064742489	HYDROTREATED HEAVY NAPHTHA	No	NR	0.089	0.098	0.067	0.039
0064742898	ALIPHATIC HYDROCARBON	No	R2	0.077	0.085	0.058	0.034
0064742898	NAPHTHA	No	NR	0.012	0.013	0.009	0.005
0000057556	1,2-PROPANEDIOL	No	NR	0.014	0.011	0.006	0.005
0000078831	ISOBUTANOL	No	NR	0.009	0.009	0.006	0.004
0000098828	CUMENE	Yes	R2	0.006	0.006	0.003	0.002
0000556672	SUBSTITUTED SILOXANE	No	NR	0.003	0.002	0.001	0.001
			Total Volatiles:	100.000	100.000	61.692	39.549

† The Exempt VOC values reported for this product are US Federal values only and are not to be confused with State and local regulations in the state and local jurisdictions where you do business. It is the responsibility of the users of this report to know and understand the local and state regulations regarding Exempt VOC's

Disclaimer: The values on this report are determined by theoretical means that have adopted the median of given ranges of ingredients which are used for the purpose of computer calculations (algorithms) that may truncate some numbers down to significant digits. This product is manufactured by a batch process and analytical measurements may yield different values than given here . The user must consider their specific use permit requirements and utilize the calculated values that best apply to the application conditions. The user must assume responsibility for compliance with the permits of their respective site.

Report #: LC613
Requested by: MEHLHOJL
Location: SALM

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 29,2012
Time: 3:32 pm

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Notes: **VHAP** means any volatile hazardous air pollutant **as** listed on Table **2** to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

Disclaimer: The values on this report are determined by theoretical means that have adopted the median of given ranges of ingredients which are used for the purpose of computer calculations (algorithms) that may truncate some numbers down to significant digits. This product is manufactured by a batch process and analytical measurements may yield different values than given here . The user must consider their specific use permit requirements and utilize the calculated values that best apply to the application conditions. The user must assume responsibility for compliance with the permits of their respective site.

Report #: LC613
Requested by: MEHLHOJL
Location: SALM

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 29,2012
Time: 3:28 pm

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 400-F020-117A – SATIN LACQUER TOPCOAT

Product Density: 7.26 lb/gal(US)

	Volume%	Weight%
Solids:	10.942	16.909
Total Volatiles:	89.058	83.091
Water Content:	0.016	0.019
Volatile Content:	89.042	83.072
Exempt Content:	17.618	15.992
VOC Content:	71.423	67.080

Organic Solvent Density: 6.770 lb/gal(US)

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	0.869	Non-Reactive:	48.821
20% (R3):	30.509	Exempt VOC:	19.783
R1+R2+R3:	31.378	Water:	0.018

VHAPS Content: 28.140 Weight%

VHAP weight / weight solids:	1.66 lb / lb	1.66 Kilograms / Kilogram	1.66 grams / gram
VHAP weight / volume solids:	18.74 lb / gal(US)	2.25 Kilograms / Liter	2,245.32 grams / Liter
VOC (less water & exempts):	5.91 lb / gal(US)	0.71 Kilograms / Liter	708.52 grams / Liter
VOC non-exempt solvents:†	4.87 lb / gal(US)	0.58 Kilograms / Liter	583.57 grams / Liter
VOC weight / weight solids:	3.97 lb / lb	3.97 Kilograms / Kilogram	3.97 grams / gram
VOC weight / volume solids:	44.67 lb / gal(US)	5.35 Kilograms / Liter	5,352.35 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000108883	TOLUENE	Yes	R3	34.772	32.525	26.989	27.026
0000078933	METHYL ETHYL KETONE	No	NR	21.041	21.324	19.171	17.718
0000067641	DIMETHYL KETONE	No	E	18.651	19.246	17.618	15.992
0000067630	ISOPROPANOL	No	NR	13.090	13.612	12.555	11.310
0064742898	ALIPHATIC HYDROCARBON	No	NR	8.112	9.287	9.431	7.716
0000110190	ISOBUTYL ACETATE	No	NR	2.690	2.523	2.099	2.096
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	0.994	0.931	0.774	0.774
0000100414	ETHYLBENZENE	Yes	R3	0.233	0.218	0.182	0.181
0000122996	PHENOXYETHANOL	Yes	NR	0.258	0.192	0.126	0.159
0000111762	2-BUTOXYETHANOL	No	NR	0.125	0.113	0.091	0.094
0007732185	WATER	No	W	0.028	0.023	0.016	0.019
0000556672	SUBSTITUTED SILOXANE	No	NR	0.007	0.006	0.004	0.005
			Total Volatiles:	100.000	100.000	89.058	83.091

† The Exempt VOC values reported for this product are US Federal values only and are not to be confused with State and local regulations in the state and local jurisdictions where you do business. It is the responsibility of the users of this report to know and understand the local and state regulations regarding Exempt VOC's

Notes: **VHAP** means any volatile hazardous air pollutant as listed on Table 2 to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 22,2012
Time: 3:13 pm

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 20-Y0-213 – 86 YELLOW TINT PASTE

Product Density: 13.00 lb/gal(US)

Organic Solvent Density: 6.643 lb/gal(US)

	Volume%	Weight%
Solids:	61.257	80.300
Total Volatiles:	38.743	19.700
Water Content:	0.000	0.000
Volatile Content:	38.743	19.700
Exempt Content:	0.000	0.000
VOC Content:	38.743	19.700

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	PASS
8% (R2):	2.311	Non-Reactive:	92.609
20% (R3):	5.080	Exempt VOC:	0.000
R1+R2+R3:	7.391	Water:	0.000

VHAPS Content: 1.600 Weight%

VHAP weight / weight solids:	0.02 lb / lb	0.02 Kilograms / Kilogram	0.02 grams / gram
VHAP weight / volume solids:	0.34 lb / gal(US)	0.04 Kilograms / Liter	40.56 grams / Liter
VOC (less water & exempts):	2.56 lb / gal(US)	0.31 Kilograms / Liter	306.88 grams / Liter
VOC non-exempt solvents:†	2.56 lb / gal(US)	0.31 Kilograms / Liter	306.88 grams / Liter
VOC weight / weight solids:	0.25 lb / lb	0.25 Kilograms / Kilogram	0.25 grams / gram
VOC weight / volume solids:	4.17 lb / gal(US)	0.50 Kilograms / Liter	499.39 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0064742887	PETROLEUM HYDROCARBON	No	NR	34.808	35.533	14.022	7.000
0000110190	ISOBUTYL ACETATE	No	NR	10.277	9.391	3.317	1.850
0000071363	BUTANOL	No	NR	9.568	9.391	3.563	1.850
0000078831	ISOBUTANOL	No	NR	9.469	9.391	3.600	1.850
0064742478	PETROLEUM DISTILLATES	No	NR	9.214	9.391	3.700	1.850
0064742898	VM&P NAPHTHA	No	NR	8.902	9.391	3.830	1.850
0008032324	LIGROINE	No	NR	8.859	9.391	3.848	1.850
0000108883	TOLUENE	Yes	R3	3.064	2.792	0.983	0.550
0000100414	ETHYLBENZENE	Yes	R3	3.059	2.792	0.985	0.550
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	2.781	2.538	0.895	0.500
			Total Volatiles:	100.000	100.000	38.743	19.700

† The Exempt VOC values reported for this product are US Federal values only and are not to be confused with State and local regulations in the state and local jurisdictions where you do business. It is the responsibility of the users of this report to know and understand the local and state regulations regarding Exempt VOC's

Notes: **VHAP** means any volatile hazardous air pollutant as listed on Table 2 to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
Regulatory Constant Report

Date: June 22,2012
Time: 3:15 pm

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 30-W020-94 – WHITE INK PASTE

Product Density: 12.36 lb/gal(US)

Organic Solvent Density: 6.979 lb/gal(US)

	Volume%	Weight%
Solids:	29.824	60.392
Total Volatiles:	70.176	39.608
Water Content:	0.000	0.000
Volatile Content:	70.176	39.608
Exempt Content:	0.000	0.000
VOC Content:	70.176	39.608

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	0.728	Non-Reactive:	19.639
20% (R3):	79.633	Exempt VOC:	0.000
R1+R2+R3:	80.361	Water:	0.000

VHAPS Content: 32.315 Weight%

VHAP weight / weight solids:	0.54 lb / lb	0.54 Kilograms / Kilogram	0.54 grams / gram
VHAP weight / volume solids:	13.40 lb / gal(US)	1.61 Kilograms / Liter	1,605.48 grams / Liter
VOC (less water & exempts):	4.90 lb / gal(US)	0.59 Kilograms / Liter	586.85 grams / Liter
VOC non-exempt solvents:†	4.90 lb / gal(US)	0.59 Kilograms / Liter	586.85 grams / Liter
VOC weight / weight solids:	0.66 lb / lb	0.66 Kilograms / Kilogram	0.66 grams / gram
VOC weight / volume solids:	16.42 lb / gal(US)	1.97 Kilograms / Liter	1,967.81 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000108883	TOLUENE	Yes	R3	58.822	56.589	38.122	22.414
0000108101	METHYL ISOBUTYL KETONE	Yes	R3	22.982	24.063	17.642	9.531
0000067630	ISOPROPANOL	No	NR	16.714	17.875	13.385	7.080
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	0.786	0.757	0.511	0.300
0064742478	ALIPHATIC HYDROCARBON	No	NR	0.512	0.538	0.396	0.213
0000100414	ETHYLBENZENE	Yes	R3	0.184	0.177	0.120	0.070
			Total Volatiles:	100.000	100.000	70.176	39.608

† The Exempt VOC values reported for this product are US Federal values only and are not to be confused with State and local regulations in the state and local jurisdictions where you do business. It is the responsibility of the users of this report to know and understand the local and state regulations regarding Exempt VOC's

Notes: VHAP means any volatile hazardous air pollutant as listed on Table 2 to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

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Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Product: 450-Y020-338 – YELLOW LACQUER BASECOAT

Product Density: 10.67 lb/gal(US)

Organic Solvent Density: 6.959 lb/gal(US)

	Volume%	Weight%
Solids:	37.445	59.227
Total Volatiles:	62.555	40.773
Water Content:	0.000	0.000
Volatile Content:	62.555	40.773
Exempt Content:	9.352	5.773
VOC Content:	53.204	35.000

Photochemical Information by Volume Percent

5% (R1):	0.000	Pass / Fail Rule:	FAIL
8% (R2):	5.149	Non-Reactive:	33.480
20% (R3):	46.422	Exempt VOC:	14.949
R1+R2+R3:	51.570	Water:	0.000

VHAPS Content: 21.786 Weight%

VHAP weight / weight solids:	0.37 lb / lb	0.37 Kilograms / Kilogram	0.37 grams / gram
VHAP weight / volume solids:	6.21 lb / gal(US)	0.75 Kilograms / Liter	744.01 grams / Liter
VOC (less water & exempts):	4.12 lb / gal(US)	0.49 Kilograms / Liter	493.89 grams / Liter
VOC non-exempt solvents:†	3.74 lb / gal(US)	0.45 Kilograms / Liter	447.70 grams / Liter
VOC weight / weight solids:	0.59 lb / lb	0.59 Kilograms / Kilogram	0.59 grams / gram
VOC weight / volume solids:	9.98 lb / gal(US)	1.20 Kilograms / Liter	1,195.29 grams / Liter

VOC, Exempt, Water and VHAP Data

CAS No.	Volatile Name	VHAP	Reactive Class	Volatile Content 100% Volume%	Volatile Content 100% Weight%	Formula Content Volume%	Formula Content Weight%
0000108883	TOLUENE	Yes	R3	49.367	47.350	28.349	19.306
0000078933	METHYL ETHYL KETONE	No	NR	19.361	20.120	13.051	8.203
0000067641	DIMETHYL KETONE	No	E	13.381	14.159	9.352	5.773
0000067630	ISOPROPANOL	No	NR	10.905	11.628	7.738	4.741
0001330207	XYLENE, MIXED ISOMERS	Yes	R2	5.126	4.924	2.952	2.008
0000100414	ETHYLBENZENE	Yes	R3	1.199	1.152	0.691	0.470
	AROMATIC SOLVENT	No	R2	0.239	0.230	0.138	0.094
0000095636	1,2,4-TRIMETHYLBENZENE	No	R2	0.121	0.116	0.069	0.047
0008052413	MINERAL SPIRITS	No	NR	0.091	0.098	0.065	0.040
0064742489	HYDROTREATED HEAVY NAPHTHA	No	NR	0.089	0.098	0.067	0.040
0064742898	ALIPHATIC HYDROCARBON	No	R2	0.077	0.085	0.058	0.035
0064742898	NAPHTHA	No	NR	0.012	0.013	0.009	0.005
0000057556	1,2-PROPANEDIOL	No	NR	0.014	0.012	0.006	0.005
0000078831	ISOBUTANOL	No	NR	0.009	0.009	0.006	0.004
0000098828	CUMENE	Yes	R2	0.006	0.005	0.003	0.002
0000556672	SUBSTITUTED SILOXANE	No	NR	0.003	0.002	0.001	0.001
			Total Volatiles:	100.000	100.000	62.555	40.773

† The Exempt VOC values reported for this product are US Federal values only and are not to be confused with State and local regulations in the state and local jurisdictions where you do business. It is the responsibility of the users of this report to know and understand the local and state regulations regarding Exempt VOC's

Disclaimer: The values on this report are determined by theoretical means that have adopted the median of given ranges of ingredients which are used for the purpose of computer calculations (algorithms) that may truncate some numbers down to significant digits. This product is manufactured by a batch process and analytical measurements may yield different values than given here . The user must consider their specific use permit requirements and utilize the calculated values that best apply to the application conditions. The user must assume responsibility for compliance with the permits of their respective site.

Report #: LC613
Requested by: MEHLHOJL
Location: SALM

Akzo Nobel Coatings Inc.
Regulatory Constant Report

0000102192
TETON SALES
Attn: Diane Puri
518 S. KIT AVENUE
CALDWELL, ID 83605

Akzo Nobel Coatings Inc.
1660 Cross Street S.E.
Salem, OR 97302

Notes: **VHAP** means any volatile hazardous air pollutant as listed on Table 2 to Subpart JJ of 40 CFR Part 63, Wood Furniture NESHAP- List of Volatile Hazardous Air Pollutants.

Disclaimer: The values on this report are determined by theoretical means that have adopted the median of given ranges of ingredients which are used for the purpose of computer calculations (algorithms) that may truncate some numbers down to significant digits. This product is manufactured by a batch process and analytical measurements may yield different values than given here . The user must consider their specific use permit requirements and utilize the calculated values that best apply to the application conditions. The user must assume responsibility for compliance with the permits of their respective site.

APPENDIX E

Emissions Inventory

The emissions inventory is based on information gathered from several applicable MSDS and AP-42, Section 1.4. The majority of maximum weight fractions are determined explicitly from the information provided on the MSDS. The lone expectations include Fan#1 and #3. The Brown coating used in Fan #1 is a combination of four other coatings and acetone. Therefore, the weight fractions and subsequent emissions are determined by calculating the percentage of each component of the brown coating and aggregating them. The coating is 60% white, 30% yellow, 7% red and 3% black. This ratio is used in conjunction with the applicable MSDS to obtain the proper fraction. For example, toluene is calculated in the following manner:

MSDS: White Basecoat-450-W020-337 – 18.599%
MSDS: Yellow Basecoat-450-W020-338 – 19.306%
MSDS: Red Basecoat-450-W020-339 – 20.781%
MSDS: Black Basecoat-450-W020-340 – 21.903%

Brown weight fraction = (0.60*0.18599) + (0.30*0.19306) + (0.07*0.20781) + (0.03*0.21903) = **0.1905**

Similarly, Fan #3, acetone is determined based a ratio of Satin Lacquer Topcoat to acetone of 23:77. Also, the MSDS, TopCoat-400-F020-117A, identifies dimethyl ketone as the same CAS# as acetone. Therefore, that weight percentage was used in the calculation.

Acetone weight fraction = (0.23*0.15992) + (0.77*1) = **0.8068**

Source	Pollutant															
	PM		PM-10		VOC[c]		SO_2		NO_X		CO		Lead		HAPs	GHG
	lb/hr	ton /yr	lb/hr	ton /yr	lb/hr	ton/yr	lb/hr	ton /yr	lb /hr	ton /yr	lb /hr	ton /yr	lb/hr	ton /yr	ton/yr	metric T/yr $CO2_e$
Spray Booth	0.79	1.73	0.79	1.73	6.30	13.86									na	
Roll Coater # 1					3.52	1.51									0.79	
Fan Coater # 1						7.43									4.62	
Fan Coater # 2					13.25	3.11									0.34	
Fan Coater # 3						2.92									1.23	
Fan Coater # 4A					18.22	10.35									1.14	
Fan Coater # 4B						2.57									na	
Printer # 1					21.8	13.5									2.4	
Acetone Storage Tank[a]															na	
5005 Thinner Storage Tank[b]					0.0045	0.020									0.003	
Oven Heaters 1-8	0.008	0.04	0.008	0.04	0.01	0.03	0.0007	0.003	0.11	0.48	0.09	0.40	5.5E-07	2.4E-06	0.01	761.91
Space Heaters 1-5	0.004	0.016	0.004	0.016	0.005	0.012	0.0004	0.002	0.07	0.30	0.06	0.25	3.4E-07	1.5E-06	0.004	
TOTAL	**0.80**	**1.78**	**0.80**	**1.78**	**63.15**	**55.30**	**0.001**	**0.005**	**0.18**	**0.78**	**0.15**	**0.66**	**8.9E-07**	**3.9E-06**	**10.50**	**761.91**

[a]Acetone is not a VOC

[b] Does not contain the acetone fraction

[c]Ton/yr emissions are based on requested coating/solvent throughputs and lb/hr emissions are based on worst case emissions based on fan coater configurations outlined below:
Fan coaters No.2 and No.3 are in parallel and therefore are unable to operate simultaneously; worst case emissions are from Fan coater No.2
Fan coaters No.1 and No.4 are in parallel and therefore are unable to operate simultaneously; worst case emissions are from Fan coater No.4A

Coating Throughput Limits	Proposed gal/yr	Current Permit
Spray Booth- Primer	39,600	39,600
Spray Booth- Laquer	39,600	39,600
Roll Coater # 1- Burnishing Sealer	600	3,080
Fan Coater # 1- Brown Basecoat	4,000	8,800
Fan Coater # 2- White Basecoat	1,500	14,080
Fan Coater # 3- Topcoat	1,200	4,400
Fan Coater # 4A- White Basecoat	5,000	19,360
Fan Coater # 4B- White Laquer	9,000	
Printer # 1- Ink	1,000	3,520
5005 Teton Thinner	5,335	25,080
Glycol ether	38	65
Acetone	17,899	na

TAPs Summary	CAS No.	lb/hr	EL lb/hr	Exceeds EL Y/N	AAC (mg/m3) (24 avg)
Dipropylene glycol methyl ether	34590-94-8	1.47	40	N	30
Toluene	108883	12.51	25	N	18.75
Methyl ethyl ketone	78933	3.92	39.3	N	29.5
Isopropanol	67630	9.79	65.3	N	49
Butyl acetate	123864	7.43	47.3	N	35.5
Acetone	67641	100.12	119	N	89
Isobutyl Acetate	110-19-0	12.14	46.7	N	35
Ethyl alcohol	64-17-5	0.02	126	N	94
Trimethylbenzene (mixed isomers)	25551-13-7	0.01	8.2	N	6.15
Methyl alcohol	67-56-1	0.58	17.3	N	13
Xylene	1330207	1.50	29	N	21.75
Methyl isobutyl ketone	108-10-1	0.83	13.7	N	10.25
Cumene	98-82-8	0.0009	16.3	N	12.25
Ethyl benzene	100414	0.33	29	N	21.75
2-Butoxyethanol (Glycol Ether)	111762	1.520	8	N	6
Stoddard Solvent (mineral spirits)	8052413	0.69	35	N	26.25
Isobutyl alcohol	78831	1.00	10	N	6
Quartz	14808-60-7	8.90E-04	0.0067	N	0.005
Calcium Carbonate	13765-19-0	0.12	0.667	N	0.5
Butanol	71363	0.33	10	N	7.5
Ligroine (VM & P Naphtha)	8032324	0.30	91.3	N	68.5
Ethyl Acetate	141786	1.74	93.3	N	70
Methyl n-amyl Ketone	110430	0.58	15.7	N	11.75
Methyl Propyl Ketone	107879	5.99	46.7	N	35

* lb/hr emissions over overestimated because it does not take into consideration actual configuration of equipment.
Actual hourly maximum emissions would be lower for some pollutants based on equipment operation outlined below:
Fan coaters No.2 and No.3 are in parallel and therefore are unable to operate simultaneously
Fan coaters No.1 and No.4 are in parallel and therefore are unable to operate simultaneously

Natural Gas TAP Summary[a]	CAS No.	lb/hr	EL lb/hr	Exceeds EL Y/N
3-Methylcholanthrene	56-49-5	2.86E-09	2.50E-06	N
Benzene	71-43-2	3.34E-06	8.00E-04	N
Benzo(a)pyrene	50-32-8	1.91E-09	2.00E-06	N
Formaldehyde	50-00-0	1.19E-04	5.10E-04	N
Hexane	110-54-3	2.86E-03	12	N
Naphthalene	91-20-3	9.69E-07	3.33	N
Naphthalene	91-20-3	9.69E-07	9.10E-05	N
Pentane	109-66-0	4.13E-03	118	N
POM (7-PAH)	N/A	1.81E-08	2.00E-06	N
Arsenic	7440-38-2	3.18E-07	1.50E-06	N
Barium	7440-39-3	6.99E-06	3.30E-02	N
Beryllium	7440-41-7	1.91E-08	2.08E-05	N
Cadmium	7440-43-9	1.75E-06	3.70E-06	N
Chromium	7440-47-3	2.22E-06	3.30E-02	N
Cobalt	7440-48-4	1.33E-07	3.30E-03	N
Copper	7440-50-8	1.35E-06	1.30E-02	N
Manganese	7439-96-5	6.04E-07	6.70E-02	N
Molybdenum	7439-98-7	1.75E-06	3.33E-01	N
Nickel	7440-02-0	3.34E-06	2.70E-05	N
Selenium	7782-49-2	3.81E-08	1.30E-02	N
Vanadium	1314-62-1	3.65E-06	3.00E-03	N
Zinc	7440-66-6	4.61E-05	6.67E-01	N

a. Toluene is a TAP included in natural gas. However, the natural gas component was added to the value in the table above.

HAPs Summary	CAS No.	ton/yr
Toluene	108883	8.41
Methyl alcohol	67-56-1	0.36
Xylene	1330207	0.97
Methyl isobutyl ketone	108-10-1	0.52
Cumene	98-82-8	0.001
Ethyl benzene	100414	0.22
Phenoxyethanol	122996	0.01
Benzene		1.46E-05
Formaldehyde		5.22E-04
Hexane		1.25E-02
Naphthalene		4.24E-06
Arsenic		1.39E-06
Beryllium		8.35E-08
Cadmium		7.65E-06
Chromium		9.74E-06
Cobalt		5.84E-07
Manganese		2.64E-06
Mercury		1.81E-06
Nickel		1.46E-05
Selenium		1.67E-07
PAH		1.32E-05
	Total	**10.50**

Toluene Breakdown	ton/yr
Roll Coater # 1	0.79
Fan Coater # 1	4.09
Fan Coater # 2	0.26
Fan Coater # 3	1.18
Fan Coater # 4A	0.88
Printer # 1	1.22
Total	**8.41**

TABLE A-1
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Door Coating Line – 518 Kit Ave.
Max VOC Coating:	Sherwin Williams- Pigmented Lacquer Sherwin Williams- Off-White Primer
MSDS/RCR Density Lacquer (lb/gal):	9.16
MSDS/RCR Density Primer (lb/gal):	12.55
Hours of Operation (hr/yr):	4,400
Max. Application Rate each coating (gal/hr):	9.0
Max. Gallons Applied each coating (gal/yr):	39,600

Volatile Component	Density [b] (lb/gal)	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
Sherwin Williams- Pigmented Lacquer	0.57		5.1	11.3	na	na	na
Dipropylene glycol methyl ether	9.16	0.01	na	na	na	na	0.8
Sherwin Williams- Off-White Primer	0.13		1.2	2.6	na	na	na
Quartz [c]	12.55	0.002	na	na	na	na	na
Calcium Carbonate [c]	12.55	0.26	na	na	na	na	na
Total			6.3	13.9	na	na	

[a]Only non-exempt VOC, HAP and TAP components are summed.
[b] Emitted VOC density used to calculate VOC emissions from each coating
[c] Quartz and Calcium Carbonate not VOC; emitted with particulate portion of emissions

Door Coating Line Controlled PM Emissions

Product	Max. Application Rate (gal/hr)	Density of Mixture (lb/gal)[b]	Wt. Fraction Solids (lb PM/lb Mixture)b	Transfer Efficiency (%)	Control Efficiency (%)	PM Emissions (lb/hr)	PM Emissions (T/yr)[a]	TAP Emissions (lb/hr)
Sherwin Williams- Pigmented Lacquer	9.0	9.16	0.825	50	99	0.34	0.75	na
Sherwin Williams- Off-White Primer	9.0	12.55	0.788	50	99	0.45	0.98	na
Quartz	9.0	12.55	0.788	50	99	na	na	0.001
Calcium Carbonate	9.0	12.55	0.788	50	99	na	na	0.116
Total						**0.79**	**1.73**	

[a]Based on 4400 hr/yr.
[b]From MSDS/RCR

TABLE A-6
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Roll Coater # 1 -- 604 Kit Ave.
Max VOC Coating:	High Solids Burnishing Sealer + Acetone Thinner
Coating ID:	Akzo Product No. 422-F020-25A and Sunoco Acetone
Density (lb/gal):	9.36
Max Coating Applied* (gal/hr):	0.7
Max Acetone Applied* (gal/hr):	0.85
Max Gallons Coating Applied (gal/yr):	600
Max Gallons Acetone Applied (gal/yr):	729

Volatile Component	CAS No.	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
Toluene	108883	0.2821	1.849	0.792	1.85	0.79	1.85
Methyl ethyl ketone	78933	0.1354	0.887	0.380	na	na	0.89
Isopropanol	67630	0.0576	0.377	0.162	na	na	0.38
Aliphatic Hydrocarbon	na	0.0337	0.221	0.095	na	na	na
Isobutyl acetate	110-19-0	0.0050	0.032	0.014	na	na	0.03
Butyl acetate	123864	0.0154	0.101	0.043	na	na	0.10
Ethyl alcohol	64-17-5	0.0032	0.021	0.009	na	na	0.02
1,2,4- Trimethylbenzene	25551-13-7	0.0015	0.010	0.004	na	na	0.01
Methyl alcohol	67-56-1	0.0002	0.001	0.000	0.001	0.000	0.001
Xylene	1330207	0.0001	0.001	0.000	0.001	0.000	0.001
Methyl isobutyl ketone	108-10-1	0.0001	0.001	0.000	0.001	0.000	0.001
Cumene	98-82-8	0.0001	0.0005	0.000	0.0005	0.000	0.000
Acetone	67641	0.5484	na	na	na	na	5.62
TOTAL (Using Mass Fractions from MSDS)[a]		0.537	3.52	1.51	1.85	0.79	na

*Roll Coater #1 has a High Solids Burnishing Sealer throughput of 0.7 gal/hr. The Sealer is thinned with Acetone at a rate of 0.85 gal/hr giving an overall throughput of 1.55 gal mixture/hr.

[a]Only non-exempt VOC, HAP and TAP components are summed.

TABLE A-2
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Fan Coater # 1 -- 604 Kit Ave.		
Max VOC Coating:	Solvent Based Laquer Basecoat + Acetone		
Coating ID:	Akzo-Nobel Brown Basecoat (60% White, 30% Yellow, 7% Red, 3% Black) + Acetone		
Density White (lb/gal):	10.85	**Wt. Fraction White:**	0.61
Density Yellow (lb/gal):	10.67	**Wt. Fraction Yellow:**	0.30
Density Red (lb/gal):	10.42	**Wt. Fraction Red:**	0.07
Density Black (lb/gal):	9.89	**Wt. Fraction Black:**	0.03
Max. Application Rate White* (gal/hr):	1.2	**Total Brown (lb/gal):**	10.74
Max. Application Rate Yellow* (gal/hr):	0.6		
Max. Application Rate Red* (gal/hr):	0.1		
Max. Application Rate Black* (gal/hr):	0.1	**Total Brown (gal/hr):**	2.00
Max. Gallons Applied White (gal/yr):	2,400		
Max. Gallons Applied Yellow (gal/yr):	1,200		
Max. Gallons Applied Red (gal/yr):	280		
Max. Gallons Applied Black (gal/yr):	120	**Total Brown (gal/yr):**	4,000
		Total Acetone (gal/yr):	10,000

Volatile Component	CAS No.	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
Toluene	108883	0.1905	4.09	4.09	4.09	4.09	4.09
Methyl ethyl ketone	78933	0.0813	1.75	1.75	na	na	1.75
Acetone	67641	0.0571	na	na	na	na	34.28
Isopropanol	67630	0.0468	1.01	1.01	na	na	1.01
Xylene	1330207	0.0198	0.43	0.43	0.43	0.43	0.43
Ethyl benzene	100414	0.0046	0.10	0.10	0.10	0.10	0.10
Aromatic Acetone	na	0.0009	0.02	0.02	na	na	na
1,2,4-Trimethylbenzene	95636	0.0005	0.01	0.01	na	na	na
Stoddard Acetone (mineral spir	8052413	0.0004	0.01	0.01	na	na	0.01
Hydrotreated heavy naphtha	64742489	0.0004	0.01	0.01	na	na	na
Aliphatic hydrocarbon	64742898	0.0004	0.01	0.01	na	na	na
1,2-Propanediol	57556	0.0001	0.00	0.00	na	na	na
Isobutanol	78831	0.00004	0.00	0.00	na	na	na
Cumene	98828	0.00002	0.00	0.00	0.00	0.000	0.00
Substituted siloxane	556672	0.00001	0.00	0.00	na	na	na
TOTAL (Using Mass Fractions from RCR)[a]		0.3458	7.43	7.43	4.62	4.62	na

*Fan Coater #1 has a basecoat throughput of 2.0 gal/hr (60% White, 30% Yellow, 7% Red, 3% Black). The basecoat is thinned with acetone at a rate of 5.0 gal/hr giving an overall throughput of 7.0 gal mixture/hr.

[a]Only non-exempt VOC, HAP and TAP components are summed.

TABLE A-3
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Fan Coater # 2 – 604 Kit Ave.
Max VOC Coating:	Solvent Based White Paint Basecoat + Acetone
Coating ID:	Sherwin Williams SHER-WOOD White Basecoat, Product No. P65WL4 +
Density Coating (lb/gal):	8.75
Max Coating Applied* (gal/hr):	3.2
Max Acetone Applied* (gal/hr):	2.0
Max Gallons Coating Applied (gal/yr):	1,500
Max Gallons Solvent Applied (gal/yr):	938

Volatile Component	CAS No.	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
V.M. & P Naphtha	64742898	0.0500	1.40	0.33	na	na	na
Methyl Propyl Ketone	107879	0.0900	2.52	0.59	na	na	2.52
Butyl acetate	123864	0.01000	0.28	0.07	na	na	0.28
Isobutyl acetate	110190	0.1600	4.48	1.05	na	na	4.48
Toluene	108883	0.0400	1.12	0.26	1.12	0.26	1.12
Isopropanol	67630	0.070	1.96	0.46	na	na	1.96
Xylene	1330207	0.010	0.28	0.07	0.28	0.07	0.28
Ethyl Benzene	100414	0.002	0.06	0.01	0.06	0.01	0.06
Isobutyl alcohol	78831	0.01000	0.28	0.07	na	na	0.28
Acetone	67641	0.110	na	na	na	na	16.30
TOTAL (Using Mass Fractions from MSDS)[b]			13.25	3.11	1.46	0.34	na

*Fan Coater #2 has a white basecoat throughput of 3.2 gal/hr. The white basecoat is thinned with acetone at a rate of 2.0 gal/hr giving an overall throughput of 5.2 gal mixture/hr.

[b]Only non-exempt VOC, HAP and TAP components are summed.

TABLE A-4
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Fan Coater # 3 – 604 Kit Ave.
Max VOC Coating:	Satin Lacquer Topcoat + Acetone
Coating ID:	Akzo-Nobel Satin Lacquer Topcoat, Product No. 400-F020-117A + Acetone
Density lb/gal:	7.26
Max Coating Applied* (gal/hr):	1.0
Max Solvent Applied* (gal/hr):	3.3
Max Gallons Coating Applied (gal/yr):	1,200
Max Gallons Solvent Applied (gal/yr):	3,960

Volatile Component	CAS No.	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
Toluene	108883	0.2703	1.96	1.18	1.96	1.18	1.96
Methyl ethyl ketone	78933	0.1772	1.29	0.77	na	na	1.29
Isopropanol	67630	0.1131	0.82	0.49	na	na	0.82
Aliphatic Hydrocarbon	na	0.0772	0.560	0.336	na	na	na
Iso Butyl Acetate	110-19-0	0.0210	0.15	0.09	na	na	0.15
Xylene	1330207	0.0077	0.06	0.03	0.06	0.03	0.06
Ethylbenzene	100414	0.0018	0.01	0.01	0.01	0.01	0.01
Phenoxyethanol	122996	0.0016	0.01	0.01	0.01	0.01	na
2-Butoxyethanol	111762	0.0009	0.01	0.00	na	na	0.01
Acetone	67641	0.8068	na	na	na	na	22.97
TOTAL (Using Mass Fractions from MSDS)[a]		0.671	4.87	2.92	2.04	1.23	na

*Fan Coater #3 has a satin lacquer topcoat throughput of 1.0 gal/hr. The satin topcoat is thinned Acetone at a rate of 3.3 gal/hr giving an overall throughput of 4.3 gal mixture/hr.

[a]Only non-exempt VOC, HAP and TAP components are summed.

TABLE A-5
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Fan Coater # 4A -- 604 Kit Ave.
Max VOC Coating:	Solvent Based White Paint Basecoat + Acetone
Coating ID:	Sherwin Williams SHER-WOOD White Basecoat, Product No. P65WL4 + Acetone
Density Coating (lb/gal):	8.75
Max Coating Applied* (gal/hr):	4.4
Max Solvent Applied* (gal/hr):	2.0
Max Gallons Coating Applied (gal/yr):	5,000
Max Gallons Solvent Applied (gal/yr):	2,273

Volatile Component	CAS No.	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
V.M. & P Naphtha	64742898	0.0500	1.93	1.09	na	na	na
Methyl Propyl Ketone	107879	0.0900	3.47	1.97	na	na	3.47
Butyl acetate	123864	0.01000	0.39	0.22	na	na	0.39
Isobutyl acetate	110190	0.1600	6.16	3.50	na	na	6.16
Toluene	108883	0.0400	1.54	0.88	1.54	0.88	1.54
Isopropanol	67630	0.070	2.70	1.53	na	na	2.70
Xylene	1330207	0.010	0.39	0.22	0.39	0.22	0.39
Ethyl Benzene	100414	0.002	0.08	0.04	0.08	0.04	0.08
Isobutyl alcohol	78831	0.01000	0.39	0.22	na	na	0.39
Acetone	67641	0.110	na	na	na	na	17.46
TOTAL (Using Mass Fractions from MSDS)[b]			18.22	10.35	2.00	1.14	na

*Fan Coater #4 has a white basecoat throughput of 4.4 gal/hr. The white basecoat is thinned with acetone at a rate of 2.0 gal/hr giving an overall throughput of 6.4 gal mixture/hr.

[b]Only non-exempt VOC, HAP and TAP components are summed.

TABLE A-1
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Fan Coater # 4B -- 604 Kit Ave.
Max VOC Coating:	Sherwin Williams- Pigmented Lacquer
MSDS/RCR Density Lacquer (lb/gal):	9.16
Max. Application Rate each coating(gal/hr):	7.0
Potential Gallons Applied each coating (gal/yr):	9,000

Volatile Component	Density (lb/gal)	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
Sherwin Williams- Pigmented Lacquer	0.57		4.0	2.6	na	na	
Dipropylene glycol methyl ether (34590-94-8)	9.16	0.01	na	na	na	na	0.6
Total			4.0	2.6	na	na	

[a]Only non-exempt VOC, HAP and TAP components are summed.

TABLE A-7
POTENTIAL TO EMIT
VOC and HAP

Emissions Source:	Printer # 1 – 604 Kit Ave.
Max VOC Coating:	Colored Paste Ink + 5005 thinner + Glycol Ether
Coating ID:	Akzo-Nobel Colored Paste Ink (Product No. 932-C020-514, 20-B0-216, 20-R0-214, 20-Y0-213, 20-D0-215, 30-W020-94, 30-A020-98) + "5005 Teton" Thinner + Glycol Ether.
Density Ink (lb/gal):	10.85
Density Solvent (lb/gal):	6.81
Density Glycol Ether (lb/gal):	7.49
Max Ink Applied* (gal/hr):	0.8
Max Solvent Applied* (gal/hr):	1.7
Max Glycol Ether Applied* (gal/hr):	0.03
Max Gallons Ink Applied (gal/yr):	1,000
Max Gallons Solvent Applied (gal/yr):	2,125
Max Gallons Glycol EtherApplied (gal/yr):	38

Volatile Component	CAS No.	Max Wt. Fraction	VOC Emissions (lb/hr)	VOC Emissions (T/yr)	HAP Emissions (lb/hr)	HAP Emissions (T/yr)	TAP Emissions (lb/hr)
Toluene	108883	0.22414	1.95	1.22	1.95	1.22	1.95
Methyl isobutyl ketone	108101	0.09531	0.83	0.52	0.83	0.52	0.83
Butyl acetate	123864	0.76733	6.66	4.16	na	na	6.66
Isopropanol	67630	0.07080	2.93	1.83	na	na	2.93
Butanol	71363	0.0385	0.33	0.21	na	na	0.33
Isobutanol	78831	0.0385	0.33	0.21	na	na	0.33
Isobutyl acetate	110190	0.0185	1.32	0.82	na	na	1.32
Ligroine (VM & P Naphtha)	8032324	0.0340	0.30	0.18	na	na	0.30
Petroleum Distillates	64742478	0.0385	0.33	0.21	na	na	na
Stoddard Solvent (mineral spirits)	8052413	0.0785	0.68	0.43	na	na	0.68
Xylene	1330207	0.0407	0.35	0.22	0.35	0.22	0.35
Naphtha	64742898	0.0385	0.33	0.21	na	na	na
Aliphatic Hydrocarbon	64742887	0.1103	0.96	0.60	na	na	na
Ethyl benzene	100414	0.0096	0.08	0.05	0.08	0.05	0.08
Hydrotreated Heavy Naphtha	64742489	0.0050	0.04	0.03	na	na	na
2-Butoxyethanol (Glycol Ether)	111762	0.1484	1.51	0.81	na	na	1.51
Acetone	67641	0.300	na	na	na	na	3.47
Ethyl Acetate	141786	0.150	1.74	1.09	na	na	1.74
Methyl n-amyl Ketone	110430	0.050	0.58	0.36	na	na	0.58
Methanol	67561	0.050	0.58	0.36	0.58	0.36	0.58
TOTAL (Using Mass Fractions from MSDS)[a]		1.7566	21.84	13.51	3.79	2.37	na

[a]Only non-exempt VOC, HAP and TAP components are summed.

[b] Weighted average ink density based on historical usage

*Printer #1 has a Ink throughput of 0.8 gal/hr. The Ink is thinned with T-6 at a rate of 1.7 gal/hr and glycol ether at a rate of 0.03 gal/hr giving an overall throughput of 2.53 gal mixture/hr.

*Max wt fraction out of all potential inks and fast set vehicle

CRITERIA EMISSIONS - NATURAL GAS COMBUSTION

Emission Factors

NOx	100	lb/10^6 scf	AP-42, Table 1.4-1, 1998
PM-10	7.6	lb/10^6 scf	AP-42, Table 1.4-2, 1998
SOx	0.6	lb/10^6 scf	AP-42, Table 1.4-2, 1998
VOC	5.5	lb/10^6 scf	AP-42, Table 1.4-2, 1998
CO	84	lb/10^6 scf	AP-42, Table 1.4-1, 1998
Lead	0.0005	lb/10^6 scf	AP-42, Table 1.4-2, 1998

Description	Capacity (MMBtu/hr)	Hours of Operation (hr/yr)	Throughput (MMscf/yr)[a]	NOx (lb/hr)	NOx (T/yr)	PM-10 (lb/hr)	PM-10 (T/yr)	SOx (lb/hr)	SOx (T/yr)	VOC (lb/hr)	VOC (T/yr)	CO (lb/hr)	CO (T/yr)	Lead (lb/hr)	Lead (T/yr)
Oven Heater # 1	0.14	8,760	1.20	0.0137	0.060	0.00104	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
Oven Heater # 2	0.14	8,760	1.20	0.0137	0.060	0.001	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
Oven Heater # 3	0.14	8,760	1.20	0.0137	0.060	0.001	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
Oven Heater # 4	0.14	8,760	1.20	0.0137	0.060	0.001	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
Oven Heater # 5	0.14	8,760	1.20	0.0137	0.060	0.001	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
Oven Heater # 6	0.14	8,760	1.20	0.0137	0.060	0.001	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
Oven Heater # 7	0.14	8,760	1.20	0.0137	0.060	0.001	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
Oven Heater # 8	0.14	8,760	1.20	0.0137	0.060	0.001	0.005	0.00008	0.0004	0.001	0.003	0.0115	0.050	6.86E-08	3.01E-07
TOTAL				0.110	0.48	0.008	0.04	0.001	0.003	0.01	0.03	0.09	0.40	5.49E-07	2.40E-06
Space Heater # 1	0.10	8,760	0.86	0.0098	0.043	0.000745	0.003	0.00006	0.0003	0.001	0.002	0.008	0.036	4.90E-08	2.15E-07
Space Heater # 2	0.10	8,760	0.86	0.0098	0.043	0.0007	0.003	0.00006	0.0003	0.001	0.002	0.008	0.036	4.90E-08	2.15E-07
Space Heater # 3	0.10	8,760	0.86	0.0098	0.043	0.0007	0.003	0.00006	0.0003	0.001	0.002	0.008	0.036	4.90E-08	2.15E-07
Space Heater # 4	0.10	8,760	0.86	0.0098	0.043	0.0007	0.003	0.00006	0.0003	0.001	0.002	0.008	0.036	4.90E-08	2.15E-07
Space Heater # 5	0.10	8,760	0.86	0.0098	0.043	0.0007	0.003	0.00006	0.0003	0.001	0.002	0.008	0.036	4.90E-08	2.15E-07
TOTAL				4.9E-02	0.21	0.004	0.016	0.000	0.0013	0.0027	0.012	0.041	0.180	2.45E-07	1.07E-06
TOTAL				**0.159**	**0.696**	**0.012**	**0.053**	**0.001**	**0.004**	**0.009**	**0.038**	**0.133**	**0.584**	**7.941E-07**	**3.478E-06**

[a]Based on a NG heat capacity of 1,020 Btu/scf.

Teton Sales
Permit to Construct - July 2012
Emissions Inventory

GREENHOUSE GAS EMISSIONS

Source	MMBtu/hr	MMscf/yr	Emission Factors (lb/MMscf)[a]		
			CO_2	N_2O	CH_4
Oven Heater # 1	0.14	1.20	120,000	2.2	2.3
Oven Heater # 2	0.14	1.20	120,000	2.2	2.3
Oven Heater # 3	0.14	1.20	120,000	2.2	2.3
Oven Heater # 4	0.14	1.20	120,000	2.2	2.3
Oven Heater # 5	0.14	1.20	120,000	2.2	2.3
Oven Heater # 6	0.14	1.20	120,000	2.2	2.3
Oven Heater # 7	0.14	1.20	120,000	2.2	2.3
Oven Heater # 8	0.14	1.20	120,000	2.2	2.3
Space Heater # 1	0.10	0.86	120,000	2.2	2.3
Space Heater # 2	0.10	0.86	120,000	2.2	2.3
Space Heater # 3	0.10	0.86	120,000	2.2	2.3
Space Heater # 4	0.10	0.86	120,000	2.2	2.3
Space Heater # 5	0.10	0.86	120,000	2.2	2.3

a. Emission factor reference all pollutants is AP-42 Section 1.4, Natural gas Combustion - Table 2.

Source	Global Warming Potentials[1]			CO2e Totals (metric tpy)[2]		
	CO_2	N_2O	CH_4	CO_2	N_2O	CH_4
Oven Heater # 1	1	310	21	65.45	0.37	0.03
Oven Heater # 2	1	310	21	65.45	0.37	0.03
Oven Heater # 3	1	310	21	65.45	0.37	0.03
Oven Heater # 4	1	310	21	65.45	0.37	0.03
Oven Heater # 5	1	310	21	65.45	0.37	0.03
Oven Heater # 6	1	310	21	65.45	0.37	0.03
Oven Heater # 7	1	310	21	65.45	0.37	0.03
Oven Heater # 8	1	310	21	65.45	0.37	0.03
Space Heater # 1	1	310	21	46.75	0.27	0.02
Space Heater # 2	1	310	21	46.75	0.27	0.02
Space Heater # 3	1	310	21	46.75	0.27	0.02
Space Heater # 4	1	310	21	46.75	0.27	0.02
Space Heater # 5	1	310	21	46.75	0.27	0.02
				757.30	4.30	0.30
					Total	761.91

1. The Global Warming Potentials are derived from 40 CFR Part 98, Subpart A, Table A-1
2. The carbon dioxide equivalent is provided in metric tons whereby 2,204.6 pounds equal a ton.

5005 Thinner Tank

Description	Capacity (gal)	Total Emission (T/yr)[a]	VOC Emissions (T/yr)[b]	HAP Emissions (T/yr)
5005 Thinner Tank	2200	0.028	0.02	0.003

Speciated Emissions	Emission (T/yr)	Emissions (lb/hr)[c]
Actetone	0.009	0.002
Isopropanol	0.006	0.001
Ethyl Acetate	0.006	0.001
Isobutyl Acetate	0.003	0.001
Methyl n-amyl Ketone	0.003	0.001
Methanol	0.003	0.001

[a]From TANKS 4.0

[b]Doesn't contain the acetone fraction

[c]Assume 8,760 hr/yr

Acetone Tank

Description	Capacity (gal)	Emissions (T/yr)[a,b]	Emissions (lb/hr)[c]
Acetone Tank	3384	0.07	0.016

[a] Acetone emissions for TAPs inventory- acetone not a VOC

[b]From TANKS 4.0

[c]Assume 8,760 hr/yr

HAP/TAP Natural Gas Combustion

HAP Emissions

HAP	Emission Factor (lb/MMscf)[a]
Benzene	2.10E-03
Formaldehyde	7.50E-02
Hexane	1.80E+00
Naphthalene	6.10E-04
Toluene	3.40E-03
Arsenic	2.00E-04
Beryllium	1.20E-05
Cadmium	1.10E-03
Chromium	1.40E-03
Cobalt	8.40E-05
Manganese	3.80E-04
Mercury	2.60E-04
Nickel	2.10E-03
Selenium	2.40E-05
PAH[b]	N/A

a. Emission Factor Reference AP-42, Section 1.4, Table 3. All HAPs are based on EPA Section 112(b) of CAA

b. PAH (polycyclic aromatic hyrdocarbons) is a subset of Polycyclic organic matter (POM) which is a HAP.

There is no specific emission factor for the total. See table below for associated emissions.

Emission Unit	Capacity (MMBtu/hr)	Hours of Operation (hr/yr)	Throughput (MMscf/yr)[a]	Benzene (lb/hr)	Benzene (T/yr)	Formaldehyde (lb/hr)	Formaldehyde (T/yr)	Hexane (lb/hr)	Hexane (T/yr)	Naphthalene (lb/hr)	Naphthalene (T/yr)	Toluene (lb/hr)	Toluene (T/yr)	Arsenic (lb/hr)	Arsenic (T/yr)	Beryllium (lb/hr)	Beryllium (T/yr)	Cadmium (lb/hr)	Cadmium (T/yr)	Chromium (lb/hr)	Chromium (T/yr)	Cobalt (lb/hr)	Cobalt (T/yr)	Manganese (lb/hr)	Manganese (T/yr)	Mercury (lb/hr)	Mercury (T/yr)	Nickel (lb/hr)	Nickel (T/yr)	Selenium (lb/hr)	Selenium (T/yr)	PAH[b] (lb/hr)	PAH[b] (T/yr)	
Oven Heater # 1	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
Oven Heater # 2	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
Oven Heater # 3	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
Oven Heater # 4	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
Oven Heater # 5	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
Oven Heater # 6	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
Oven Heater # 7	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
Oven Heater # 8	0.14	8,760	1.20	2.88E-07	1.26E-06	1.03E-05	4.51E-05	2.47E-04	1.08E-03	8.37E-08	3.67E-07	4.67E-07	2.04E-06	2.75E-08	1.20E-07	1.65E-09	7.21E-09	1.51E-07	6.61E-07	1.92E-07	8.42E-07	1.15E-08	5.05E-08	5.22E-08	2.28E-07	3.57E-08	1.56E-07	2.88E-07	1.26E-06	3.29E-09	1.44E-08	2.60E-07	1.14E-06	
TOTAL				2.31E-06	1.01E-05	8.24E-05	3.61E-04	1.98E-03	8.66E-03	6.70E-07	2.93E-06	3.73E-06	1.64E-05	2.20E-07	9.62E-07	1.32E-08	5.77E-08	1.21E-06	5.29E-06	1.54E-06	6.73E-06	9.22E-08	4.04E-07	4.17E-07	1.83E-06	2.85E-07	1.25E-06	2.31E-06	1.01E-05	2.64E-08	1.15E-07	2.08E-06	9.11E-06	9.08E-03
Space Heater # 1	0.10	8,760	0.86	2.06E-07	9.02E-07	7.35E-06	3.22E-05	1.76E-04	7.73E-04	5.98E-08	2.62E-07	3.33E-07	1.46E-06	1.96E-08	8.59E-08	1.18E-09	5.15E-09	1.08E-07	4.72E-07	1.37E-07	6.01E-07	8.24E-09	3.61E-08	3.73E-08	1.63E-07	2.55E-08	1.12E-07	2.06E-07	9.02E-07	2.35E-09	1.03E-08	1.86E-07	8.15E-07	
Space Heater # 2	0.10	8,760	0.86	2.06E-07	9.02E-07	7.35E-06	3.22E-05	1.76E-04	7.73E-04	5.98E-08	2.62E-07	3.33E-07	1.46E-06	1.96E-08	8.59E-08	1.18E-09	5.15E-09	1.08E-07	4.72E-07	1.37E-07	6.01E-07	8.24E-09	3.61E-08	3.73E-08	1.63E-07	2.55E-08	1.12E-07	2.06E-07	9.02E-07	2.35E-09	1.03E-08	1.86E-07	8.15E-07	
Space Heater # 3	0.10	8,760	0.86	2.06E-07	9.02E-07	7.35E-06	3.22E-05	1.76E-04	7.73E-04	5.98E-08	2.62E-07	3.33E-07	1.46E-06	1.96E-08	8.59E-08	1.18E-09	5.15E-09	1.08E-07	4.72E-07	1.37E-07	6.01E-07	8.24E-09	3.61E-08	3.73E-08	1.63E-07	2.55E-08	1.12E-07	2.06E-07	9.02E-07	2.35E-09	1.03E-08	1.86E-07	8.15E-07	
Space Heater # 4	0.10	8,760	0.86	2.06E-07	9.02E-07	7.35E-06	3.22E-05	1.76E-04	7.73E-04	5.98E-08	2.62E-07	3.33E-07	1.46E-06	1.96E-08	8.59E-08	1.18E-09	5.15E-09	1.08E-07	4.72E-07	1.37E-07	6.01E-07	8.24E-09	3.61E-08	3.73E-08	1.63E-07	2.55E-08	1.12E-07	2.06E-07	9.02E-07	2.35E-09	1.03E-08	1.86E-07	8.15E-07	
Space Heater # 5	0.10	8,760	0.86	2.06E-07	9.02E-07	7.35E-06	3.22E-05	1.76E-04	7.73E-04	5.98E-08	2.62E-07	3.33E-07	1.46E-06	1.96E-08	8.59E-08	1.18E-09	5.15E-09	1.08E-07	4.72E-07	1.37E-07	6.01E-07	8.24E-09	3.61E-08	3.73E-08	1.63E-07	2.55E-08	1.12E-07	2.06E-07	9.02E-07	2.35E-09	1.03E-08	1.86E-07	8.15E-07	
TOTAL				1.03E-06	4.51E-06	3.68E-05	1.61E-04	8.82E-04	3.86E-03	2.99E-07	1.31E-06	1.67E-06	7.30E-06	9.80E-08	4.29E-07	5.88E-09	2.58E-08	5.39E-07	2.36E-06	6.86E-07	3.01E-06	4.12E-08	1.80E-07	1.86E-07	8.16E-07	1.27E-07	5.58E-07	1.03E-06	4.51E-06	1.18E-08	5.15E-08	9.30E-07	4.07E-06	4.05E-03
Overall Total				**3.34E-06**	**1.46E-05**	**1.19E-04**	**5.22E-04**	**2.86E-03**	**1.25E-02**	**9.69E-07**	**4.24E-06**	**5.40E-06**	**2.37E-05**	**3.18E-07**	**1.39E-06**	**1.91E-08**	**8.35E-08**	**1.75E-06**	**7.65E-06**	**2.22E-06**	**9.74E-06**	**1.33E-07**	**5.84E-07**	**6.04E-07**	**2.64E-06**	**4.13E-07**	**1.81E-06**	**3.34E-06**	**1.46E-05**	**3.81E-08**	**1.67E-07**	**3.01E-06**	**1.32E-05**	

a. Based on a NG heat capacity of 1,020 Btu/scf.

b. PAH is includes all of the following pollutants: 2-Methylnaphthalene, 3-Methylchloranthrene, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluorathene, Chrysene, Dibenzo(a,h)anthracene, Benzo(g,h,i) perylene, fluoranthene, fluorene, Indeno(1,2,3-cd)pyrene, Phenanthrene and Pyrene, Note that naphthalene was not included as it accounted for on its own.

TAP Emissions

CAS No.	Pollutant[b]	585/586	EF (lb/MMscf)	1-hr Max (lb/hr)
56-49-5	3-Methylcholant	586	1.80E-06	2.86E-09
71-43-2	Benzene	586	2.10E-03	3.34E-06
50-32-8	Benzo(a)pyrene	586	1.20E-06	1.91E-09
50-00-0	Formaldehyde	586	7.50E-02	1.19E-04
110-54-3	Hexane	585	1.80E+00	2.86E-03
91-20-3	Naphthalene	585	6.10E-04	9.69E-07
91-20-3	Naphthalene	586	6.10E-04	9.69E-07
109-66-0	Pentane	585	2.60E+00	4.13E-03
108-88-3	Toluene	585	3.40E-03	5.40E-06
	POM (7-PAH)[a]	586	N/A	1.81E-08
7440-38-2	Arsenic	586	2.00E-04	3.18E-07
7440-39-3	Barium	585	4.40E-03	6.99E-06
7440-41-7	Beryllium	586	1.20E-05	1.91E-08
7440-43-9	Cadmium	586	1.10E-03	1.75E-06
7440-47-3	Chromium	585	1.40E-03	2.22E-06
7440-48-4	Cobalt	585	8.40E-05	1.33E-07
7440-50-8	Copper	585	8.50E-04	1.35E-06
7439-96-5	Manganese	585	3.80E-04	6.04E-07
7439-98-7	Molybdenum	585	1.10E-03	1.75E-06
7440-02-0	Nickel	586	2.10E-03	3.34E-06
7782-49-2	Selenium	585	2.40E-05	3.81E-08
7440-62-2	Vanadium	585	2.30E-03	3.65E-06
7440-66-6	Zinc	585	2.90E-02	4.61E-05

POM(7-PAH)	EF (lb/MMscf)	1-hr Max lb/hr	Ton/yr
Benzo(a)	1.80E-06	2.86E-09	1.25E-08
Benzo(b)	1.80E-06	2.86E-09	1.25E-08
Benzo(k)	1.80E-06	2.86E-09	1.25E-08
Dibenzo(a,h)	1.20E-06	1.91E-09	8.35E-09
Chrysene	1.80E-06	2.86E-09	1.25E-08
Indeno	1.80E-06	2.86E-09	1.25E-08
Benzo(a)pyrene	1.20E-06	1.91E-09	8.35E-09
Total		**1.81E-08**	**7.93E-08**

a. Polycyclic Organic matter (POM) is considered an aggregated total of the following pollutants: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3-cd)pyrene and benzo(a)pyrene

b. Note that mercury is no longer a TAP and is now regulated under specfic rules

Grain Loading Standard Verification	
Unit	Combined Over & Space Heaters
Fuel	Natural Gas
Rated Heat Input (MM Btu/hr)[a]	1.62
PM Emission Rate (lb/hr)[b]	0.01
Exit/Flue Gas Flowrate Calculation	
F_d (Table 19-2, EPA Method 19) (dscf/MM Btu) [c,d]	8,710
Exit flowrate @ 0% O_2: (dscfm)	235
Exit flowrate @ 3% O_2: (dscfm)[e]	275
Calculated Grain Loading (gr/dscf @ 3% O_2)[f]	0.005
PM Loading Standard (IDAPA 58.01.01.677) (gr/dscf @ 3% 02)	0.015
Compliance w/ PM Loading Standard	**Yes**

a. This is an aggregated total of eight 0.14 MMBtu/hr oven heaters and five space heaters 0.10 MMBtu/hr

b. The emission rate is calculated based on 10 MMBtu/hr / 1,020 MMscf/MMBtu * 7.6 lb/MMscf

c. Appendix A-7 to 40 CFR part 60, Method 19—Determination of sulfur dioxide removal

d. Fd, Volumes of combustion components per unit of heat content (scf/million Btu). Fd for natural gas and biogas is 8,710 dscf/10^6 Btu

e. $(\text{Flow}_{3\%}) = (\text{Flow}_{0\%}) \times (20.9/(20.9 - 3))$, where 20.9 = Oxygen concentration in ambient air

f. (Flow (dscfm) x (7,000 gr/lb) x (PM lb/hr) x (60 min/ hr) = gr/dscf

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Teton Sales 5005 Thinner
City:	caldwell
State:	idaho
Company:	Teton Sales Company
Type of Tank:	Vertical Fixed Roof Tank
Description:	Teton Sales 5005 Thinner

Tank Dimensions

Shell Height (ft):		14.00
Diameter (ft):		5.40
Liquid Height (ft) :		13.00
Avg. Liquid Height (ft):		8.00
Volume (gallons):		2,200.00
Turnovers:		1.91
Net Throughput(gal/yr):		4,500.00
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Dome	
Height (ft)		0.00
Radius (ft) (Dome Roof)		5.40

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Boise, Idaho (Avg Atmospheric Pressure = 13.28 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Teton Sales 5005 Thinner - Vertical Fixed Roof Tank
caldwell, idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
5005 Thinner	All	52.81	46.88	58.74	50.94	1.9500	1.9000	2.0000	73.3000			73.30	

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Teton Sales 5005 Thinner - Vertical Fixed Roof Tank
caldwell, idaho

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
5005 Thinner	15.31	41.56	56.88

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Teton Sales- Acetone Tank
City:	Caldwell
State:	Idaho
Company:	Teton Sales Company
Type of Tank:	Vertical Fixed Roof Tank
Description:	Acetone Tank

Tank Dimensions

Shell Height (ft):		9.00
Diameter (ft):		8.00
Liquid Height (ft) :		9.00
Avg. Liquid Height (ft):		7.00
Volume (gallons):		3,384.00
Turnovers:		4.28
Net Throughput(gal/yr):		14,500.00
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Dome	
Height (ft)		0.00
Radius (ft) (Dome Roof)		0.00

Breather Vent Settings

Vacuum Settings (psig):	-0.05
Pressure Settings (psig)	0.10

Meterological Data used in Emissions Calculations: Boise, Idaho (Avg Atmospheric Pressure = 13.28 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Teton Sales- Acetone Tank - Vertical Fixed Roof Tank
Caldwell, Idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Acetone	All	52.81	46.88	58.74	50.94	2.4260	2.0674	2.8346	58.0800			58.08	Option 2: A=7.117, B=1210.595, C=229.664

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Teton Sales- Acetone Tank - Vertical Fixed Roof Tank
Caldwell, Idaho

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Acetone	48.64	93.05	141.69