Permit to Construct Application for a New Paint Booth

Nampa, Idaho

Prepared for:

Mirage Enterprises, Inc.
2212 Industrial Road
Nampa, Idaho 83687

May 2007

Project No. 10277.002

Geomatrix

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Prepared for:

Mirage Enterprises, Inc.
2212 Industrial Road
Nampa, Idaho 83687

Prepared by:

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May 2007

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Geomatrix

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PERMIT TO CONSTRUCT APPLICATION

Mirage Enterprises, Inc.
Nampa, Idaho

1.0 INTRODUCTION

Mirage Enterprises, Inc. (Mirage) operates a facility in Nampa, Idaho that manufactures a wide variety of cargo trailers for commercial and retail sale in the region. The facility currently includes two permitted paint booths (DEQ Permit No. P-060014), which are the only air pollutant emission sources at the facility. Mirage proposes to remove the existing paint booths and replace them with a new larger, more efficient, paint booth, to increase the daily hours of operation, and to change the paints applied to the trailers.

Mirage requests that the Department of Environmental Quality (DEQ) grant a PTC for the proposed project. Mirage will not complete construction of the new paint booth nor operate it until DEQ issues the permit. Appendix A contains DEQ's standard PTC Forms (CS, GI, EU3, EI, MI, and FRA).

2.0 PROJECT DESCRIPTION

2.1 EXISTING FACILITY

Mirage's Nampa facility manufactures cargo trailers; paint application is part of the manufacturing process, and paint booths are used to reduce the amount of paint released to the atmosphere. A permit for a paint booth (PTC No. P-050001) was issued by DEQ on September 22, 2005, and another permit (PTC No. P-060014) was issued on August 4, 2006 for a second paint booth.

2.2 PROPOSED PROJECT

Mirage proposes to remove the two existing paint booths and construct a new, more efficient single paint booth. A sketch of the site plan showing the relative location of the new paint booth and the property boundary is presented in Figure 2-1.

After the new booth is installed, the operating schedule will be increased from 10 to 17 hours per day. Additionally, the paints currently in use at the facility will be replaced by new ones. Cargo trailers will be painted with Gavlon 411-FC Gloss Black (hereafter referred to as Gavlon), and usage is expected to be approximately 300 gallons per week. Utility trailers will be painted with Sherwin Williams Kem-Flash Ultra Bond Gray primer (hereafter referred to as SW Primer), and then Sherwin Williams Polane HS Gloss Black (actually a mixture of 96.25 percent paint, 3 percent accelerator, 0.375 percent catalyst, and 0.375 percent reducer – a mixture hereafter referred to as SW Paint). SW Primer usage is expected to be approximately 20 gallons per week, and SW Paint usage is expected to be approximately 26 gallons per week. MSDS sheets for all paints are included in Appendix B.

3.0 AIR POLLUTANT EMISSIONS

Mirage's proposed paint booth project will replace two paint booths with a single paint booth. The operating schedule as well as the paints used will also change. As discussed in the previous section, the booth will be used to coat cargo trailers with paint (Gavlon), as well as to coat utility trailers with a primer (SW Primer) and then a paint mixture (SW Paint). Although one of the coatings is a primer, all three will be referred to as "paints."

The proposed project is expected to result in regulated pollutant emission increases, although Mirage will minimize these emissions through design and operation. The spray equipment that will be used in the paint booth is designed to transfer 75 percent of the paint used to the intended surface, and the filter media used in the booth exhaust system is guaranteed to remove at least 94 percent of the paint overspray.

The paints are made up of several compounds including solids and volatile organics. The solids content of the paints, which was assumed to be equal to the non-volatile portion of each paint, was assumed to be emitted as PM_{10}. The volatile portion of the paint, as identified by the MSDS for each paint, was assumed to be the total volatile organic compound (VOC – a surrogate for ozone, which is not directly emitted, but formed secondarily in the atmosphere) emissions. It was assumed that 100 percent of the paint VOC content would exhaust through the paint booth vent, and that the PM_{10} emissions would be reduced by the spray equipment efficiency and control imparted by the filter in the booth exhaust system. Additionally, several of the compounds listed in the paint MSDS are identified as toxic air pollutants (TAPs) in Section 585. None of the TAPs in the proposed paints are among the expected carcinogenic compounds listed in Section 586.

To calculate the maximum potential to emit (PTE) for the proposed paint booth, a maximum hourly paint application rate of 5.0 gallons per hour (gal/hr) was assumed for the Gavlon (equivalent to a total of approximately 595 gallons per week [gal/wk] based on 17 hours of operation 7 days per week), and 2.7 gal/hr for the SW Primer and SW Paint (equivalent to approximately 321 gal/wk based on 17 hours of operation 7 days per week). The maximum annual PTE emission rate in tons per year (TPY) was calculated for each paint assuming that each would be used exclusively in the proposed booth for the entire year (17 hours × 365 days per year = 6,205 hours). The maximum annual PTE for each pollutant was chosen from among the emission rates calculated for the three proposed paints. Table 3-1 summarizes the maximum PTE for the proposed paint booth. Appendix C presents detailed PTE calculations for the new paint booth.

Table 3-1 indicates that maximum PTE emissions of PM_{10}, VOCs, and several TAPs exceed the Below Regulatory Concern (BRC) levels established by IDAPA 58.01.01.221.01. Furthermore, though not explicitly shown in Table 3-1, the hourly and annual PM_{10} emission rates exceed the modeling thresholds established by DEQ in the Modeling Guideline (0.20 lb/hr and 1.0 TPY). Two of the TAPs listed in Table 3-1 (methyl n-amyl ketone and crystalline quartz) would exceed the applicable screening Emission Levels (ELs) provided in IDAPA 58.01.01.585.

As a result of criteria pollutant and TAP maximum PTE exceeding the regulatory concern thresholds, PM_{10} emissions exceeding the DEQ modeling thresholds, and two TAPs exceeding the SEL, a modeling analysis was developed to predict ambient concentration increases associated with the project. Additional detail regarding the dispersion modeling analysis is provided in Section 5. For both criteria pollutants and TAPs, emission reductions associated with removal of the existing paint booths are not reflected in the emission rate calculations or the ambient standard compliance assessment.

4.0 POTENTIALLY APPLICABLE REGULATIONS

The proposed project is potentially subject to federal and state air pollution control regulations. This section discusses the applicable regulations and details why other federal and state regulations are not applicable.

4.1 FEDERAL REQUIREMENTS

4.1.1 National Emission Standards for Hazardous Air Pollutants

EPA has established National Emission Standards for Hazardous Air Pollutants (NESHAP) under 40 CFR 63 to regulate HAP emissions from industrial sources that emit more than 10 tons of a single HAP, or 25 tons of all HAP combined. However, these standards do not apply because the facility is not a major source of HAPs and the proposed paint booth will not cause the facility to become a major source of HAPs.

The proposed paints contain, and therefore have the potential to emit, a total of five HAPs (ethylbenzene, hexamethylene diioscyanate, methyl isobutyl ketone, toluene, and xylene). The maximum paint booth PTE of a single HAP is 9.8 TPY (methyl isobutyl ketone), and the total HAP PTE is 11.1 TPY; both are less than the major source thresholds established for the NESHAP program, and therefore the facility is not a major source of HAPs.

4.1.2 New Source Performance Standards

EPA has established New Source Performance Standards (NSPS) for new, modified, or reconstructed facilities and source categories such as industrial boilers. There are no NSPS sections that would potentially apply to the proposed paint booth.

4.1.3 Prevention of Significant Deterioration

Mirage's Nampa facility is not a designated facility under 40 CFR 52.21(b), and is currently a minor source with respect to PSD. The facility would become major if the proposed project caused the PTE for any regulated pollutant to exceed 250 tons per year. Including the proposed paint booth emissions, the facility's highest annual PTE is less than the 250 tons per year threshold. Accordingly, the facility is not a major source and the paint booth project will not be subject to PSD permitting requirements.

4.1.4 Title V Operating Permit

Title V of the federal Clean Air Act requires facilities with the potential to emit more than 100 tons of a regulated criteria pollutant, 10 tons of a single HAP, or 25 tons of all HAPs combined

on an annual basis to obtain a Title V Operating Permit. The facility is currently a minor source, and would remain a minor source following installation of the proposed paint booth, because the facility PTE is less than all major source thresholds.

4.2 STATE REQUIREMENTS

4.2.1 Permit to Construct

Section 201 of IDAPA 58.01.01 requires an owner or operator to obtain a PTC before constructing or operating a stationary source, facility, or modification, unless the project is exempt as described in Sections 220 through 223. Although the project satisfies the general exemption criteria in Section 220, it does not, as shown in Table 3-1, qualify for either a Category I or TAP exemption as a result of having the potential to emit pollutants at rates greater than the BRC thresholds.

To obtain a PTC, the application must demonstrate that the project:

- Would comply with all applicable state and federal emission standards,
- Not cause or significantly contribute to a violation of any ambient air quality standard, and
- Would not injure or unreasonably affect human or animal life or vegetation using methods provided in Section 210.

Air quality dispersion modeling is typically used to assess whether or not a proposed project complies with standards or acceptable concentrations. The modeling developed to predict ambient concentrations attributable to the proposed paint booth project is described in Section 5.

4.2.2 Toxic Air Pollutants

Section 210 of IDAPA 58.01.01 requires that emission rates be calculated for each emitted TAP and compared to the screening ELs provided in Sections 585 and 586. New or modified sources must demonstrate using air dispersion modeling that TAP emission rate increases which exceed the applicable ELs would not exceed the applicable Acceptable Ambient Concentration (AAC) provided in Sections 585 and 586. As indicated in Section 3, two TAPs (methyl n-amyl ketone and crystalline quartz) exceeded the screening EL, and the TAP

dispersion modeling analysis described in Section 5 predicted that the maximum ambient concentration increase of those TAPs are less than the applicable AACs.

4.2.3 General Requirements

Idaho has no performance or technology standards specifically for paint booths. The only state requirements directly applicable to paint booths are rules that address general air quality issues, including:

- opacity [IDAPA 58.01.01.625]
- nuisance odors [IDAPA 58.01.01.776.01]

5.0 AMBIENT AIR QUALITY ASSESSMENT

5.1 MODEL SELECTION

Based on the simplicity of the source configuration, the small number of significant structures influencing the paint booth vents, and the relatively flat (simple) local terrain, EPA's SCREEN3 model (Version 96043) was chosen for the ambient air quality analysis. EPA's Guideline on Air Quality Models (40 CFR 51, Appendix W) currently recommends use of SCREEN3 as the screening technique for stationary sources located in simple terrain. The techniques used to develop the simulation are in compliance with those required by the Idaho Department of Environmental Quality (DEQ) as described in IDAPA 58.01.01.202.02 and 58.01.01.210.03 for quantification of ambient concentrations to demonstrate compliance with criteria pollutant standards and TAP increments.

5.2 MODELING PROCEDURES

The SCREEN3 model was applied using the assumptions and parameters listed in Table 5-1. Although the paint booth will have four vents, all pollutant emissions were assumed to be emitted by a single vent. Due to the proximity of the vent discharge point to the paint booth structure (approximately seven feet above the roof), and the associated potential for downwash effects, SCREEN3's downwash calculation option was employed by providing the model with the maximum dimensions of the structure on which the vent is situated. The vent will exhaust vertically, with louvers that close when the paint booth is not operating to keep precipitation from entering the ductwork.

SCREEN3 does not use site-specific meteorological data, but rather uses a set of worst-case screening meteorological data in the simulations. SCREEN3's screening meteorological dataset consists of different combinations of wind speeds and stability classes that are designed to result in the maximum possible ground level concentrations.

Rather than developing individual simulations for each pollutant, a single simulation using a unit emission rate of 1.0 grams per second (g/s) was created. The maximum 1-hour average result of the simulation (in micrograms per cubic meter ($\mu g/m^3$) per g/s) was scaled using the individual pollutant emission rates to obtain the predicted maximum one-hour average concentrations. The persistence factors specified in Appendix A of DEQ's Air Quality Modeling Guideline were used to extrapolate these 1-hour average predicted concentrations to the appropriate averaging period. A factor of 0.4 was used to obtain 24-hour average concentrations, and a factor of 0.08 to obtain annual average concentration for PM_{10}.

A modeling protocol outlining the methodology described in this permit application was provided to DEQ. Darrin Mehr of DEQ provided a letter indicating approval of the protocol; a copy of the letter is included in Appendix D.

5.3 MODELING ANALYSIS RESULTS

The maximum concentration was predicted to occur approximately 102 feet (31 meters) from the vent. The combination of a near-ambient exhaust temperature and a stack exit location relatively near a structure likely to create downwash result in the simulation predicting minimal plume rise. It should be noted that these results are conservative because the worst-case meteorological conditions assumed by SCREEN3 may not ever occur at the facility, and the persistence factors used to convert the simulation's 1-hour average concentration to 24-hour and annual average concentrations assume continuous emissions from the source, rather than an actual operating schedule. A hardcopy of the SCREEN3 output file produced by the unit emission rate simulation is provided in Appendix E.

The predicted maximum 24-hour and annual average ambient concentrations attributable to PM_{10} emitted by the new paint booth do not exceed the SCLs established for PM_{10} (24-hour average – 5 µg/m^3, annual average – 1 µg/m^3). New emission sources with predicted regulated pollutant impacts that do not exceed the SCL are assumed to not have the potential to cause or contribute to a violation of the national ambient air quality standards (NAAQS), and no facility-wide analysis is required. The simulation results and comparison to the SCLs are summarized in Table 5-2.

As discussed in Section 3, two TAPs (crystalline quartz and methyl n-amyl ketone) were required to demonstrate compliance with the AAC as a result of the maximum PTE emissions exceeding the screening ELs. As shown in Table 5-2, the predicted maximum ambient concentrations for both compounds are less than the applicable AACs.

5.4 CONCLUSIONS

Using a DEQ-approved methodology, ambient concentration increases attributable to the proposed project were predicted to not exceed any ambient increment or standard. Compliance with the screening ELs or AACs is considered demonstration that TAP emissions attributable to the proposed project would not injure or unreasonably affect human or animal life or vegetation.

TABLES

TABLE 3-1

PAINT BOOTH CRITERIA AND TOXIC AIR POLLUTANT EMISSION RATES

Mirage Industries New Paint Booth Project
Nampa, Idaho

Compound	CAS No.	Hourly Emission Rates and Maximum Potential to Emit								BRC[4] Level (TPY)	Over BRC Level?	Screening Emission Level[5] (lb/hr)	Over Screening Emission Level?
		Cargo Trailer Paint[1]		Utility Trailer Primer[2]		Utility Trailer Paint[3]		Maximum					
		(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)				
PM10	--	0.57	1.8	0.25	0.78	0.19	0.58	0.57	1.8	1.5	Yes	N/A	N/A
VOC	--	14	43	9.0	28	8.3	26	14	43	4	Yes	N/A	N/A
Amorphous Precipitated Silica	112926-00-8	N/A	N/A	0.0048	0.015	N/A	N/A	0.0048	0.015	0.0667	No	0.667	No
Calcium Carbonate	471-34-1	0.10	0.31	0.16	0.49	N/A	N/A	0.16	0.49	N/A	N/A	N/A	N/A
Carbon Black	1333-86-4	N/A	N/A	N/A	N/A	0.016	0.049	0.016	0.049	0.023	Yes	0.23	No
Dibutyltin Dilaurate	77-58-7	N/A	N/A	N/A	N/A	0.023	0.071	0.023	0.071	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	N/A	N/A	0.032	0.098	0.051	0.16	0.051	0.16	2.9	No	29	No
Hexamethylene Diisocyanate	822-06-0	N/A	N/A	N/A	N/A	0.00044	0.0014	0.00044	0.0014	0.0002	Yes	0.002	No
Hexamethylene Diisocyanate Polymer	28182-81-2	N/A	N/A	N/A	N/A	0.067	0.21	0.067	0.21	N/A	N/A	N/A	N/A
Isopropyl Acetate	108-21-4	N/A	N/A	N/A	N/A	3.0	9.2	3.0	9.2	6.93	Yes	69.3	No
Methyl Ethyl Ketone	78-93-3	N/A	N/A	N/A	N/A	1.3	3.9	1.3	3.9	3.93	Yes	39.3	No
Methyl Isobutyl Ketone	108-10-1	N/A	N/A	3.2	9.8	0.20	0.64	3.2	9.8	1.37	Yes	13.7	No

TABLE 3-1

PAINT BOOTH CRITERIA AND TOXIC AIR POLLUTANT EMISSION RATES

Mirage Industries New Paint Booth Project
Nampa, Idaho

Compound	CAS No.	Hourly Emission Rates and Maximum Potential to Emit								BRC[4] Level (TPY)	Over BRC Level?	Screening Emission Level[5] (lb/hr)	Over Screening Emission Level?
		Cargo Trailer Paint[1]		Utility Trailer Primer[2]		Utility Trailer Paint[3]		Maximum					
		(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)				
Methyl n-Amyl Ketone	110-43-0	21	65	N/A	N/A	2.5	7.9	21	65	1.57	Yes	15.7	Yes
Methyl Proply Ketone	107-87-9	2.6	8.1	N/A	N/A	N/A	N/A	2.6	8.1	4.67	No	46.7	No
Mineral Spirits	8052-41-3	2.6	8.1	N/A	N/A	N/A	N/A	2.6	8.1	3.5	Yes	35	No
n-Butyl Acetate	123-86-4	N/A	N/A	5.1	16	0.68	2.1	5.1	16	4.73	Yes	47.3	No
Petroleum HC Resin	64742-16-1	5.2	16	N/A	N/A	N/A	N/A	5.2	16	N/A	N/A	N/A	N/A
Quartz, Crystalline	14808-60-7	0.039	0.12	N/A	N/A	N/A	N/A	0.039	0.12	0.00067	Yes	0.0067	Yes
Titanium Dioxide	13463-67-7	N/A	N/A	0.048	0.15	N/A	N/A	0.048	0.15	4.67	No	46.7	No
Toluene	108-88-3	N/A	N/A	N/A	N/A	0.055	0.17	0.055	0.17	2.5	No	25	No
Xylene	1330-20-7	N/A	N/A	N/A	N/A	0.29	0.90	0.29	0.90	2.9	No	29	No
Zinc Oxide	1314-13-2	N/A	N/A	0.014	0.044	N/A	N/A	0.014	0.044	0.0667	No	0.667	No

1 Emission rates calculated based on MSDS for Gavlon Black HAPS Free High Gloss Air Dry Enamel

2 Emission rates calculated based on MSDS for Kem-Flash Ultra Bond Primer, Gray

3 Emission rates calculated based on MSDS for Polane HS Polyurethane Color, Black (96.25%), Polane Accelerator (3%), Polane A Catalyst (0.375%), and Polane Reducer-84 (0.375%).

4 BRC = Below Regulatory Concern (IDAPA 58.01.01.221.01)

5 Screening Emission Levels (EL) from IDAPA 58.01.01.585

TABLE 5-1

AIR QUALITY DISPERSION MODELING RELEASE PARAMETERS

Mirage Industries New Paint Booth Project

Nampa, Idaho

Parameter	Value	Units
Stack Height	25	feet
Stack Diameter	36	inches
Exit Velocity	113	feet/second
Temperature	80	ºF
Structure Width	40[1]	feet
Structure Length	350[1]	feet
Structure Height	18	feet
Distance to Nearest Ambient Receptor	30	feet

1 The maximum overall horizontal dimensions of the building in which the paint booth is located were used for the downwash calculations to be conservative.

TABLE 5-2

AIR DISPERSION MODELING RESULTS

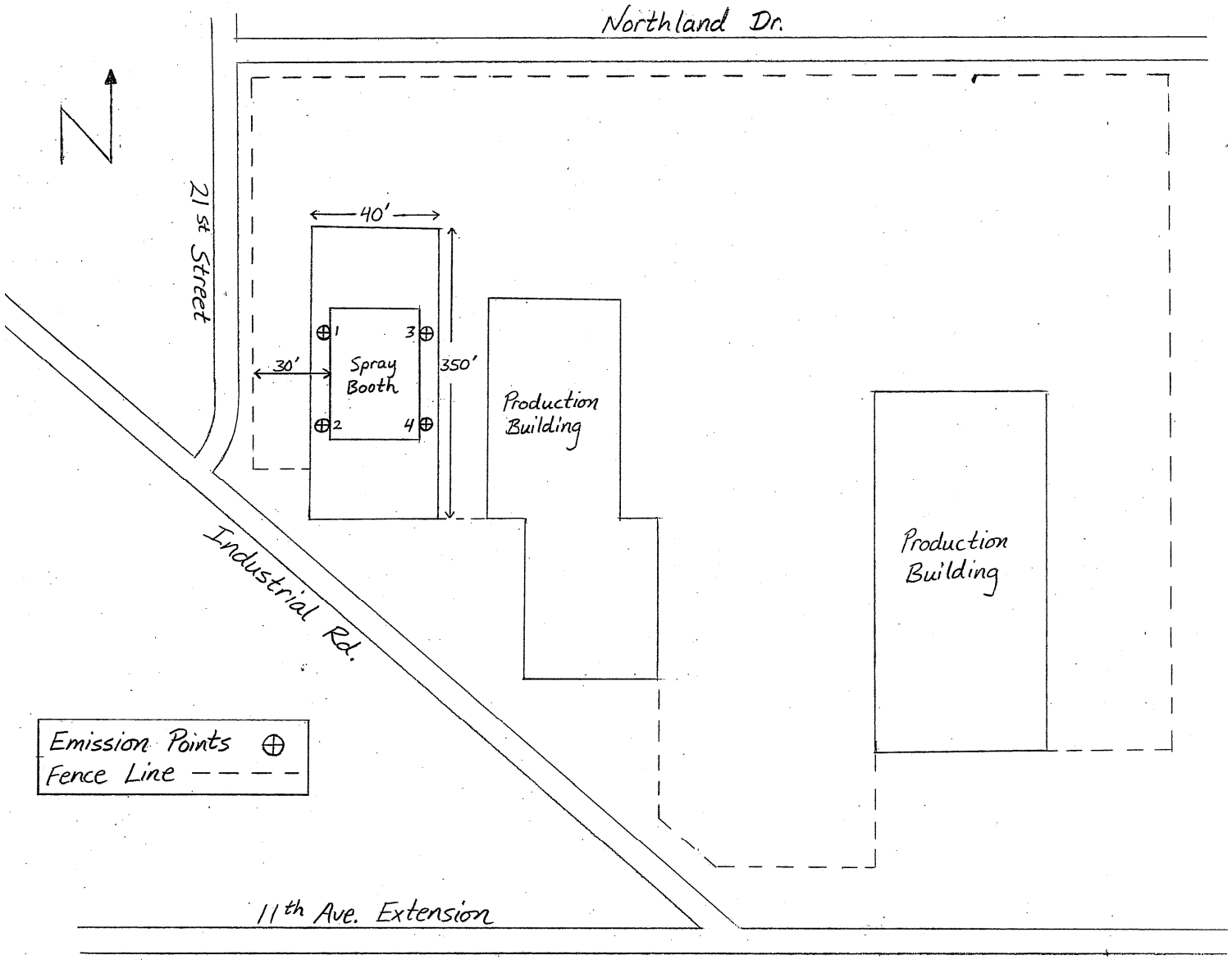
Mirage Industries New Paint Booth Project
Nampa, Idaho

Concentrations in micrograms per cubic meter (μg/m^3)

Pollutant	CAS No.	Averaging Period	Maximum Predicted Concentration Increase	Significant Contribution Level or Acceptable Ambient Concentration[1]
PM_{10}	N/A	24-Hour	4.54	5
		Annual	0.908	1
Methyl n-Amyl Ketone	110-43-0	24-Hour	167	11,750
Quartz, Crystalline	14808-60-7	24-Hour	0.313	5

1 Significant Contribution Levels (SCLs) are from IDAPA 58.01.01.006.93, and the Acceptable Ambient Concentration (AAC) is from IDAPA 58.01.01.585.

FIGURES



GEOMATRIX

MIRAGE ENTERPRISES NAMPA FACILITY PLOT PLAN SKETCH
New Paint Booth Project
Nampa, Idaho

Project No.
10277.002

Figure
2-1

APPENDIXES

APPENDIX A

DEQ PTC Application Forms

DEQ AIR QUALITY PROGRAM
1410 N. Hilton
Boise, ID 83706
For assistance: 208-373-0502

PERMIT TO CONSTRUCT APPLICATION

Applicants, please see instructions on page 2 before filling out the form.

DEQ Staff, please see instructions for handling this form on page 3.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Mirage Enterprises, Inc.		
2. Facility Name	Mirage - Nampa	3. Facility ID No.	027-00092
4. Brief Project Description - One sentence or less	Install and operate a new paint booth		

PERMIT APPLICATION TYPE

5. ☐ New Facility ☒ New Source at Existing Facility ☐ Unpermitted Existing Source
☐ Modify Existing Source: Permit No.:_____ Date Issued:_____
☐ Required by Enforcement Action: Case No.:_____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
☒	☐	Form GI – Facility Information	☐
☐	☒	Form EU0 – Emissions Units General	☐
☐	☒	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	☐
☒	☐	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU5 – Boiler Information Please Specify number of forms attached: _____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	☐
☐	☒	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	☐
☐	☒	Form BCE - Baghouses Control Equipment	☐
☐	☒	Form SCE - Scrubbers Control Equipment	☐
☒	☐	Forms EI-CP1-EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	☐
☒	☐	PP – Plot Plan	☐
☒	☐	Forms MI1-MI4 – Modeling (Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability	☐

DEQ USE ONLY

Date Received

Project Number

Payment / Fees Included?
Yes ☐ No ☐

Check Number

DEQ AIR QUALITY PROGRAM
1410 N. Hilton
Boise, ID 83706
For assistance: (208) 373-0502

PERMIT TO CONSTRUCT APPLICATION

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

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
1. Company Name	Mirage Enterprises, Inc.
2. Facility Name (if different than #1)	Mirage - Nampa
3. Facility I.D. No.	027-00092
4. Brief Project Description:	Install and operate a new paint booth
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
6. Primary Facility Permit Contact Person/Title	Jason Starry
7. Telephone Number and Email Address	208-461-7776, jason@mirageinc.com
8. Alternate Facility Contact Person/Title	Gilbert Gold
9. Telephone Number and Email Address	208-461-7776, gilbert@mirageinc.com
10. Address to which permit should be sent	2212 Industrial Road
11. City/State/Zip	Nampa, ID 83687
12. Equipment Location Address (if different than #9)	
13. City/State/Zip	
14. Is the Equipment Portable?	☐ Yes ☒ No
15. SIC Code and NAISC Code	SIC: 3715 Secondary SIC (if any): NAICS: 336212
16. Brief Business Description and Principal Product	Cargo and Utility Trailer Manufacturing
17. Identify any adjacent or contiguous facility that this company owns and/or operates	None
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	☐ New Facility ☒ New Source at Existing Facility ☐ Modify Existing Source: Permit No.: P-060014 Date Issued: August 4, 2006 ☐ Unpermitted Existing Source: ☐ Required by Enforcement Action: Case No.:
CERTIFICATION	
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	Dale Swikert
20. RESPONSIBLE OFFICIAL SIGNATURE	Dale Swikert Date: 5-15-07

Emissions Units - Spray Paint Booth Information **Form EU3**

PERMIT TO CONSTRUCT APPLICATION

DEQ AIR QUALITY PROGRAM
1410 N. Hilton
Boise, ID 83706
For assistance: (208) 373-0502

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

IDENTIFICATION

Company Name:	Facility Name:	Facility ID No:
Mirage Enterprises, Inc.	Mirage - Nampa	027-00092

Brief Project Description: Install and operate a new paint booth

BOOTH INFORMATION

1. Booth Type: ☒ New Booth ☐ Unpermitted Existing Booth
☐ Modification to a Permitted Booth, permit #: , date issued:

2. Construction Date: Construction will begin upon receipt of permit.

SPRAY GUN DESCRIPTION AND SPECIFICATIONS

Gun No.	3. Manufacturer	4. Model	5. Type	6. Transfer Eff. %	7. Rated Capacity (gal/hr)
1	Graco	Contractor II	Airless	75-80	14.4
2					
3					
4					

Number of guns to be used simultaneously: 2

SPRAY MATERIAL DESCRIPTION AND SPECIFICATIONS

8. Type of Spray Material Used	9. Type of Material Coated	10. Max. Usage (gal/day)	11. Solid Content (lb/gal)	12. VOC Content (lb/gal)	13. MSDS Attached? (Y/N)
Gavlon 411-FC DTM Gloss Black	Cargo Trailers	85	7.5	2.8	Y (Appendix B of Permit Application)
Kem-Flash Ultra Bond # E61A705	Utility Trailers	45.9	6.2	3.32	Y (Appendix B of Permit Application)
SEE ATTACHED	SEE ATTACHED	SEE ATTACHED	SEE ATTACHED	SEE ATTACHED	SEE ATTACHED

REQUEST FOR PERMIT LIMITATIONS

14. Are you requesting any permit limits? ☒ No ☐ Yes. If yes, check all that apply below and fill in requested limit(s)

☒ Operation Hour Limits: 17 hours per day
☐ Production Limits:
☒ Material Usage Limits: 5.0 gal/hr cargo trailer paint, 2.7 gal/hr utility trailer primer & paint
☐ Other:

15. Rationale for Requesting the Limit(s):

EMISSION CONTROL DEVICE (FILTER[b]) DESCRIPTION AND SPECIFICATIONS

Stack Served	16. Filter Manufacturer	17. Model	18. PM Control Efficiency(%)[a]	19. Dimension (Total Area, Thickness and Number of Filters)
Stack 1	Paint Pockets Co.	Original	94-99.84	26 20"x20"x15" pocket filters
Stack 2	same as above			
Stack 3	same as above			
Stack 4	same as above			

Notes: a. Provide either stack test data or vendor's documentation to support the control efficiency specified above.
b. Fill out and submit appropriate control equipment form(s) if this booth has a control device(s) other than a filter system.

BOOTH OPERATING SCHEDULE (hours/day, or hours/year, or other)

20. Actual Operation: 17 hours/day	21. Maximum Operation: 6,205 hours/year

FORM EU3
Attachment 1 of 1

IDENTIFICATION		
Company Name	Facility Name	Facility ID
Mirage Enterprises, Inc.	Mirage - Nampa	027-00092
Brief Project Description	Install and operate a new paint booth	

SPRAY MATERIAL DESCRIPTION AND SPECIFICATIONS					
8. Type of Spray Material Used	9. Type of Material Coated	10. Max Usage (gal/day)	11. Solid Content (lb/gal)	12. VOC Content (lb/gal)	13. MSDS Attached? (Y/N)
Polane HS # F63B50, Gloss Black	Utility Trailer	44.2	4.7	2.96	Y (Appendix B of Permit Application)
Polane Accelerator #V66VB11	Utility Trailer	1.4	0.28	6.71	Y (Appendix B of Permit Application)
Polane Catalyst #V66V29	Utility Trailer	0.17	6.1	2.19	Y (Appendix B of Permit Application)
Polane Reducer #K-84	Utility Trailer	0.17	0	7.25	Y (Appendix B of Permit Application)

PAINT ARRESTANCE FILTER TEST REPORT

Spray Removal Efficiency & Paint Holding Capacity

Tested for: **Paint Pockets® Co.**
Filter Mfr.: **Paint Pockets® Co.**
Filter Name: **PP Series (PP****)**
Report#./Test# **R 042 T 079**
Report Date: **Jan. 8, 1997**

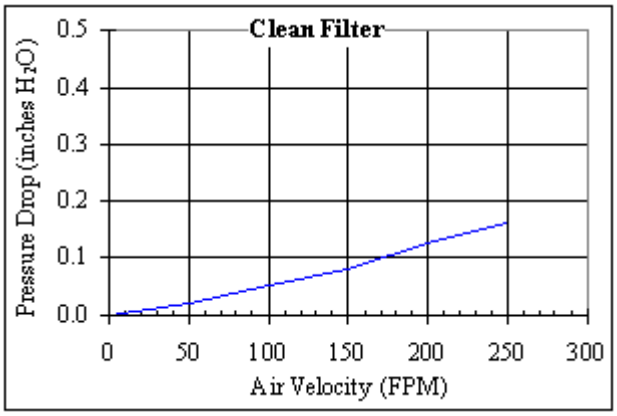
Test Information

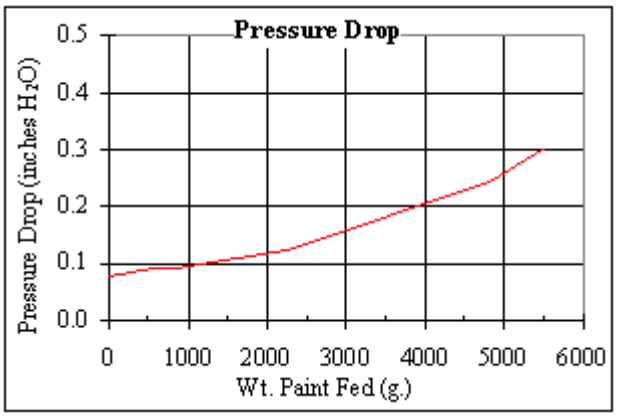
FILTER DESCRIPTION:
Two layers, stiff poly w/large voids on soft poly pad
PAINT DESCRIPTION:
High Solids Baking Enamel (S.W. Permaclad 2400, red)
PAINT SPRAY METHOD:
Conventional Air Gun at 40 PSI
SPRAY FEED RATE:
140 gr./min. **130** cc./min.
AIR VELOCITY:
150 FPM

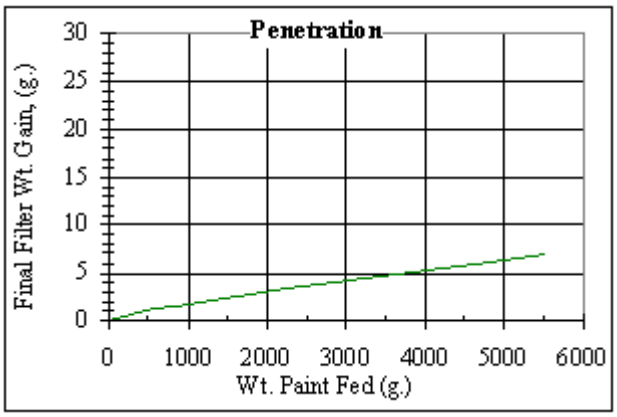
Test Results

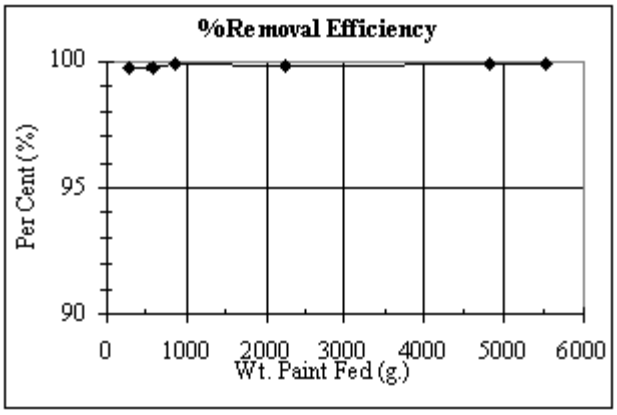
INITIAL PRESSURE DROP of Clean Test Filter
0.08 in. water
FINAL PRESSURE DROP of Loaded Test Filter
0.30 in. water
WEIGHT GAIN on TEST FILTER & Test Frame Trough
4340 grams
PAINT HOLDING CAPACITY of TEST FILTER
3125 grams = **6.9** lbs.
PAINT RUN-OFF
1215 grams
WEIGHT GAIN - FINAL FILTER
6.9 grams = **PENETRATION**
AVERAGE REMOVAL EFFICIENCY of TEST FILTER
99.84%

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









	DEQ AIR QUALITY PROGRAM 1410 N. Hilton Boise, ID 83706 **For assistance: (208) 373-0502**	**PERMIT TO CONSTRUCT APPLICATION**

Company Name:	Mirage Enterprises, Inc.
Facility Name:	Mirage - Nampa
Facility ID No.:	027-00092
Brief Project Description:	Install and operate a new paint booth

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

		3.											
1.	2.	PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Paint Booth	1.00	0.57	1.75							14.00	43.44		
name of the emissions unit2													
name of the emissions unit3													
name of the emissions unit4													
name of the emissions unit5													
name of the emissions unit6													
name of the emissions unit7													
name of the emissions unit8													
name of the emissions unit9													
name of the emissions unit10													
name of the emissions unit11													
name of the emissions unit12													
name of the emissions unit13													
name of the emissions unit14													
name of the emissions unit15													
name of the emissions unit16													
name of the emissions unit17													
name of the emissions unit18													
name of the emissions unit19													
name of the emissions unit20													
name of the emissions unit21													
(insert more rows as needed)													
Total		0.57	1.75							14.00	43.44		

DEQ AIR QUALITY PROGRAM
1410 N. Hilton
Boise, ID 83706
For assistance: (208) 373-0502

PERMIT TO CONSTRUCT APPLICATION

Company Name:	Mirage Enterprises, Inc.
Facility Name:	Mirage - Nampa
Facility ID No.:	027-00092
Brief Project Description:	Install and operate a new paint booth

SUMMARY OF EMISSIONS INCREASE (PROPOSED PTE - PREVIOUSLY MODELED PTE) - POINT SOURCES

		3.											
1.	2.	PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Paint Booth	1.00	0.57	1.75							14.00	43.44		
name of the emissions unit2													
name of the emissions unit3													
name of the emissions unit4													
name of the emissions unit5													
name of the emissions unit6													
name of the emissions unit7													
name of the emissions unit8													
name of the emissions unit9													
name of the emissions unit10													
name of the emissions unit11													
name of the emissions unit12													
name of the emissions unit13													
name of the emissions unit14													
name of the emissions unit15													
name of the emissions unit16													
name of the emissions unit17													
name of the emissions unit18													
name of the emissions unit19													
name of the emissions unit20													
name of the emissions unit21													
(insert more rows as needed)													
Total		0.57	1.75							14.00	43.44		

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton Boise, ID 83706 **For assistance: (208) 373-0502**	**PERMIT TO CONSTRUCT APPLICATION**
Company Name:	Mirage Enterprises, Inc.	
Facility Name:	Mirage - Nampa	
Facility ID No.:	027-00092	
Brief Project Description:	Install and operate a new paint booth	

SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS

		1.		2.	3.	4.		5.
Criteria Pollutants	**Averaging Period**	**Significant Impact Analysis Results (µg/m3)**	**Significant Contribution Level (µg/m3)**	**Full Impact Analysis Results (µg/m3)**	**Background Concentration (µg/m3)**	**Total Ambient Impact (µg/m3)**	**NAAQS (µg/m3)**	**Percent of NAAQS**
PM_{10}	24-hour	4.54	5				150	
	Annual	0.91	1				50	
SO_2	3-hr		25				1300	
	24-hr		5				365	
	Annual		1				80	
NO_2	Annual		1				100	
CO	1-hr		2000				10000	
	8-hr		500				40000	

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton Boise, ID 83706 **For assistance: (208) 373-0502**	**PERMIT TO CONSTRUCT APPLICATION**

Company Name:	Mirage Enterprises, Inc.
Facility Name:	Mirage - Nampa
Facility ID No.:	027-00092
Brief Project Description:	Install and operate a new paint booth

POINT SOURCE STACK PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	.7	8.	9.	10.
Emissions units	**Stack ID**	**UTM Easting (m)**	**UTM Northing (m)**	**Base Elevation (m)**	**Stack Height (m)**	**Modeled Diameter (m)**	**Stack Exit Temperature (K)**	**Stack Exit Flowrate (acfm)**	**Stack Exit Velocity (m/s)**	**Stack orientation (e.g., horizontal, rain cap)**
Point Source(s)										
name of the emissions unit1	1.00	screen	screen	screen	7.62	0.91	300.00	48,000.00	34.50	Vertical
name of the emissions unit2										
name of the emissions unit3										
name of the emissions unit4										
name of the emissions unit5										
name of the emissions unit6										
name of the emissions unit7										
name of the emissions unit8										
name of the emissions unit9										
name of the emissions unit10										
name of the emissions unit11										
name of the emissions unit12										
name of the emissions unit13										
name of the emissions unit14										
name of the emissions unit15										
name of the emissions unit16										
name of the emissions unit17										
name of the emissions unit18										
name of the emissions unit19										
name of the emissions unit20										
name of the emissions unit21										
(insert more rows as needed)										

DEQ AIR QUALITY PROGRAM
1410 N. Hilton
Boise, ID 83706
For assistance: (208) 373-0502

PERMIT TO CONSTRUCT APPLICATION

Company Name:	Mirage Enterprises, Inc.
Facility Name:	Mirage - Nampa
Facility ID No.:	027-00092
Brief Project Description:	Install and operate a new paint booth

BUILDING AND STRUCTURE INFORMATION

1.	2.	3.	4.	5.	6.	7.
Building ID Number	**Length (ft)**	**Width (ft)**	**Base Elevation (m)**	**Building Height (m)**	**Number of Tiers**	**Description/Comments**
Building 1 ID	350.00	40.00	screen	5.49	1	
Building 2 ID						
Building # ID						
(insert more rows as needed)						

DEQ AIR QUALITY PROGRAM
1410 N. Hilton
Boise, ID 83706
For assistance: (208) 373-0502

PERMIT TO CONSTRUCT APPLICATION

IDENTIFICATION		
Company Name:	Facility Name:	Facility ID No:
Mirage Enterprises, Inc.	Mirage - Nampa	027-00092
Brief Project Description:	Install and operate a new paint booth	

APPLICABILITY DETERMINATION	
1. Will this project be subject to 1990 CAA Section 112(g)? (Case-by-Case MACT)	☒ NO ☐ YES* ☐ DON'T KNOW * If YES then applicant must submit an application for a case-by-case MACT determination [IAC 567 22-1(3)"b" (8)]
2. Will this project be subject to a New Source Performance Standard? (40 CFR part 60)	☒ NO ☐ YES* ☐ DON'T KNOW *If YES please identify sub-part: _____
3. Will this project be subject to a MACT (Maximum Achievable Control Technology) regulation? (40 CFR part 63) THIS ONLY APPLIES IF THE PROJECT EMITS A HAZARDOUS AIR POLLUTANT – SEE TABLE A FOR LIST	☒ NO ☐ YES* ☐ DON'T KNOW *If YES please identify sub-part: _____
4. Will this project be subject to a NESHAP (National Emission Standards for Hazardous Air Pollutants) regulation? (40 CFR part 61)	☒ NO ☐ YES* ☐ DON'T KNOW *If YES please identify sub-part: _____
5. Will this project be subject to PSD (Prevention of Significant Deterioration)? (40 CFR section 52.21)	☒ NO ☐ YES ☐ DON'T KNOW
6. Was netting done for this project to avoid PSD?	☒ NO ☐ YES* ☐ DON'T KNOW *If YES please attach netting calculations

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS CALL 1-208-373-0502

APPENDIX B

MSDS for Proposed Paints

Material Safety Data Sheet

BRADLEY COATINGS GROUP

1. Identification of the substance/preparation and of the company/undertaking

Product Name: Black HAPS Free High Goss Air Dry Enamel

Product Code: 411-FC

Supplier: Bradley Coatings Group, 608 W Crawford Avenue, Connellsville, PA 15425

For Emergency Health, Safety & Environmental Information, call CHEMTREC: 1-800-424-9300.

For other information or to request an MSDS, call 724-628-9100.

Product Use: Paint for industrial use.

2. Hazards Identification

Contains: Methyl N-amyl Ketone (110-43-0), Methyl Propyl Ketone (107-87-9), Mineral Spirits (8052-41-3), Quartz (14808-60-7)

WARNING!
Combustible Liquid and vapor
Harmful if inhaled or swallowed
Causes eye, skin, and respiratory tract irritation
Can cause central and peripheral nervous system affects
Contains a component that may cause cancer in humans

NFPA Hazard Ratings: Health – 2, Flammability – 2, Instability – 0

Note: NFPA 704 hazard indexes involve data review and interpretation that may vary among companies. It is intended only for rapid, general identification of the magnitude of the potential hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components (CAS No.)
15 – 40	Methyl N-Amyl Ketone (110-43-0)
7 – 13	Calcium Carbonate (471-34-1)
5 – 10	Petroleum Hydrocarbon Resin (64742-16-1)
1 – 5	Methyl Propyl Ketone (107-87-9)
1 – 5	Mineral Spirits (8052-41-3)
1 – 5	Quartz (14808-60-7)

Additional Information

This product is considered to be hazardous under 29 CFR 1910.1200 (Hazard Communication).
This material is a controlled product under WHMIS regulations.
This material is regulated as a hazardous material/dangerous goods for transportation (See Section 14).

Material Safety Data Sheet

BRADLEY COATINGS GROUP

4. First Aid Measures

Inhalation: Remove source of contamination or move victim to fresh air. Obtain medical advice.

Eyes: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. Obtain medical advice.

Skin: Remove contaminated clothing, shoes, and leather goods. Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with lukewarm gently flowing water and non-abrasive soap for 5 minutes. If irritation persists, repeat flushing. Obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

Ingestion: NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. If vomiting occurs naturally, have victim rinse mouth with water again. Obtain medical advice.

5. Fire-fighting Measures

Extinguishing Media: Use foam, carbon dioxide, or dry chemical.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Use water to cool unopened containers.

Hazardous Combustion Products: Carbon oxides, sulfur oxides, nitrogen oxides, calcium oxide, and low molecular weight hydrocarbons.

Unusual Fire and Explosion Hazards: Combustible liquid and vapor. Vapors may form an explosive mixture in air between the upper and lower explosive limits. Vapors are heavier than air and may spread along floors. Vapors can travel to a source of ignition and flash back.

6. Accidental Release Measures

Methods for cleaning up: Remove all sources of ignition. Absorb spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination. Keep product out of sewers and water ways.

7. Handling and Storage

Personal Precautions: Do not breathe vapors at concentrations greater than the exposure limits. Use only with adequate ventilation. Keep container tightly closed. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep away from open flames, hot surfaces and sources of ignition. Use only with adequate ventilation. Keep from contact with oxidizing materials. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of combustible liquids.

Storage: Store in a cool place. Keep containers tightly closed in a cool, well-ventilated place. Keep away from incompatible substances (see Incompatibility section.)

Material Safety Data Sheet

BRADLEY COATINGS GROUP

8. Exposure Controls/Personal Protection

Occupational Exposure Controls

Chemical Name	Regulatory List	Value Type	Value
Methyl N-Amyl Ketone	ACGIH	Threshold Limit Value	50 ppm
	OSHA	Permissible Exposure Limit	100 ppm
Calcium Carbonate	ACGIH	Threshold Limit Value	10 mg/m^3 TWA (for dust containing no asbestos and <1% free silica)
	OSHA	Permissible Exposure Limit	15 mg/m^3 TWA (Total Dust) 5 mg/m^3 TWA (Respirable Fraction)
Methyl Propyl Ketone	ACGIH	Threshold Limit Value	200 ppm TWA 250 ppm STEL
	OSHA	Permissible Exposure Limit	200 ppm TWA
Mineral Spirits	ACGIH	Threshold Limit Value	100 ppm TWA
	OSHA	Permissible Exposure Limit	500 ppm TWA
Quartz	ACGIH	Threshold Limit Value	0.1 mg/m^3 (Respirable Fraction)
	OSHA	Permissible Exposure Limit	30 mg/m^3/ (%SiO2+2) (Total Dust) 10 mg/m^3/ (%SiO2+2) (Respirable Fraction)

Ventilation: Use process enclosures, local exhaust, ventilation, or other engineering controls to maintain airborne exposure levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

Eye Protection: Wear safety glasses with side shields (or goggles).

Skin and Body Protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to conditions of use.

Material Safety Data Sheet

BRADLEY COATINGS GROUP

9. Physical and Chemical Properties

Physical Form: Liquid

Color: Black

Odor: Solvent

Specific Gravity @ 15°C: 1.22

Vapor Pressure: No data available

Vapor Density: Heavier than air

Boiling Point/Range: >214°F

Water Solubility: Immiscible

pH: No data available

Viscosity @ 25°C: 25-30 seconds, #3 Zahn

Volatile % by weight: 27.5%

Volatile % by volume: ~57%

Flashpoint: ~110°F

LFL: No data available **UFL:** No data available

Flammability Class: Combustible Liquid, Class II

10. Stability and Reactivity

Stability: Stable under normal circumstances.

Incompatibility: Avoid contact with strong acids, alkalis, strong oxidizing agents, strong bases, ammonium salts, fluorine containing compounds, amines, isocyanates, manganese trioxide, hydrogen peroxide, acetylene, and ammonia.

Hazardous Decomposition Products: Carbon oxides, sulfur oxides, nitrogen oxides, calcium oxide, and low molecular weight hydrocarbons.

Hazardous Polymerization: Hazardous polymerization does not occur.

11. Toxicological Information

Effects of Exposure

Inhalation: Harmful if inhaled. Excessive or deliberate inhalation of vapors can cause respiratory tract irritation, dizziness, and/or asphyxiation.

Material Safety Data Sheet

Eyes: Can cause eye irritation. Symptoms may include tearing, redness, and blurred vision.

Skin: Can cause skin irritation. Prolonged or repeated skin contact may dry and defat the skin causing cracks, irritation, and/or dermatitis. May cause allergic skin reaction.

Ingestion: Harmful if swallowed. Can cause gastrointestinal irritation, vomiting, nausea, and diarrhea.

Data for Methyl N-Amyl Ketone

Acute Toxicity Data:

- Oral LD50 (rat): 1670 mg/kg
- Dermal LD50 (rabbit): 12,600 uL/kg

Data for Methyl Propyl Ketone

Acute Toxicity Data:

- Oral LD50 (rat): 1600 mg/kg
- Dermal LD50 (rabbit): 6500 mg/kg

12. Ecological Information

This product has not been tested for environmental effects.

13. Disposal Considerations

Discharge, treatment, or disposal may be subject to federal, state, commonwealth, provincial, or local laws. Since empty containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

14. Transport Information

TDG:	UN Number:	UN1263
	Proper Shipping Name:	Paint
	Class:	3
	Packaging Group:	III
US DOT:	UN Number:	UN1263
	Proper Shipping Name:	Paint
	Class:	3
	Packaging Group:	III

15. Regulatory Information

WHMIS (Canada): B3, D2A, D2B

Material Safety Data Sheet

BRADLEY COATINGS GROUP

WHMIS Symbol(s):

Component Analysis – International Inventory Status:

Components (CAS No.)	US – TSCA	CANADA - DSL
Methyl N-Amyl Ketone (110-43-0)	Yes	Yes
Calcium Carbonate (471-34-1)	Yes	Yes
Petroleum Hydrocarbon Resin (64742-16-1)	Yes	Yes
Methyl Propyl Ketone (107-87-9)	Yes	Yes
Mineral Spirits (8052-41-3)	Yes	Yes
Quartz (14808-60-7)	Yes	Yes

Component Analysis – Right to Know:

The following chemicals are specifically listed or otherwise regulated by individual states. For details on your regulatory requirements you should contact the appropriate agency in your state.

Components (CAS No.)	NJ	PA	CA
Methyl N-Amyl Ketone (110-43-0)	Yes	Yes	Yes
Calcium Carbonate (471-34-1)		Yes	
Methyl Propyl Ketone (107-87-9)	Yes	Yes	
Mineral Spirits (8052-41-3)	Yes	Yes	Yes
Quartz (14808-60-7)	Yes	Yes	Yes

U.S. California Prop. 65: Quartz (14808-60-7),

Carcinogenicity Classification (components present at 0.1% or more):

International Agency for Research on Cancer (IARC): Quartz (14808-60-7)-Group 1-carcinogen
American Conference of Governmental Industrial Hygienists (ACGIH): Quartz (14808-60-7)-A2-Suspected human carcinogen
U.S. National Toxicology Program (NTP): Quartz (14808-60-7)-Known carcinogen (listed as Silica, crystalline (general form)).
U.S. Occupational Safety and Health Administration (OSHA): none

Chemical(s) subject to the reporting requirements of U.S. Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372:
None

16. Other Information

MSDS Creation Date: October 23, 2003 **Revision Date:** April 10, 2007

Material Safety Data Sheet

Material Safety Data Sheets (MSDS) are available free of charge for every product Bradley Coatings Group manufactures. Before using any paint product manufactured by Bradley Coatings Group we strongly recommend that you read and follow the precautions listed in the MSDS.

This supersedes all previous publications. Always consult your Bradley Coatings Group representative for the latest product information and recommendations.

The information presented herein has been compiled from sources considered to be dependable and I accurate to the best of seller's knowledge. However, seller makes no warranty whatsoever, expressed, implied or of merchantability regarding the accuracy of such data or the results to be obtained from the use of thereof. Seller assumes no responsibility for injury to buyer or third party or any damage to property. Buyer assumes all such risks.

BRADLEY
COATINGS GROUP

PRODUCT DATA SHEET

411 FC Haps Free High Solids DTM Enamel

Description

High solids, single package, HAPS Free, direct to metal finish for OEM and refinish applications.

Recommended Uses

This product is an excellent choice for a tough, long lasting enamel used to protect and enhance OEM machinery and equipment. It is also used with great success on commercial trailers.

Features

- Low VOC: 2.8 lbs./gallon (336 grams/liter)
- High gloss and D.O.I.
- Ease of application: Low viscosity permits application with conventional or transfer efficient spray equipment.
- Excellent adhesion: One coat direct to metal can be applied over a wide range of primers and previously painted surfaces.
- Durable: Very good weather ability.
- Economical: A high solids, low VOC finish .
- Minimum 1200 Hours Salt Spray (ASTM B-117)

Typical Properties

% Weight Solids	72.5% (+/- 3.0)
% Volume Solids	57.0% (+/- 3.0)
Weight per Gallon	10.4 Lbs./Gallon (+/- 0.2)
VOC (Volatile Organic Compounds)	2.8 Lbs./Gallon (336.0 Grams/Liter)
Viscosity @ 77° F	25 Seconds #3 Zahn Cup (+/- 3.0)
Gloss Level 60° Meter	>90
Flash Point	110° F (C.O.C.)
Theoretical Coverage @ 1 Dry Mil - .001"	914.0 Sq. Ft./Gallon
Recommended Film Thickness - Wet Mils	2.0 – 5.0
Recommended Film Thickness - Dry Mils	1.5 – 3.0
SSPC Minimum Surface Preparation	SP6 (NACE 3)
Surface Temp at Application - Minimum	45° F
Surface Temp at Application - Maximum	110° F
Drying Time @ 77° F - to Touch (Air Dry)	15 - 20 Minutes
Drying Time @ 77° F - to Handle (Air Dry)	2 – 4 Hours
Drying Time @ 77° F - to Recoat (Air Dry)	24 - 36 Hours
Reduction Solvent	Contact Bradley Coatings Group
Primer (If Specified)	N/A

BRADLEY COATINGS GROUP • 2873 W. Hardies Rd. • Gibsonia, PA 15044 • PHONE (724) 444-4400 • FAX (724) 444-5790
www.bradleycoatings.com • info@bradleycoatings.com

Apr-17-07 11:29am From-BRADLEY PAINT COMPANY 17246280929 T-740 P.09 F-266

BRADLEY
COATINGS GROUP

PRODUCT DATA SHEET

411 FC Haps Free
High Solids DTM Enamel

Application Conditions

Brush, roller or spray may apply 411 FC. Apply in good weather. Paint only over clean, dry surfaces. Application not recommended below 45° F. Care should be taken to completely re-disperse all of the pigments that may have settled top the bottom of the container. Power mix for 3-5 minutes or until completely dispersed. Contact Bradley Coatings Group for specific application recommendations.

Surface Preparation

Remove oil, grease, dirt, salts and loose materials by solvent cleaning as specified by the SSPC-SP1 or other suitable cleaning method. Remove all rust, rust scale, loose mill scale, and other corrosion products by hand or power tool cleaning or a commercial blast SSPC-SP6 (NACE 3). In highly corrosive environments, when maximum service life is desirable, use an SSPC-SP10 (NACE) near white blast.

Application & Equipment

SAFETY INFORMATION

WARNING. Flammable. Vapor Harmful. Contains organic solvents. Keep away from heat, sparks, and open flame. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. Wash thoroughly after handling. Use only with adequate ventilation. Use suitable respiratory equipment as necessary. Keep container closed.

FIRST AID: If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Call a physician. In case of contact, immediately flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash clothing before reuse.

Material Safety Data Sheets (MSDS) are available free of charge for every product Bradley Coatings Group manufactures. Before using any paint product manufactured by Bradley Coatings Group we strongly recommend that you read and follow the precautions listed in the MSDS.

This supersedes all previous publications. Always consult your Bradley Coatings Group representative for the latest product information and recommendations.

Health	2
Flammability	2
Reactivity	0
Personal Protection	See Your Supervisor

This information is presented as accurate and correct in good faith to assist the user with specifications and application. No warranty is expressed or implied. No liability is assumed. All product specifications are subject to change without notice.

The furnishing of the information contained herein does not constitute a representation by Bradley Coatings Group that any product or process is free from patent infringement claims of any third party nor does it constitute the granting of a license under any patent of Bradley Coatings Group or any third party. Bradley Coatings Group assumes no liability for any infringement which may arise out of the use of the product. Bradley Coatings Group warrants that its products meet the specifications which it sets for them. Bradley Coatings Group DISCLAIMS ALL OTHER WARRANTIES relating to the products and DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION, expressed or implied, including but not limited to warranties of MERCHANTABILITY and FITNESS FOR particular purpose. Any receipt of products from the Bradley Coatings Group constitutes acceptance of the terms of this warranty, contrary provisions of purchase orders not withstanding. In the event that Bradley Coatings Group finds that products delivered are off specification, Bradley Coatings Group will, at its sole discretion, either replace the products or refund the purchase price thereof and Bradley Coatings Group's choice of one of these remedies shall be the Buyer's sole remedy. Bradley Coatings Group will under no circumstances be liable for consequential damages except insofar as liability mandated by law. Bradley Coatings Group will deliver products at agreed times insofar as it is reasonably able to do so but Bradley Coatings Group shall not be liable for failure to deliver on time when the failure is beyond reasonable control.

July 2003

BRADLEY COATINGS GROUP • 2873 W. Hardies Rd. • Gibsonia, PA 15044 • PHONE (724) 444-4400 • FAX (724) 444-5790
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Apr-17-07 11:29am From-BRADLEY PAINT COMPANY 17246280929 T-740 P.10 F-266

MATERIAL SAFETY DATA SHEET

E61A705
06 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

E61A705

HMIS CODES

Health	2*
Flammability	3
Reactivity	0

PRODUCT NAME
KEM FLASH* ULTRA-BOND* Primer, Gray

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
01-APR-07

INFORMATION TELEPHONE NO.
(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
0.1	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	
10	108-10-1	Methyl Isobutyl Ketone				
			ACGIH TLV	50	ppm	16 mm
			ACGIH TLV	75	ppm STEL	
			OSHA PEL	50	ppm	
			OSHA PEL	75	ppm STEL	
16	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	
1	112926-00-8	Amorphous Precipitated Silica				
			ACGIH TLV	10	mg/m3 as Dust	
			OSHA PEL	6	mg/m3 as Dust	
33	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	
10	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	
3	1314-13-2	Zinc Oxide				
			ACGIH TLV	10	mg/m3 as Dust	
			OSHA PEL	10	mg/m3 Total Dust	
			OSHA PEL	5	mg/m3 Respirable Fraction	

Continued on page 2

Section 3 -- HAZARDS IDENTIFICATION

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.

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
60 F PMCC	1.4	7.6

FLAMMABILITY CLASSIFICATION
RED LABEL -- Flammable, Flash below 100 F (38 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.

Continued on page 3

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 FLAMMABLE. Keep away from heat, sparks, and open flame.

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.

Continued on page 4

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	11.73 lb/gal	1405 g/l
SPECIFIC GRAVITY	1.41	
BOILING POINT	237 - 264 F	113 - 128 C
MELTING POINT	Not Available	
VOLATILE VOLUME	47 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

3.32 lb/gal	398 g/l	Less Water and Federally Exempt Solvents
3.32 lb/gal	398 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

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.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the urinary and blood forming systems.

Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

Continued on page 5

CAS No.	Ingredient Name				
100-41-4	Ethylbenzene				
		LC50	RAT	4HR	Not Available
		LD50	RAT		3500 mg/kg
108-10-1	Methyl Isobutyl Ketone				
		LC50	RAT	4HR	Not Available
		LD50	RAT		2080 mg/kg
123-86-4	n-Butyl Acetate				
		LC50	RAT	4HR	2000 ppm
		LD50	RAT		13100 mg/kg
112926-00-8	Amorphous Precipitated Silica				
		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
1314-13-2	Zinc Oxide				
		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.

Continued on page 6

Section 14 -- TRANSPORT INFORMATION

US Ground (DOT)
1 Gallon 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
n-Butyl acetate 5000 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
UN1263, PAINT, CLASS 3, PG II, (16 C c.c.), EmS F-E, S-E

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	0.1	
108-10-1	Methyl Isobutyl Ketone	10	
	Zinc Compound	5	3.3

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

F63B50
20 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

F63B50

HMIS CODES

Health	2*
Flammability	3
Reactivity	0

PRODUCT NAME
POLANE* HS Polyurethane Color, Black

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
01-APR-07

INFORMATION TELEPHONE NO.
(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
6	78-93-3	Methyl Ethyl Ketone				
			ACGIH TLV	200	ppm	70 mm
			ACGIH TLV	300	ppm STEL	
			OSHA PEL	200	ppm	
			OSHA PEL	300	ppm STEL	
12	110-43-0	Methyl n-Amyl Ketone				
			ACGIH TLV	50	ppm	3.855 mm
			OSHA PEL	100	ppm	
14	108-21-4	Isopropyl Acetate				
			ACGIH TLV	250	ppm	47.5 mm
			ACGIH TLV	310	ppm STEL	
			OSHA PEL	250	ppm	
			OSHA PEL	310	ppm STEL	
3	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	
5	1333-86-4	Carbon Black				
			ACGIH TLV	3.5	mg/m3	
			OSHA PEL	3.5	mg/m3	

Section 3 -- HAZARDS IDENTIFICATION

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.

Continued on page 2

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

May cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.

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 any breathing problems occur during use, LEAVE THE AREA and get fresh air. If problems remain or occur later, IMMEDIATELY get medical attention.
INGESTION:	Do not induce vomiting. Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
25 F PMCC	1.1	10.0

FLAMMABILITY CLASSIFICATION

RED LABEL -- Flammable, Flash below 100 F (38 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.

Continued on page 3

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

DOL Storage Class IB

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are FLAMMABLE. Keep away from heat, sparks, and open flame.

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

NO PERSON SHOULD USE THIS PRODUCT, OR BE IN THE AREA WHERE IT IS BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.

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

Where overspray is present, a positive pressure air supplied respirator (TC19C NIOSH/MSHA approved) should be worn. If unavailable, a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2 may be effective. Follow respirator manufacturer's directions for use. Wear the respirator for the whole time of spraying and until all vapors and mists are gone. NO PERSONS SHOULD BE ALLOWED IN THE AREA WHERE THIS PRODUCT IS BEING USED UNLESS EQUIPPED WITH THE SAME RESPIRATOR PROTECTION RECOMMENDED FOR THE PAINTERS.

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

To prevent skin contact, wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin.

Continued on page 4

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.16 lb/gal	977 g/l
SPECIFIC GRAVITY	0.98	
BOILING POINT	174 - 308 F	78 - 153 C
MELTING POINT	Not Available	
VOLATILE VOLUME	42 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

2.96 lb/gal	355 g/l	Less Water and Federally Exempt Solvents
2.96 lb/gal	355 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

Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, blood forming and reproductive systems.

Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

Continued on page 5

CAS No.	Ingredient Name					
78-93-3	Methyl Ethyl Ketone					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		2740	mg/kg
110-43-0	Methyl n-Amyl Ketone					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		1670	mg/kg
108-21-4	Isopropyl Acetate					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		3000	mg/kg
123-86-4	n-Butyl Acetate					
		LC50	RAT	4HR	2000	ppm
		LD50	RAT		13100	mg/kg
1333-86-4	Carbon Black					
		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

US Ground (DOT)
1 Gallon and Less may be Classed as CONSUMER COMMODITY, ORM-D
Larger Containers are Regulated as:
UN1263, PAINT, 3, PG II, (ERG#128)

Bulk Containers may be Shipped as:
UN1263, PAINT, 3, PG II, (ERG#128)

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

IMO
UN1263, PAINT, CLASS 3, PG II, (-4 C c.c.), EmS F-E, S-E

Continued on page 6

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.

MATERIAL SAFETY DATA SHEET

V66VB11
09 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

V66VB11

HMIS CODES

Health	2*
Flammability	3
Reactivity	0

PRODUCT NAME
POLANE* Accelerator

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
01-APR-07

INFORMATION TELEPHONE NO.
(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
9	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	
51	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	
36	108-10-1	Methyl Isobutyl Ketone				
			ACGIH TLV	50	ppm	16 mm
			ACGIH TLV	75	ppm STEL	
			OSHA PEL	50	ppm	
			OSHA PEL	75	ppm STEL	
4	77-58-7	Dibutyltin Dilaurate				
			ACGIH TLV	0.1	ppm (Skin)	
			ACGIH TLV	0.2	ppm (Skin) STEL	
			OSHA PEL	0.1	ppm (Skin)	

Section 3 -- HAZARDS IDENTIFICATION

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.

Continued on page 2

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
74 F PMCC	1.0	7.5

FLAMMABILITY CLASSIFICATION

RED LABEL -- Flammable, Flash below 100 F (38 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.

Continued on page 3

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

DOL Storage Class IC

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are FLAMMABLE. Keep away from heat, sparks, and open flame.

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.

Continued on page 4

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	7.03 lb/gal	842 g/l
SPECIFIC GRAVITY	0.85	
BOILING POINT	237 - 292 F	113 - 144 C
MELTING POINT	Not Available	
VOLATILE VOLUME	96 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

6.71 lb/gal	804 g/l	Less Water and Federally Exempt Solvents
6.71 lb/gal	804 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

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.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

Continued on page 5

CAS No.	Ingredient Name					
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
108-10-1	Methyl Isobutyl Ketone					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		2080	mg/kg
77-58-7	Dibutyltin Dilaurate					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		175	mg/kg

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.

Continued on page 6

Section 14 -- TRANSPORT INFORMATION

US Ground (DOT)
1 Gallon and Less may be Classed as CONSUMER COMMODITY, ORM-D
Larger Containers are Regulated as:
UN1263, PAINT RELATED MATERIAL, 3, PG III, (ERG#128)

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities
Ethyl benzene 1000 lb RQ
Methylisobutyl ketone 5000 lb RQ
Xylenes (isomers and mixture) 100 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):
RQ, UN1263, PAINT RELATED MATERIAL, 3, PG III, (XYLENES (ISOMERS AND MIXTURE)), (ERG#128)

Canada (TDG)
UN1263, PAINT RELATED MATERIAL, CLASS 3, PG III, LIMITED QUANTITY, (ERG#128)

IMO
UN1263, PAINT RELATED MATERIAL, CLASS 3, PG III, (23 C c.c.), EmS F-E, S-E

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	9	
1330-20-7	Xylene	51	
108-10-1	Methyl Isobutyl Ketone	36	

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

V66V29
21 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

V66V29

HMIS CODES

Health	2*
Flammability	3
Reactivity	1

PRODUCT NAME
POLANE* A Catalyst

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
01-APR-07

INFORMATION TELEPHONE NO.
(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
25	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	
0.5	822-06-0	Hexamethylene Diisocyanate (max.)				
			ACGIH TLV	0.005	ppm	0.05 mm
			OSHA PEL	Not Available		
75	28182-81-2	Hexamethylene Diisocyanate Polymer				
			ACGIH TLV	Not Available		
			OSHA PEL	Not Available		

Section 3 -- HAZARDS IDENTIFICATION

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.

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
May cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.

CANCER INFORMATION

Continued on page 2

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 any breathing problems occur during use, LEAVE THE AREA and get fresh air. If problems remain or occur later, IMMEDIATELY get medical attention.

INGESTION: Do not induce vomiting. Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
81 F PMCC	1.4	7.6

FLAMMABILITY CLASSIFICATION

RED LABEL -- Flammable, Flash below 100 F (38 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.

All personnel in the area should be protected as in Section 8.

Cover spill with absorbent material. Deactivate spilled material with a 10% ammonium hydroxide solution (household ammonia). After 10 minutes, collect in open containers and add more ammonia. Cover loosely. Wash spill area with soap and water.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

DOL Storage Class IC

Continued on page 3

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are FLAMMABLE. Keep away from heat, sparks, and open flame.

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

NO PERSON SHOULD USE THIS PRODUCT, OR BE IN THE AREA WHERE IT IS BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.

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

Where overspray is present, a positive pressure air supplied respirator (TC19C NIOSH/MSHA approved) should be worn. If unavailable, a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2 may be effective. Follow respirator manufacturer's directions for use. Wear the respirator for the whole time of spraying and until all vapors and mists are gone. NO PERSONS SHOULD BE ALLOWED IN THE AREA WHERE THIS PRODUCT IS BEING USED UNLESS EQUIPPED WITH THE SAME RESPIRATOR PROTECTION RECOMMENDED FOR THE PAINTERS.

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

To prevent skin contact, wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin.

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Continued on page 4

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.78 lb/gal	1052 g/l
SPECIFIC GRAVITY	1.06	
BOILING POINT	255 - 264 F	123 - 128 C
MELTING POINT	Not Available	
VOLATILE VOLUME	30 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

2.19 lb/gal	263 g/l	Less Water and Federally Exempt Solvents
2.19 lb/gal	263 g/l	Emitted VOC

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

Contamination with Water, Alcohols, Amines and other compounds which react with isocyanates, may result in dangerous pressure in, and possible bursting of, closed containers.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to blood forming systems.

Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name					
123-86-4	n-Butyl Acetate					
		LC50	RAT	4HR	2000	ppm
		LD50	RAT		13100	mg/kg
822-06-0	Hexamethylene Diisocyanate (max.)					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		738	mg/kg
28182-81-2	Hexamethylene Diisocyanate Polymer					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		Not Available	

Continued on page 5

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

US Ground (DOT)
1 Gallon and Less may be Classed as CONSUMER COMMODITY, ORM-D
Larger Containers are Regulated as:
UN1263, PAINT RELATED MATERIAL, 3, PG III, (ERG#128)

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities
n-Butyl acetate 5000 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):
UN1263, PAINT RELATED MATERIAL, 3, PG III, (ERG#128)

Canada (TDG)
UN1263, PAINT RELATED MATERIAL, CLASS 3, PG III, LIMITED QUANTITY, (ERG#128)

IMO
UN1263, PAINT RELATED MATERIAL, CLASS 3, PG III, (27 C c.c.), EmS F-E, S-E

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.

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

Continued on page 6

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

530-2153
07 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

530-2153

HMIS CODES	
Health	2
Flammability	3
Reactivity	0

PRODUCT NAME
POLANE* Reducer-84

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
03-APR-07

INFORMATION TELEPHONE NO.
(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
20	108-88-3	Toluene				
			ACGIH TLV	50	ppm (Skin)	22 mm
			OSHA PEL	100	ppm (Skin)	
			OSHA PEL	150	ppm (Skin) STEL	
36	108-21-4	Isopropyl Acetate				
			ACGIH TLV	250	ppm	47.5 mm
			ACGIH TLV	310	ppm STEL	
			OSHA PEL	250	ppm	
			OSHA PEL	310	ppm STEL	
45	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	

Section 3 -- HAZARDS IDENTIFICATION

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.

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.

Continued on page 2

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
35 F PMCC	1.0	7.6

FLAMMABILITY CLASSIFICATION
RED LABEL -- Flammable, Flash below 100 F (38 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

Continued on page 3

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are FLAMMABLE. Keep away from heat, sparks, and open flame.

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.

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.

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	7.25 lb/gal	868 g/l
SPECIFIC GRAVITY	0.87	
BOILING POINT	185 - 264 F	85 - 128 C
MELTING POINT	Not Available	
VOLATILE VOLUME	100 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

7.25 lb/gal	868 g/l	Less Water and Federally Exempt Solvents
7.25 lb/gal	868 g/l	Emitted VOC

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

Continued on page 4

HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION
Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, blood forming, cardiovascular and reproductive systems.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name					
108-88-3	Toluene					
		LC50	RAT	4HR	4000	ppm
		LD50	RAT		5000	mg/kg
108-21-4	Isopropyl Acetate					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		3000	mg/kg
123-86-4	n-Butyl Acetate					
		LC50	RAT	4HR	2000	ppm
		LD50	RAT		13100	mg/kg

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.

Continued on page 5

Section 14 -- TRANSPORT INFORMATION

US Ground (DOT)
1 Gallon and Less may be Classed as CONSUMER COMMODITY, ORM-D
Larger Containers are Regulated as:
UN1263, PAINT RELATED MATERIAL, 3, PG II, (ERG#128)

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities
n-Butyl acetate 5000 lb RQ
Toluene 1000 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):
UN1263, PAINT RELATED MATERIAL, 3, PG II, (ERG#128)

Canada (TDG)
UN1263, PAINT RELATED MATERIAL, CLASS 3, PG II, (ERG#128)

IMO
UN1263, PAINT RELATED MATERIAL, CLASS 3, PG II, (2 C c.c.), EmS F-E, S-E

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	20	

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.

APPENDIX C

Paint Booth Emission Rate Calculations

Cargo Trailer Paint Proposed PM_{10}, VOC, and TAP Emissions
Mirage Enterprises Inc.
May 2007

Pollutant	CAS	% by Weight	Paint Emission Rate (lb/hr)	SER or Regulatory Action Levels (TPY or lb/hr)	Regulatory Concern Level (TPY or lb/hr)	PTE (TPY)
PM10			0.566	15	1.50	1.75
VOC			14.0	40	4	43
Calcium Carbonate	471-34-1	13	0.101			0.31
Petroleum HC Resin	64742-16-1	10	5.20			16.1
Methyl n-Amyl Ketone	110-43-0	40	20.8	15.7	1.57	65
Methyl Proply Ketone	107-87-9	5	2.60	46.7	4.67	8.1
Mineral Spirits	8052-41-3	5	2.60	35	3.5	8.1
Quartz	14808-60-7	5	0.0390	0.0067	0.00067	0.121

Notes

1) Based on MSDS information for Gavlon Black HAPS Free High Gloss Air Dry Enamel (Prod. # 411-FC)
2) Maximum hourly paint application rate = 5.00 gal/hr 85.0 gal/day
3) Equivalent weekly paint consumption = 595 gal/wk assuming
the painting schedule is: 17 hours/day 7 days/week
4) Density of paint is 10.4 lb/gal
5) Spray transfer efficiency = 75 %
6) Paint booth filter efficiency = 94 %
7) Maximum solids content = 72.5 % by wt. 7.54
8) VOC content = 2.8 lbs/gallon 7.60

Utility Trailer Primer Proposed PM_{10}, VOC, and TAP Emissions
Mirage Enterprises Inc.
May 2007

Pollutant	CAS	% by Weight	Paint Emission Rate (lb/hr)	SER or Regulatory Action Levels (TPY or lb/hr)	Regulatory Concern Level (TPY or lb/hr)	PTE (TPY)
PM10			0.252	15	1.50	0.78
VOC			8.96	40	4.0	28
Amorph. Precip. Silica	112926-00-8	1	0.00475	0.667	0.0667	0.015
n-Butyl Acetate	123-86-4	16	5.07	47.3	4.73	16
Calcium Carbonate	471-34-1	33	0.157			0.49
Ethylbenzene	100-41-4	0.1	0.0317	29.0	2.90	0.098
Methyl Isobutyl Ketone	108-10-1	10	3.17	13.7	1.37	9.8
Titanium Dioxide	13463-67-7	10	0.0475	46.7	4.67	0.15
Zinc Oxide	1314-13-2	3	0.0143	0.667	0.0667	0.044

Notes

1) Based on MSDS information for Kem-Flash Ultra Bond Primer, Gray (Prod. # E61A705)
2) Maximum hourly paint application rate = 2.70 gal/hr 45.9 gal/day
3) Equivalent weekly paint consumption = 321.3 gal/wk assuming
the painting schedule is: 17 hours/day 7 days/week
(PTE Assumes painting 24 hours per day 365 days per year for maximum operational flexibility).
4) Density of paint is 11.73 lb/gal
5) Spray transfer efficiency = 75 %
6) Paint booth filter efficiency = 94 %
7) Maximum solids content = 53 % by wt. 6.2169
8) VOC content = 3.32 lbs/gallon 8.41

Utility Trailer Paint Proposed PM_{10}, VOC, and TAP Emissions
Mirage Enterprises Inc.
May 2007

Pollutant	CAS	% by Weight	Paint Emission Rate (lb/hr)	SER or Regulatory Action Levels (TPY or lb/hr)	Regulatory Concern Level (TPY or lb/hr)	PTE (TPY)
PM10			0.184	15	1.50	0.57
VOC			7.69	40	4	24
n-Butyl Acetate	123-86-4	3	0.636	47	4.73	2.0
Carbon Black	1333-86-4	5	0.0159	0.23	0.023	0.049
Isopropyl Acetate	108-21-4	14	2.97	69.3	6.93	9.2
Methyl n-Amyl Ketone	110-43-0	12	2.54	15.7	1.57	7.9
Methyl Ethyl Ketone	78-93-3	6	1.27	39.3	3.93	3.9

Notes

1) Based on MSDS information for Polane HS Polyurethane Color, Black (Prod. # F63B50)
2) Maximum hourly paint application rate = 2.60 gal/hr 44.17875 gal/day
3) Equivalent weekly paint consumption = 309.25125 gal/wk assuming
the painting schedule is: 17 hours/day 7 days/week
(PTE Assumes painting 24 hours per day 365 days per year for maximum operational flexibility).
4) Density of paint is 8.16 lb/gal
5) Spray transfer efficiency = 75 %
6) Paint booth filter efficiency = 94 %
7) Maximum solids content = 58 % by wt. 4.7328
8) VOC content = 2.96 lbs/gallon 5.20

Utility Trailer Accelerator Proposed PM_{10}, VOC, and TAP Emissions
Mirage Enterprises Inc.
May 2007

Pollutant	CAS	% by Weight	Paint Emission Rate (lb/hr)	SER or Regulatory Action Levels (TPY or lb/hr)	Regulatory Concern Level (TPY or lb/hr)	PTE (TPY)
PM10			0.000342	15	1.50	0.00106
VOC			0.544	40	4	1.7
Dibutyltin Dilaurate	77-58-7	4	0.0228			0.071
Ethylbenzene	100-41-4	9	0.0512	29	2.9	0.16
Methyl Isobutyl Ketone	108-10-1	36	0.205	13.7	1.37	0.64
Xylene	1330-20-7	51	0.290	29	2.9	0.90

Notes

1) Based on MSDS information for Polane Accelerator (Prod. # V66VB11)
2) Maximum hourly paint application rate = 0.0810 gal/hr 1.377 gal/day
3) Equivalent weekly paint consumption = 9.639 gal/wk assuming
the painting schedule is: 17 hours/day 7 days/week
(PTE Assumes painting 24 hours per day 365 days per year for maximum operational flexibility).
4) Density of paint is 7.03 lb/gal
5) Spray transfer efficiency = 75 %
6) Paint booth filter efficiency = 94 %
7) Maximum solids content = 4 % by wt. 0.2812
8) VOC content = 6.71 lbs/gallon 0.32

Utility Trailer Catalyst Proposed PM_{10}, VOC, and TAP Emissions
Mirage Enterprises Inc.
May 2007

Pollutant	CAS	% by Weight	Paint Emission Rate (lb/hr)	SER or Regulatory Action Levels (TPY or lb/hr)	Regulatory Concern Level (TPY or lb/hr)	PTE (TPY)
PM10			0.000933	15	1.5	0.0029
VOC			0.0222	40	4	0.069
n-Butyl Acetate	123-86-4	25	0.0222	47	4.73	0.069
Hexamethylene Diisocyanate	822-06-0	0.5	0.000444	0.002	0.0002	0.0014
Hexamethylene Diisocyanate Polymer	28182-81-2	75	0.0667			0.21

Notes

1) Based on MSDS information for Polane A Catalyst (Prod. # V66V29)
2) Maximum hourly paint application rate = 0.010 gal/hr 0.172125 gal/day
3) Equivalent weekly paint consumption = 1.204875 gal/wk assuming
the painting schedule is: 17 hours/day 7 days/week
(PTE Assumes painting 24 hours per day 365 days per year for maximum operational flexibility).
4) Density of paint is 8.78 lb/gal
5) Spray transfer efficiency = 75 %
6) Paint booth filter efficiency = 94 %
7) Maximum solids content = 70 % by wt. 6.146
8) VOC content = 2.19 lbs/gallon 6.59

Utility Trailer Reducer Proposed PM_{10}, VOC, and TAP Emissions
Mirage Enterprises Inc.
May 2007

Pollutant	CAS	% by Weight	Paint Emission Rate (lb/hr)	SER or Regulatory Action Levels (TPY or lb/hr)	Regulatory Concern Level (TPY or lb/hr)	PTE (TPY)
PM10			0	15	1.5	0
VOC			0.0734	40	4	0.23
n-Butyl Acetate	123-86-4	25	0.0184	47	4.73	0.057
Isopropyl Acetate	108-21-4	0.5	0.000367	69.3	6.93	0.00114
Toluene	108-88-3	75	0.0551	25	2.5	0.17

Notes

1) Based on MSDS information for Polane Reducer-84 (Prod. # 530-2153)
2) Maximum hourly paint application rate = 0.010 gal/hr 0.172125 gal/day
3) Equivalent weekly paint consumption = 1.204875 gal/wk assuming
the painting schedule is: 17 hours/day 7 days/week
(PTE Assumes painting 24 hours per day 365 days per year for maximum operational flexibility).
4) Density of paint is 7.25 lb/gal
5) Spray transfer efficiency = 75 %
6) Paint booth filter efficiency = 94 %
7) Maximum solids content = 0 % by wt. 0
8) VOC content = 7.25 lbs/gallon 0.00

APPENDIX D

Modeling Protocol Approval Letter

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 • (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
TONI HARDESTY, DIRECTOR

May 11, 2007

Eric Albright
Geomatrix Consultants, Inc.
19203 36th Avenue West, Suite 101
Lynnwood, WA 98036-5772

RE: Modeling Protocol for Mirage Enterprises, Inc. located in Nampa, Idaho

Mr. Albright:

DEQ received your dispersion modeling protocol on May 5, 2007. The modeling protocol was submitted on behalf of Mirage Enterprises, Inc. (Mirage). The modeling protocol proposes methods and data for use in the ambient impact analyses for a modification to Mirage's facility in Nampa for the increase in daily operating hours, changes in material coatings, and replacement of two existing paint spray booths with a single new paint spray booth that is larger and more efficient. The two existing paint spray booths are covered by existing Permit to Construct No. P-060014. Hourly and annual emissions are expected to increase, but the emissions inventory has not been finalized according to the modeling protocol.

The modeling protocol has been reviewed and DEQ has the following comments:

- Comment 1: In the event that maximum predicted impacts from your preliminary analysis exceed the PM_{10} significant contribution levels specified by IDAPA 58.01.01.006.102.d, use the following PM_{10} background concentrations in your facility-wide full impact analysis: 103 $\mu g/m^3$, 24-hour average, and 34.1 $\mu g/m^3$, annual average. These background concentrations are site-specific values for Nampa, Idaho.

- Comment 2: The application should provide documentation and justification for stack parameters used in the modeling analyses, clearly showing how stack gas temperatures and flow rates were estimated. In most instances, applicants should use typical parameters, not maximum temperatures and flow rates.

- Comment 3: Submit a scaled facility plot plan with all building, structures and the locations of the exhaust stacks clearly shown and labeled. Include all nearby structures that may influence ambient impacts due to building downwash, regardless of whether they are on Mirage's property. Include all building and structure heights.

- Comment 4: Include a justification of your ambient air boundary per the *State of Idaho Air Quality Modeling Guideline* in the permit application. Ambient air at hospitals is

generally considered to exist anywhere the public is allowed access. Ambient air in this case is usually established immediately exterior to buildings on the facility property. Please include a detailed justification if you would like to establish a fence line ambient air boundary.

- Comment 5: Deviations in your analysis from the proposed approved methodology may affect DEQ-approval of the modeling demonstration unless such deviations are deemed to be warranted. Please provide a detailed discussion of any deviations and supporting justification of the approach used in the final analysis.

- Comment 6: Please include all calculations used to derive values used in the building downwash analysis (such as projected building widths), including those used to determine whether any nearby buildings and structures are within the structure influence zone.

DEQ's modeling staff considers the submitted dispersion modeling protocol, with resolution of the additional items noted above, to be approved. It should be noted, however, that the approval of this modeling protocol is not meant to imply approval of a completed dispersion modeling analysis. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the Internet at http://www.deq.state.id.us/air/permits_forms/permitting/modeling_guideline.pdf, for further guidance.

If you have any further questions or comments, please contact me at (208) 373-0536.

Sincerely,

Darrin Mehr

Darrin Mehr
Air Quality Analyst
Idaho Department of Environmental Quality
Darrin.Mehr@deq.idaho.gov

APPENDIX E

SCREEN3 Model Output

04/27/07
15:21:09

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

 New Nampa Paint Booth

 SIMPLE TERRAIN INPUTS:
    SOURCE TYPE            =        POINT
    EMISSION RATE (G/S)    =      1.00000
    STACK HEIGHT (M)       =       7.6200
    STK INSIDE DIAM (M)    =        .9144
    STK EXIT VELOCITY (M/S)=      34.5000
    STK GAS EXIT TEMP (K)  =     300.0000
    AMBIENT AIR TEMP (K)   =     239.0000
    RECEPTOR HEIGHT (M)    =        .0000
    URBAN/RURAL OPTION     =        URBAN
    BUILDING HEIGHT (M)    =       5.4900
    MIN HORIZ BLDG DIM (M) =      12.1900
    MAX HORIZ BLDG DIM (M) =     106.6800

 THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


 BUOY. FLUX =   14.379 M**4/S**3;  MOM. FLUX =  198.211 M**4/S**2.

 *** FULL METEOROLOGY ***

 **********************************
 *** SCREEN AUTOMATED DISTANCES ***
 **********************************

 *** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES
***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
9.	.2234E-05	6	1.0	1.0	10000.0	63.66	9.82	9.80	NO
100.	113.2	4	8.0	8.0	2560.0	13.59	15.69	13.79	SS
200.	37.12	4	8.0	8.0	2560.0	19.11	30.79	27.20	SS
300.	21.57	4	4.5	4.5	1440.0	42.78	46.45	41.46	NO
400.	25.27	6	1.0	1.0	10000.0	63.66	43.88	29.94	NO
500.	31.27	6	1.0	1.0	10000.0	63.66	52.70	34.21	NO
600.	34.05	6	1.0	1.0	10000.0	63.66	61.39	38.33	NO
700.	34.64	6	1.0	1.0	10000.0	63.66	69.92	42.26	NO
800.	33.96	6	1.0	1.0	10000.0	63.66	78.25	46.02	NO
900.	32.61	6	1.0	1.0	10000.0	63.66	86.39	49.62	NO
1000.	30.96	6	1.0	1.0	10000.0	63.66	94.34	53.07	NO

```
 MAXIMUM 1-HR CONCENTRATION AT OR BEYOND     9. M:
     31.   225.0        3    10.0   10.0  3200.0    9.71    7.00    6.40    SS

  DWASH=   MEANS NO CALC MADE (CONC = 0.0)
  DWASH=NO MEANS NO BUILDING DOWNWASH USED
  DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
```

```
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****************************************
     *** REGULATORY (Default) ***
    PERFORMING CAVITY CALCULATIONS
  WITH ORIGINAL SCREEN CAVITY MODEL
          (BRODE, 1988)
****************************************


 *** CAVITY CALCULATION - 1 ***       *** CAVITY CALCULATION - 2 ***
  CONC (UG/M**3)     =    .0000        CONC (UG/M**3)     =    .0000
  CRIT WS @10M (M/S) =    99.99        CRIT WS @10M (M/S) =    99.99
  CRIT WS @ HS (M/S) =    99.99        CRIT WS @ HS (M/S) =    99.99
  DILUTION WS (M/S)  =    99.99        DILUTION WS (M/S)  =    99.99
  CAVITY HT (M)      =     5.98        CAVITY HT (M)      =     5.49
  CAVITY LENGTH (M)  =    31.87        CAVITY LENGTH (M)  =    13.72
  ALONGWIND DIM (M)  =    12.19        ALONGWIND DIM (M)  =   106.68

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S.  CONC SET = 0.0

****************************************
      END OF CAVITY CALCULATIONS
****************************************


     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN      225.0           31.        0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```