



MOBILE COMPONENT DISTRIBUTORS, INC.

P.O. Box 5835
BOISE, IDAHO 83705

450 East Amity Road
208 - 345-2531

RECEIVED
NOV 04 2013

DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A.Q. PROGRAM

October 14, 2013

RECEIVED

OCT 31 2013

DEPARTMENT OF
ENVIRONMENTAL QUALITY
BOISE REGIONAL OFFICE

Thomas Krinke
Air Quality Compliance Officer
Boise Regional Office
Idaho Department of Environmental Quality
1445 N. Orchard
Boise, Idaho 83706

**RE: Permit to Construct Application;
Mobile Components Distributors, Inc (MCD)**

Dear Mr. Krinke,

Please find attached the permit to construct application for operations at the MCD facility located at 450 Amity Road, Boise Idaho.

MCD is requesting a permit to construct (PTC) for operations located on East Amity Road in Boise Idaho. The facility has evaluated criteria and toxic air pollutants (TAP) generated at the facility from welding and painting operations and with the exception of nickel, emissions are below regulatory concern. A PTC will be required to address the minor nickel emissions associated with welding at the facility.

Additional, MCD has previously provided an evaluation indicating air dispersion modeling is not required for this PTC (see letter MCD to IDEQ in Appendix C).

If you have questions, please call me at (208) 345-2531.

"I certify under penalty of law, that the attached "Permit to Construct Application" (submitted under separate cover) and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting

false information, including the possibility of fine and imprisonment for knowing violations.”

Sincerely,

A handwritten signature in blue ink, appearing to read "Rick Brain".

Rick Brain
Operations Manager

cc: Steve Bacom, Air Quality Division, IDEQ State Office

**Permit to Construct Application
Mobile Components Distributors Inc.**

October 2013

Prepared for:

Idaho Department of Environmental Quality

Boise Regional Office

1455 North Orchard

Boise, ID 83706

Prepared by:

Specialty Environmental Services

110 East 39th street

Boise, ID 83714

On behalf of

Mobile Component Distributors, Inc.

450 East Amity Road

Boise ID 83716

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Permit to Construct

Mobile Component Distributors, Inc.

1.0 Introduction

Mobile Component Distributors Inc. facility, located in Boise Idaho, is requesting a permit to construct (PTC) for operations located on East Amity Road in Boise Idaho. The facility has evaluated criteria and toxic air pollutants (TAP) generated at the facility from welding and painting operations and with the exception of nickel, emissions are below regulatory concern. A PTC will be required to address the minor nickel emissions associated with welding at the facility.

2.0 Facility Description

The facility, which is located on Amity Road in Boise, Idaho, began operation in 1972. The facility consists of 0.5 acres and is bordered by railroad right of way on the north, East Amity on the south, Yanke Machinery on the west, and H&H Distributing on the east, all of which are industrial or commercial properties (see Figure #1 for aerial drawing). The facility is located at 43° 33' 38.80" North and 116° 19' 41.20" West, el 2868 ft. The area is zoned as light industrial with no known residential areas located within a ¼ of mile of the facility boundaries.

3.0 Brief Process Description

MCD manufactures chassis and sub frames used by offsite manufactures for assembly of mobile dwelling including homes and offices. Manufacturing consists of several processes including raw material storage, welding chassis components, application of protective coating, assembly of parts, and shipment.

4.0 Emission Source Description

The facility supports several processes that are considered possible sources of criteria pollutants and/or toxic air pollutants. These sources are segregated below by potential criteria pollutant sources and potential toxic pollutant emission sources along with a brief discussion of their significance.

4.1 Potential Criteria Pollutants

Volatile Organic Compounds

The source of volatile organic compounds (VOC's) is associated with painting and coating operations at the facility. Estimates of VOCs emissions were based on MSDS or product technical sheets for the primer and finishing paint proposed to be used at the facility.

Particulate Matter

The source of particulate matter (PM) emissions is associated with coating (painting) and welding operations at the facility. Particulate emission estimates are based on emission factors and data provided by the manufacture of products, EPA 's "Clearinghouse for Inventories and Emission Factors" AP-42, and the Departments documentation.

4.2 Potential Toxic Air Pollutants

All sources of potential toxic air pollutants were evaluated at the facility. TAP's are associated with both the painting and welding operations.

The operation uses several different paints for various applications or coatings in the operation with a total of seven different TAP's, at widely varying concentrations (see attached paint data summary).

The welding wire (and minor amounts of welding rod) consists of fourteen metals and compounds that were determined to be present at concentrations higher than 1% by weight. Emission estimates were based on the concentration of each constituent along with the volume of fumes generated during the welding process. MCD relied solely on information supplied by Hobart Brothers (the manufacturer of the welding wire) for fume generation data (see correspondence in Appendix B).

5.0 Regulatory Classification

The facility is located in the Ada County Air shed, and is considered in attainment as defined by IDAPA 58.01.01.006.12. The air shed was previously designated as non-attainment by IDEQ for Particulate Matter with mean aerodynamic diameter less than 10 microns (PM10) and Carbon Monoxide (CO) but EPA's approved maintenance plans have been completed and implemented.

6.0 Air Pollution Control

Volatile Organic Compounds

The release of VOC's from the painting operations was based on a release factor of 100% of the total amount of paint consumed on a weight percent basis for VOC's.

Particulate Matter

Paint

The paint booth filters the air that passes through the booth. MCD assumed a conservative value of 35% for paint solids released from the paint gun and not transferred to the coating and a reduction of 98% of paint solids released from the booth to atmosphere via the paint filter system. The paint booth filter system will be upgraded to meet the 98% reduction requirement.

Welding

The facility operates two air cleaner (electrostatic precipitator style) systems that remove air contaminants from areas within the welding building. They are operated when welding fumes are visually present. The two air cleaners will be reconfigured to process welding fumes from the operation before exhausting the treated air from the building vent system. The air cleaners require periodic maintenance (two times per year) to remove collected material. Although electrostatic precipitation is the principle of operation these units are not true ESP's. Form ESP was completed to the extent possible and the manufacturers operating manual is included in Appendix B

7.0 Emission Analysis

7.1 Criteria Emissions Estimate

Of the regulated criteria emissions, volatile organic compounds (VOC's) and particulate (PM) are the only pollutants released in significant quantities requiring evaluation (see attached summary of criteria emission rates in Appendix "B").

7.1.1 Volatile Organic Compounds

The potential to emit (PTE) for paint related VOCs is estimated below. This calculation conservatively assumes that 100% of all VOCs that are associated with the coatings are released as a vapor. The PTE calculation consists of determining the hourly rate of emissions based on past maximum consumptive use and hours of paint booth operation, and then multiplying the hourly emission rate by 8760 (hours per year) to obtain a theoretical PTE annual emission rate.

**Permit to Construct Application
Mobile Components Distributors
September 2013**

**Prepared for:
Idaho Department of Environmental Quality
Boise Regional Office
1455 North Orchard
Boise, ID 83706**

**Prepared by:
Specialty Environmental Services
110 East 39th street
Boise, ID 83714**

**On behalf of
Mobile Component Distributors, Inc.
450 East Amity Road
Boise ID 83716**

Permit to Construct
Mobile Component Distributors, Inc.
450 Amity Rd., Boise, ID 83716

PTE Annual emission rate = (hourly rate lbs/hr)(hours in a year ,8760)/2000 lbs/ton)
Totaling all paint products the annual estimated VOC emissions are **6.3 tons /year**

The estimated actual VOC annual emissions associated with the coating operation were calculated based on historic consumption rates. Again, this calculation conservatively assumes that 100% of all VOCs that are associated with the coatings are released as a vapor.

Actual annual emission rate = (hourly rate lbs/hr)(hours in a year ,2080)/2000 lbs/ton)
Totaling all paint products the annual estimated actual VOC emissions are **1.8 tons /year**

7.1.2 Particulate Matter

The potential to emit (PTE) for paint related PM is estimated below. This calculation conservatively assumes that all PM is in the form of PM10 and the quantity that is not transferred with the coating is released as a particulate. The PTE calculation consists of determining the hourly rate of emissions based on past consumptive use and hours of paint booth and welding operation, and then multiplying the hourly emission rate by 8760 (hours per year) to obtain a theoretical annual emission rate.

PTE Annual emission rate =
(hourly rate lbs/hr)(1-TE of the paint gun)(hours in a year ,8760)/2000 lbs/ton)
Totaling all PM sources the annual estimated PTE emissions are **2.6 tons /year**

The actual annual PM emissions associated with the coating operation were calculated based on historic consumption rates. Again, this calculation conservatively assumes that all PM is in the form of PM10 and the quantity that is not transferred with the coating is released as a particulate. The calculation also assumes that 98% of particulate is removed with the paint booth filter.

Actual Annual emission rate =
(hourly rate lbs/hr)(1- TE of paint gun)(1-95%)(hours in a year ,2080)/(2000 lbs/ton)
Totaling all annual PM sources the estimated emissions are **0.16 tons /year**

7.2 TAP Emissions Estimate

The TAP chemicals present in the paints and welding rod proposed for operations at the facility are presented in Table #1 (in section 8.2) along with the estimated hourly emission rate. The hourly emission rates were calculated based on consumption rates for higher than average operations (2012).

The emissions for welding rod constituents are based on technical data provided by Aaron Bischoff Welding Engineer for CWI, Holbart Brothers (see Appendix B for correspondence).

8.0 Regulatory Review

The Criteria and TAP emission rate estimates were compared to the regulatory actions levels for exemption criteria presented in IDAPA 58.01.01 Sections 220 to 223. Discussions regarding PTC Applicability and the air dispersion modeling requirement applicability are included in this section.

8.1 Criteria Emission Review

The estimated annual VOC and particulate matter emissions associated with the paint products were significantly below the General Exemption criteria and Category I criteria for establishing the requirement to obtain an Idaho DEQ air operating permit. PTE emissions for PM10 and VOC's were well below the significant emission rate values of 15 and 40 tons per year respectively.

Actual emission rates for PM10 and VOC's were estimated to be significantly below regulatory concern (BRC), that is below 10% of the significant emission values for these pollutants on an annual basis.

8.2 TAP Emission Review

The estimated TAP emissions were compared to the screening level increments presented in IDAPA 58.01.01 Sections 585 and 586. In each case the estimated hourly emission rates for organic paint compounds were below regulatory concern (BRC) that is, well below ten percent of the IDEQ screening increments established in IDAPA 58.01.01 Sections 585 and 586.

Additionally, the estimated hourly emissions associated with the welding operation were BRC with the exception of nickel which is a 586 listed constituent with BRC screening levels of 2.7×10^{-6} . Because of welding certification standards, MCD is not in a position to change the welding wire to qualify for an exemption analysis.

Table #1 Summary of TAP Emissions vs. DEQ Screening Increment

Toxic Air Pollutant	Emission Rate (lbs/hr)	Screening emission level (lbs/hr)	10% of Screening Emission Level (lbs/hr)	Modeling Required?
aluminum	0.00066	0.667	0.0667	no
aluminum oxide	0.00066	0.667	0.0667	no
carbon black	0.0047	0.230	0.023	no
chromium	0.0007	0.033	0.0033	no
cobalt	0.0002	0.003	0.00033	no
copper	0.0004	0.013	0.0013	no
ethylbenzene	0.149	29.0	2.9	no
iron oxide	0.0026	0.33	0.0333	no
magnesium oxide	0.00044	0.67	0.0667	no
manganese dust	0.0009	0.333	0.0333	no
manganese fumes	0.0009	0.067	0.0067	no
1-methoxy-2-propanol acetate	0.109	24	2.4	no
molybdenum	0.00044	0.667	0.0667	no
nickel	0.00088	0.000027	0.0000027	no
silica quartz	0.0004	0.667	0.0667	no
silicon	0.00061	0.0067	0.00067	no
toluene	0.0410	25	2.5	no
xylene	0.892	29.0	2.9	no
zinc oxide	0.0083	0.667	0.0667	no
zirconium	0.0002	0.333	0.0333	no

8.3 PTC Applicability

As presented in Table #1 and in the criteria emission summary (see Appendix "B"), all emission rates are BRC and qualify for exemption from needing a PTC with the exception of nickel emissions associated with the welding operations. A PTC is necessary and applicable to address the nickel emissions.

8.4 Modeling Applicability Review

Based on discussions with the Departments modeling professionals, screening analysis is not required for criteria pollutants with annual actual emission rates BRC or for TAP's with hourly emission rates BRC. Emission estimates presented in

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Mobile Component Distributors, Inc.
450 Amity Rd., Boise, ID 83716

Appendix "B" indicate modeling is not required for this PTC. Nickel emissions do not require modeling because the facility is regulated by 40 CFR 63 subpart XXXXXX.

9.0 Applicable Requirements

The following is a summary of the applicable requirements for the requested PTC including a brief discussion of each.

IDAPA 58.01.01.201: Permit to Construct Required

In accordance with IDAPA 58.01.01.201, this permit application has been prepared to address applicable PTC requirements for present and future operations.

IDAPA 58.01.01.202: Application Procedures

IDAPA 58.01.01.202 specifies application procedures for PTCs, including required information, estimates of ambient concentrations, and additional information necessary for PTC approval. Refer to the Table of Contents for locating information and analyses required by Rule 202.

IDAPA 58.01.01.203: Permit Requirements for New and Modified Stationary Sources

This requirement does not apply

IDAPA 58.01.01.204: Permit Requirements for New Major Facilities or Major Modifications in Nonattainment

This requirement does not apply

IDAPA 58.01.01.205: Permit Requirements for New Major Facilities or Major Modifications in Attainment or Unclassifiable Areas

This requirement does not apply

IDAPA 58.01.01.206-208: Offsets, Emission Reduction Credits, & Demonstration of Net Air Quality Benefit

The rules under IDAPA 58.01.01.206 – 208 are not applicable to the PTC requirements addressed in this permit application. MCD is not required to obtain offsets, emission reduction credits, or participate in emissions trading.

IDAPA 58.01.01.209: Procedure for Issuing Permits

IDAPA 58.01.01.209 specifies the Departmental procedures for issuing permits to construct. For the most part, the permit issuance procedures are the responsibility

Permit to Construct
Mobile Component Distributors, Inc.
450 Amity Rd., Boise, ID 83716

of IDEQ. MCD will provide the Department any information necessary to determine permit application completeness and/or to provide as a basis for issuing the PTC

IDAPA 58.01.01.210: Demonstration of Preconstruction Compliance with Toxic Standards

IDAPA 58.01.01.210 specifies methods and procedures for demonstrating compliance with TAP emission standards, including required information, estimates of ambient concentrations, and additional information necessary for PTC approval. Refer to the Table of Contents for locating information and analyses required by Rule 210. Specifically, Section 210.20 is applicable to the emissions associated with nickel generated from the welding operation. Air dispersion modeling is not required if the subject TAP is regulated by EPA under 40CFR 60-63. In this case nickel emissions are currently regulated under 40 CFR 63 subpart XXXXXX for the MCD facility and will not require a modeling demonstration.

IDAPA 58.01.01.211 & 212: Conditions for Permit to Construct & Obligation to Comply

IDAPA 58.01.01.211 contains conditions for permits to construct, including reasonable conditions providing for sampling ports, access, and instrumentation, PTC cancellation provisions, initial start-up notifications, and general source testing provisions. IDAPA 58.01.01.212 identifies the owner/operators responsibility to comply with all requirements and contains provisions applicable to the relaxation of standards or restrictions taken to exempt the source from certain requirements. Rules 211 and 212 are applicable to the PTC requirements identified in this permit application. MCD will comply with the source obligations contained in these rules.

IDAPA 58.01.01.213: Pre-Permit Construction

IDAPA 58.01.01.213 provides procedures and requirements for sources seeking pre-permit construction approval. These provisions are not applicable to PTC requirements identified in this permit application.

IDAPA 58.01.01.214: Demonstration of Preconstruction Compliance for New and Reconstructed Major Sources of Hazardous Air Pollutants

This requirement does not apply

IDAPA 58.01.01.215 Mercury Emission Standard for New or Modified Sources

This requirement does not apply

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IDAPA 58.01.01.216-219 (Reserved)

IDAPA 58.01.01.220-223: Permit to Construct and Toxic Air Pollutant Exemption Criteria

IDAPA 58.01.01.220 – 222 contains general, Category I, and Category II exemption criteria for permits to construct. IDAPA 58.01.01.223 specifies four categorical exemption criteria and reporting requirements for toxic air pollutant emissions. Rules 220-223 do not apply because nickel produced in the welding process at the facility are greater than the emission limit. All other criteria and TAP emissions were BRC.

IDAPA 58.01.01.224 & 227: Permit to Construct Application & Processing Fees

In accordance with IDAPA 58.01.01.224 through 226, PTC application and processing fees are included. IDAPA 58.01.01.227 applies to the Department regarding the Receipt and Usage of Fees.

IDAPA 58.01.01.228: Appeals

At this time, this rule does not apply. However, if necessary, MCD reserves the right for future appeals.

40 CFR 63 subpart XXXXXX

This federal rule is applicable to the MCD facility. Monitoring, reporting and record keeping apply including periodic opacity evaluations of the building vent.



DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
 For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Permit to Construct **Form CSPTC**

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

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Mobile Component Distributors, Inc.		
2. Facility Name	same	3. Facility ID No.	001-00296
4. Brief Project Description - One sentence or less	Permit existing manufacturing operation		

PERMIT APPLICATION TYPE

5. <input type="checkbox"/> New Source	<input type="checkbox"/> New Source at Existing Facility	<input type="checkbox"/> PTC for a Tier I Source Processed Pursuant to IDAPA 58.01.01.209.05.c
<input checked="" type="checkbox"/> Unpermitted Existing Source	<input type="checkbox"/> Facility Emissions Cap	<input type="checkbox"/> Modify Existing Source: Permit No.: _____ Date Issued: _____
<input checked="" type="checkbox"/> Required by Enforcement Action: Case No.: <u>E-2012.0015</u>		
6. <input checked="" type="checkbox"/> Minor PTC	<input type="checkbox"/> Major PTC	

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CSPTC – Cover Sheet	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: _____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: _____ <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: <u>1</u> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4– Cooling Tower Information	Please specify number of EU3s attached: _____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU5 – Boiler Information	Please specify number of EU4s attached: _____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP– Concrete Batch Plant	Please specify number of CBPs attached: _____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: _____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERF – Portable Equipment Relocation Form	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form AO – Afterburner/Oxidizer	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CA – Carbon Adsorber	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CYS – Cyclone Separator	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form ESP – Electrostatic Precipitator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form BCE– Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE– Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form VSCE – Venturi Scrubber Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CAM – Compliance Assurance Monitoring	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms EI– Emissions Inventory	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PP – Plot Plan	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Forms MI1 – MI4 – Modeling	(Excel workbook, all 4 worksheets) <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>



Please see instructions on back page before filling out the form. All information is required. If information is missing, the application will not be processed.

Identification

1. Facility name: 2. Existing facility identification number: Check if new facility (not yet operating)

3. Brief project description:

Facility Information

4. Primary facility permitting contact name: Contact type:
 Telephone number: E-mail:

5. Alternate facility permitting contact name: Alternate contact type:
 Telephone number: E-mail:

6. Mailing address where permit will be sent (street/city/county/state/zip code):

7. Physical address of permitted facility (if different than mailing address) (street/city/county/state/zip code):

8. Is the equipment portable? Yes* No *If yes, complete and attach PERF; see instructions.

9. NAICS codes: Primary NAICS Secondary NAICS

10. Brief business description and principal product produced:

11. Identify any adjacent or contiguous facility this company owns and/or operates:

12. Specify type of application Permit to construct (PTC); application fee of \$1,000 required. See instructions.
 Tier I permit Tier II permit Tier II/Permit to construct

For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit.

Co-process Tier I modification and PTC Incorporate PTC at the time of Tier I renewal Administratively amend the Tier I permit to incorporate the PTC upon applicant's request (IDAPA 58.01.01.209.05.a, b, or c)

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(s) are true, accurate, and complete.

13. Responsible official's name: Official's title:
 Official's address:
 Telephone number: E-mail:
 Official's signature: Date:

14. Check here to indicate that you want to review the draft permit before final issuance.



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

IDENTIFICATION	
1. Company Name	2. Facility Name:
Mobile Component Distributors, Inc.	same
3. Brief Project Description:	Permit existing manufacturing operation
ELECTROSTATIC PRECIPITATOR (ESP) INFORMATION	
Equipment Description	
4. Manufacturer:	United Air Specialist
5. Model Number:	SMOG-HOG SH 20 Series
6. Precipitator Characteristics:	Number of fields: <u>one</u> Number of chambers: <u>two stage</u> Potential applied: <u>11</u> kV/in Type of ESP: <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry Inlet flow rate: <u>3000</u> acfm Plate cleaning system: <input type="checkbox"/> Rapping <input checked="" type="checkbox"/> Other: <u>Manual cleaning</u>
	Number of plates: <u>two</u> Residence time: <u>unknown</u> sec Can isolate chambers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Cross sectional area of precipitator: <u>3</u> ft ² Type of collecting plate: <input type="checkbox"/> Tubular <input checked="" type="checkbox"/> Plate
7. Operating Parameters: <small>(Note: You must fill in all fields in this section)</small>	Secondary amperage: <u>N/A</u> Secondary voltage: <u>N/A</u> Spark rate: <u>N/A</u> Manufacturer's specifications? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Note: If yes, attach a copy; if no, provide basis for operating parameters provided.
	Amperage averaging period (minute, hour, etc): <u>N/A</u> Voltage averaging period (minute, hour, etc): <u>N/A</u> Spark rate averaging period (minute, hour, etc): <u>N/A</u>
8. Pre-treatment device:	<input type="checkbox"/> Cyclone <input type="checkbox"/> Pre-cooler <input type="checkbox"/> Pre-heater <input type="checkbox"/> Knock-out chamber <input checked="" type="checkbox"/> None
9. Blower:	Blower rating: <u>TBD</u> hp Design flow rate: <u>3000</u> scfm Draft: <input type="checkbox"/> Forced <input type="checkbox"/> Induced
10. Method of removal of particulate from ESP:	<input type="checkbox"/> Closed container <input type="checkbox"/> Enclosed screw conveyor <input checked="" type="checkbox"/> Other method: <u>Manual cleaning</u>



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

IDENTIFICATION						
1. Company Name: Mobile Component Distributors, Inc.	2. Facility Name: Same			3. Facility ID No: 001-00296		
4. Brief Project Description: Permit existing manufacturing operation						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: SHOP WELDING						
6. EU ID Number: SW-1						
7. EU Type: <input type="checkbox"/> New Source <input checked="" type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: _____ Date Issued: _____						
8. Manufacturer: N/A						
9. Model: N/A						
10. Maximum Capacity: N/A						
11. Date of Construction: 1972						
12. Date of Modification (if any): NONE						
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID: Air cleaner (ESP)						
15. Date of Installation: unknown 16. Date of Modification (if any):						
17. Manufacturer and Model Number: United Air Specialist Inc, SH-20						
18. ID(s) of Emission Unit Controlled: SW-1						
19. Is operating schedule different than emission units(s) involved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
60%	60%					
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. estimated, not available, will reconfigure the existing system						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 2080 PER YEAR (5 DAYS WEEK, 8 HOURS PER DAY)						
23. Maximum Operation: 2496 PER YEAR (6 DAYS/WEEK, 8 HOURS/DAY)						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 2496 HOURS/YEAR						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): MAY OCCASIONALLY NEED TO OPERATE ONE ADDITION DAY PER WEEK						



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

IDENTIFICATION		
1. Company Name: Mobile Component Distributors, Inc.	2. Facility Name: Same	3. Facility ID No: 001-00296
4. Brief Project Description: Permit existing manufacturing operation		

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION	
5. Emissions Unit (EU) Name:	PAINT BOOTH
6. EU ID Number:	PB-1
7. EU Type:	<input type="checkbox"/> New Source <input checked="" type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source – Previous Permit #: _____ Date Issued: _____
8. Manufacturer:	N/A
9. Model:	N/A
10. Maximum Capacity:	N/A
11. Date of Construction:	1972
12. Date of Modification (if any):	NONE
13. Is this a Controlled Emission Unit?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT	
14. Control Equipment Name and ID:	Particulate Filter
15. Date of Installation:	unkown 16. Date of Modification (if any):
17. Manufacturer and Model Number:	N/A
18. ID(s) of Emission Unit Controlled:	PB-1
19. Is operating schedule different than emission units(s) involved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
20. Does the manufacturer guarantee the control efficiency of the control equipment?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)

Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
50%	50%					

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. estimated, not available, will install new system with 98% removal eff

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)	
22. Actual Operation:	2080 PER YEAR (5 DAYS /WEEK, 8 HOURS PER DAY)
23. Maximum Operation:	2496 PER YEAR (6 DAYS/WEEK, 8HOURS/DAY)

REQUESTED LIMITS	
24. Are you requesting any permit limits?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)
<input checked="" type="checkbox"/> Operation Hour Limit(s):	2496 HOURS/YEAR
<input type="checkbox"/> Production Limit(s):	
<input type="checkbox"/> Material Usage Limit(s):	
<input type="checkbox"/> Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
<input type="checkbox"/> Other:	

25. Rationale for Requesting the Limit(s): MAY OCCASIONALLY NEED TO OPERATE ONE ADDITION DAY PER WEEK

**Mobile Components Distributors (MCD)
PTE Criteria Emission Summary
8/13/2013 (revised)**

Source		NOx (tons/yr.)	CO (tons/yr.)	SO2 (tons/yr.)	PM (tons/yr.)	PM10 (tons/yr.)	PM2.5 (tons/yr.)	VOC (tons/yr.)
Parts Paint Booth	PB-1				2.20	2.20		6.25
Shop Welding	SW-1				0.39	0.39		
Shop Heaters	SH1-4	0.24	0.10	0.002	0.02	0.02	0.02	0.01
Totals		0.24	0.10	0.002	2.602	2.60	0.02	6.26

**Actual Criteria Emission Summary
8/13/2013 (revised)**

Source		NOx (tons/yr.)	CO (tons/yr.)	SO2 (tons/yr.)	PM (tons/yr.)	PM10 (tons/yr.)	PM2.5 (tons/yr.)	VOC (tons/yr.)
Parts Paint Booth	PB-2				0.04	0.04		1.48
Shop Welding	SW-1				0.09	0.09		
Shop Heaters	SH1-4	0.020	0.008	0.00013	0.0016	0.0016	0.0012	0.0012
Totals		0.02	0.01	0.00013	0.137	0.14	0.0012	1.49

**TAP Emission Summary
8/13/2013 (revised)**

Toxic Air Pollutant	Emission Rate (lbs/hr)	Screening emission level (lbs/hr)	10% of Screening Emission Level (lbs/hr)	Modeling Required ?
aluminum	0.00066	0.667	0.0667	no
aluminum oxide	0.00066	0.667	0.0667	no
carbon black	0.0047	0.230	0.023	no
chromium	0.0007	0.033	0.0033	no
cobalt	0.0002	0.003	0.00033	no
copper	0.0004	0.013	0.0013	no
ethylbenzene	0.149	29.0	2.9	no
iron oxide	0.0026	0.33	0.0333	no
magnesium oxide	0.00044	0.67	0.0667	no
manganese dust	0.0009	0.333	0.0333	no
manganese fumes	0.0009	0.067	0.0067	no
1-methoxy-2-propanol acetate	0.109	24	2.4	no
molybdenum	0.00044	0.667	0.0667	no
nickel	0.00088	0.000027	0.0000027	no
silica quartz	0.0004	0.667	0.0667	no
silicon	0.00061	0.0067	0.00067	no
toluene	0.0410	25	2.5	no
xylene	0.892	29.0	2.9	no
zinc oxide	0.0083	0.667	0.0667	no
zirconium	0.0002	0.333	0.0333	no

**Mobile Components Distributors (MCD)
Emission Calculations PTE
Painting and Welding Operations
8/13/2013 (revised)**

Source	Source ID	Parameter	Throughput	units	Emission Factor *	units	Annual Emissions (tons/year)
Parts Paint Booth	PB-2	VOC's	84	gal/year	0.070	lbs/hour	0.30
		blended Colors	1874	gal/year	0.976	lbs/hour	4.27
		white primer	758	gal/year	0.382	lbs/hour	1.67
					1.427	total VOC	6.25
		blended Colors	1874	gal/year	0.311	lbs/hour	1.3611
		white primer	758	gal/year	0.191	lbs/hour	0.8345
				0.501	total pm10	2.20	
Welding Operations	SW-1						
		PM10	32.1	1000 lbs/year	24.1	lbs/1000lbs of wire	0.39

* The emission factor for PM10 for the welding operation was assumed to be the highest value for GMAW welding on Table 12.19-1 Chapter 12 of AP-42, Electric Arc Welding

**Natural Gas Combustion Sources
8/13/2013 (revised)**

Source	Source ID	Parameter	Throughput	units	Emission Factor*	Hourly Emissions	units	Annual Emissions (tons/year)
Shop Heater	SH1-4	NOx	5,256	MMBTU/yr	0.0922	0.0553	lbs/MMBTU	0.242
		CO	5,256	MMBTU/yr	0.0392	0.0235	lbs/MMBTU	0.103
		SO2	5,256	MMBTU/yr	0.0006	0.0004	lbs/MMBTU	0.00155
		PM	5,256	MMBTU/yr	0.0075	0.0045	lbs/MMBTU	0.0196
		PM10	5,256	MMBTU/yr	0.0075	0.0045	lbs/MMBTU	0.0196
		VOC	5,256	MMBTU/yr	0.0054	0.0032	lbs/MMBTU	0.0142

* from AP-42 Table 1.4-1 and 1.4-2 converted from MMSCF to MMBTU/hour

**Mobile Components Distributors (MCD)
Emission Calculations Actual
Painting and Welding Operations
8/13/2013 (revised)**

Source	Source ID	Parameter	Throughput	units	Emission Factor	units	Annual Emissions (tons/year)
Parts Paint Booth	PB-2						
thinner		VOC's	20	gal/year	0.070	lbs/hour	0.07
blended Colors		VOC's	445	gal/year	0.976	lbs/hour	1.01
white primer		VOC's	180	gal/year	0.382	lbs/hour	0.40
					1.427	total VOC	1.48
blended Colors		PM10	445	gal/year	0.00622	lbs/hour	0.0272
white primer		PM10	180	gal/year	0.00381	lbs/hour	0.0167
					0.01003	total pm10	0.0439
Welding Operations	SW-1						
		PM10	7.6	1000 lbs/year	24.1	lbs/1000lbs of wire	0.09

* The emission factor for PM10 for the welding operation was assume to be the highest value for GMAW welding on Table 12.19-1 Chapter 12 of AP-42, Electric Arc Welding

**Natural Gas Combustion Sources
8/13/2013 (revised)**

Source	Source ID	Parameter	Throughput	units	Emission Factor	Hourly Emissions	Annual Emissions (tons/year)
Shop Heater	SH1-4						
		NOx	432	MMBTU/yr	0.0922	0.0553	lbs/MMBTU
		CO	432	MMBTU/yr	0.0392	0.0235	lbs/MMBTU
		SO2	432	MMBTU/yr	0.0006	0.0004	lbs/MMBTU
		PM	432	MMBTU/yr	0.0075	0.0045	lbs/MMBTU
		PM10	432	MMBTU/yr	0.0075	0.0045	lbs/MMBTU
		VOC	432	MMBTU/yr	0.0054	0.0032	lbs/MMBTU
							0.020
							0.008
							0.00013
							0.0016
							0.0016
							0.0012

* from AP-42 Table 1.4-1 and 1.4-2 converted from MMSCF to MMBTU/hour

**Mobile Components Distributors (MCD)
Emission Calculations TAP's
8/13/2013 (revised)**

TAP	CAS	Product	Source ID	Emission Rate (lbs/hr)*	units	Screening Emission Level (lbs/hr)	10% of Screening Emission Level (lbs/hr)
aluminum	7429-90-5	WW-Element 71T1M	W-1	0.00066	lbs/hour	0.667	0.0667
aluminum oxide	1344-28-1	WW-Element 71T1M	W-1	0.00066	lbs/hour	0.667	0.0667
carbon black		blended colors	PB-1	0.0047	lbs/hour	0.230	0.023
chromium	7440-47-3	WW-Element 71T1M	W-1	0.0007	lbs/hour	0.033	0.0033
cobalt	7440-48-4	WW-Element 71T1M	W-1	0.0002	lbs/hour	0.003	0.00033
copper	7440-50-8	WW-Element 71T1M	W-1	0.0004		0.013	0.0013
ethylbenzene		thinner	PB-1	0.0058	lbs/hour		
		blended colors	PB-1	0.1087	lbs/hour		
		white primer	PB-1	0.0324	lbs/hour		
iron oxide	1309-37-1	WW-Element 71T1M	W-1	0.0026	lbs/hour	0.33	0.0333
magnesium oxide	1309-48-4	WW-Element 71T1M	W-1	0.00044	lbs/hour	0.67	0.0667
manganese dust		WW-Element 71T1M	W-1	0.0009	lbs/hour	0.333	0.0333
manganese fumes		WW-Element 71T1M	W-1	0.0009	lbs/hour	0.067	0.0067
1-methoxy-2-propanol acetate		blended colors	PB-1	0.109	lbs/hour	24	2.4

Glen Patrick

From: Aaron Bischoff <Aaron.Bischoff@itwwelding.com>
Sent: Tuesday, April 23, 2013 2:42 PM
To: Glen Patrick
Subject: Mn info
Attachments: Glenn Patrick Mn Info.xlsx

Glenn,

Please let me know if you would like me to make any changes, or you have any questions. Thanks!

Regards,

Aaron Bischoff
Welding Engineer, CWI
Global Segment groups

ITW Welding North America

400 Trade Square East Troy, OH 45373 Phone: 937.332.5158 Mobile: 937.573.8534 Fax: 937.332.5477
MillerWelds.com | [Facebook](#) | [Twitter](#) | [YouTube](#)

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	Annual Wire Usage (lb)	% of wire converted to fume	% Mn content in Weld Fume	Fume Generated Annually	Mn Fume Generated Annually	Average Fume Generated	Average Mn Fume Generated per
		%	%	lb/yr	lb/yr	lb/hr	lb/hr
Hobart Element 71T1M	28740	0.67	3.5	192.558	6.740	0.021982	0.00077

The above, "Average Mn Fume Generated per Hour" of .00077 lb/hr, has been calculated by assuming .67 % conversion of the wire to weld fume which has been measured to be the worst case in the typical operating range for the Element 71T1M product in the .045" diameter when tested in a laboratory setting according to AWS F1.2: 2013 "Laboratory Method for Measuring Fume Generation Rates and Total Fume Emission of Welding and Allied Processes" an industry accepted method for measurement of fume generation rates. To determine the worst case 3.5% Mn content of the weld fume, a fume sample was collected and tested in accordance with the NIOSH 7300 method and the results converted to a weight percentage. With wire usage of 28740 lb/yr and the fume conversion rate of .67% a yield of 192.56 lb/yr total fume is obtained. Accounting for only 3.5% of that weld fume being Mn or Mn compounds yields 6.74 lb/yr Mn fume generated annually. If we assume 8760 hours per year this comes out to an average of .00077 lb of Mn fume generated per hour.

SMOG-HOG®

OPERATIONS MANUAL

Complaints 1-800-252-4647

Filters 1-866-651-9762 ask for Jim

SH Series Models:

SH-6

SH-10

SH-20

SH-40

SH-50

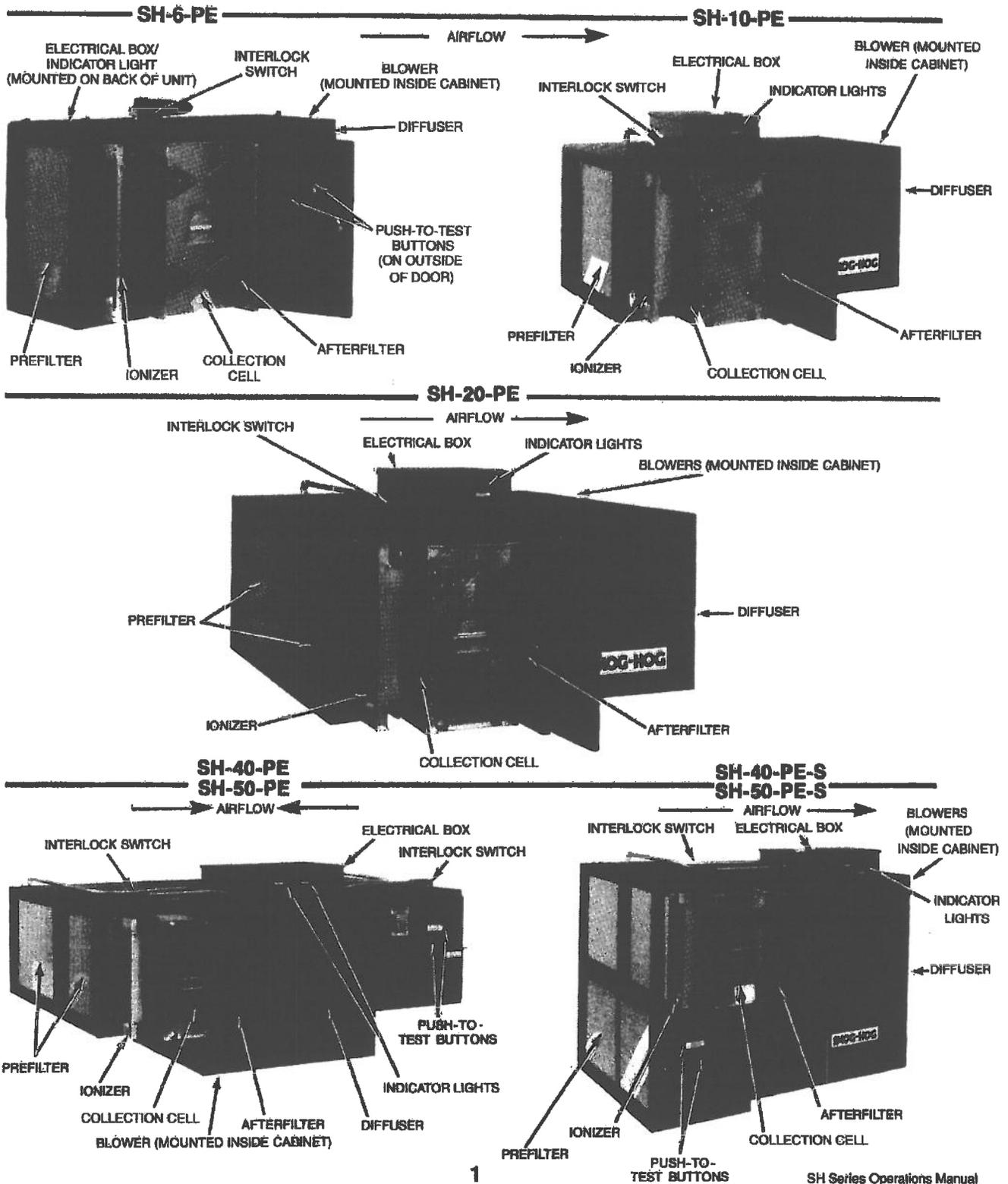
serial # 13981
serial # 13983

Indexer —

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SMOG-HOG[®] Industrial Air Cleaner Installation and Service



SMOG-HOG NOMENCLATURE

SMOG-HOG electronic air cleaners are available in a variety of configurations and sizes. Codes shown below identify characteristics which might be built into a given unit. This model number completely identifies the design and can be found on the unit nameplate. For example, a model designated SH-10-PE-H could be defined according to descriptions listed below (see bold):

SH - SMOG-HOG Series

- 10** - Airflow in 100s of CFM (i.e., 10 \approx 1,000 CFM, etc.)
 - P** - Polyphase, external high voltage wiring
 - C** - Corded (10' power cord) and external high voltage wiring
 - E** - External high voltage wiring (internal power pack)
 - H** - High static pressure blower*
 - DP - Dual polarity
 - XB - Without blower
 - S - Stacked modules (SH-40/50 only)
 - T - Tee-shaped unit (SH-40/50 only)
- *Not available on SH-50 models

Models SH-6, SH-10, SH-20, SH-40 & SH-50

This type of SMOG-HOG Industrial Air Cleaner is a self-contained, two-stage, Penney-type, electrostatic precipitator complete with fully-interlocked, energy-limiting, UL recognized power pack, mechanical prefilter, ionizer, collection cell, afterfilter, blower assembly, indicator lights, interlock switches and push-to-test buttons. Models available include:

SH-6-C	SH-20-PE
SH-10-C	SH-40-PE-T
SH-20-C	SH-50-PE-T
SH-6-PE	SH-40-PE-S
SH-10-PE	SH-50-PE-S

Models SH-10-XB, SH-20-XB, SH-40-S-XB & SH-50-S-XB

This type of SMOG-HOG Industrial Air Cleaner is a self-contained, two-stage, Penney-type, electrostatic precipitator complete with fully-interlocked, energy-limiting power pack, mechanical prefilter, ionizer, collection cell, afterfilter, indicator lights, interlock switches and push-to-test buttons. XB units are designed for use in tandem with Models SH-10, SH-20, SH-40 and SH-50 or in a ducted application where a blower is included in the existing ventilation system. Models available include:

SH-10-PE-XB	SH-40-PE-S-XB
SH-20-PE-XB	SH-50-PE-S-XB

SH Series Voltages Available

Voltage	Phase	HZ	Voltage	Phase	HZ
115*	1	60	230*	3	60
115*	1	50	380*	3	50
208*	3	60	460*	3	60
220*	3	50	575*	3	60

* UL listed

I. INSPECTION OF EQUIPMENT

Upon receipt of your SMOG-HOG, check carefully for any possible shipping damage. Any damage to carton, skid, etc. may be a warning to you that rough handling has caused internal damage. Notify your delivery carrier and enter a claim if any damage is found.

II. INSTALLATION PLANNING

UNDUCTED OR AREA CAPTURE: Consideration must be given to the placement of the precipitator to maximize efficiency. The number of units required to clean the air will depend on the layout of the room and the concentration of pollutants. Because it is necessary to develop proper airflow patterns, the placement and number of precipitators should be as suggested by UAS or your local SMOG-HOG representative.

DUCTED OR SOURCE CAPTURE: When your SMOG-HOG is used as a ducted source collector, the enclosure or pick-up hood design is important for adequate capture of contaminants. Drive pulleys and belts have been selected to provide proper airflow at the design static pressure specified. Pulleys and belts should not be replaced without first contacting UAS.

Allow at least 36" door swing and access clearance on the door side of the unit. All models except the SH-6 require 18" clearance from the electrical junction box on top of the unit to any overhead obstruction to allow adequate access.

III. INSTALLATION

Carefully remove the unit from the shipping container, again inspecting for shipping damage. For ease of installation, open access door and remove the cell, ionizer and filters from the cabinet.

Ceiling mounted units are suspended by means of ½" threaded rods run through weld nuts in the top corners of the units. (See page 4 for weld nut locations on all but XB models†.) Additional support should be used for auxiliary equipment or ductwork.

***NOTE: Weld nuts are not provided on XB units. These units are to be supported with flat washers and ½"-13 nuts supplied by the installer.**

Reinstall the components removed earlier to facilitate the mounting of the unit.

Unit Mounting

Models SH-6, SH-10 and SH-20 are designed for suspended mounting. They can be provided with eyebolts for chain hanging, but the length of chain should be kept at a minimum. The preferred method of hanging is with ½" threaded rod through the top of the cabinet. If chain is used, it should be of the welded link type, with a 2,000 lb. test strength or better. "S" hooks used for connections should be closed. The chain should be hung vertically. If any angle is introduced, the chain and fasteners should be

sized to handle the added tension. Figure 1 shows the recommended method for suspending the units with chain. Models SH-40 and SH-50 may be suspended by rod but are not approved for chain hanging.

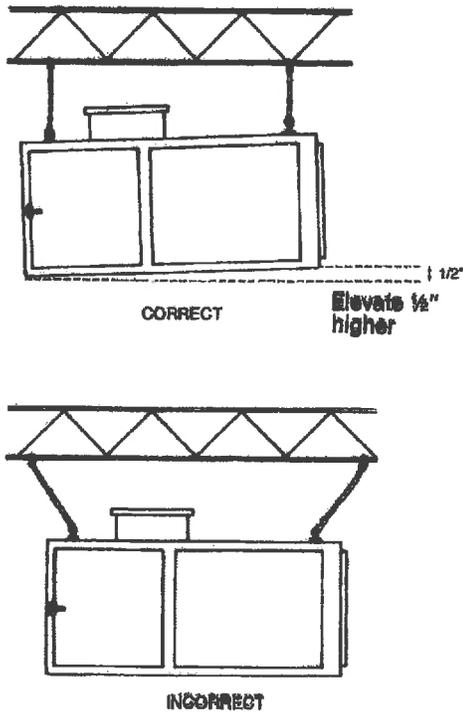


Figure 1
Proper Installation

On oily applications, rear blower section elevation of unit should be $\frac{1}{2}$ " higher than the entrance elevation.

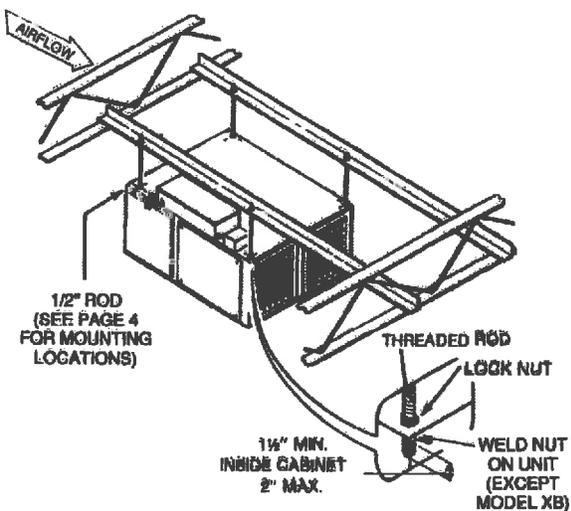


Figure 2
Ceiling Mounted Unit

NOTE: The SMOG-HOG should not be used for support of personnel or material. Check with local building code/structural engineer to ensure proper installation to roof truss or column.

Metal Truss Supported Ceilings

Figure 2 shows an SH-20 unit suspended from a metal truss supported ceiling. Customer must take care to determine that the truss will be sufficient to support the weight. As shown, angle iron braces are secured between two steel trusses. Rod length should be kept to a minimum.

Column or Wall Mounting

Figure 3 shows an SH-50 (T-shaped) unit suspended from a cantilevered frame from which the $\frac{1}{2}$ " threaded rods are suspended. Rods are threaded into weld nuts located at the corners of the blower cabinet. Rod length should be kept to a minimum.

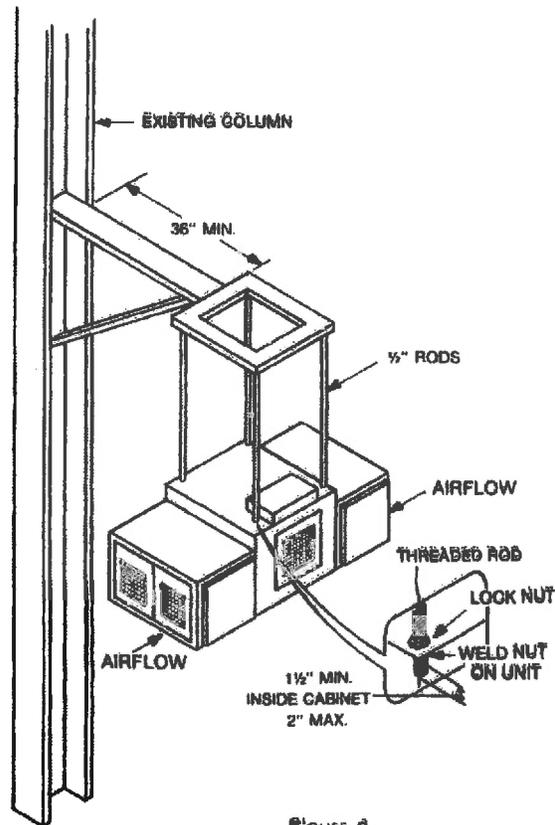


Figure 3
Column Mounted Unit

IV. AIR DIFFUSER

The four-way adjustable air diffuser grille can be set to any open position desired.

Unducted Installation (for area capture)

Air diffuser should be set for maximum contaminant capture and even dispersion of clean air. The pattern

SH-6-PE

• DENOTES WELD NUT LOCATIONS

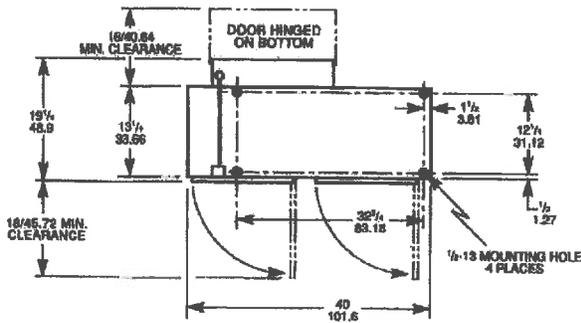
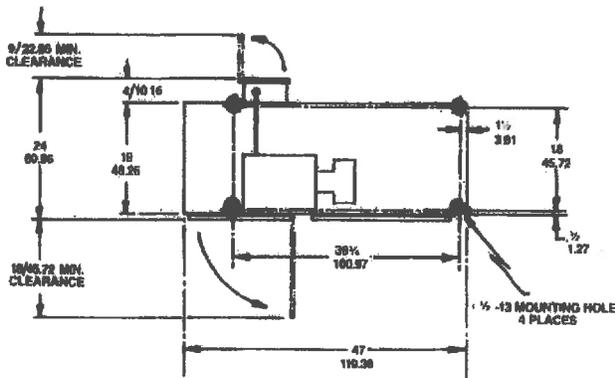


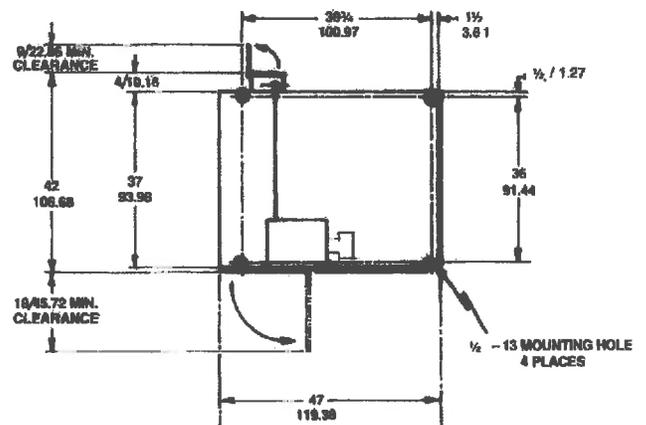
Table 1
SMOG-HOG Hanging Weights

Model	Weight (lbs)
SH-6	166
SH-10-XB	100
SH-10	215
SH-20-XB	175
SH-20	325
SH-40/50-S-XB	345
SH-40/50	540

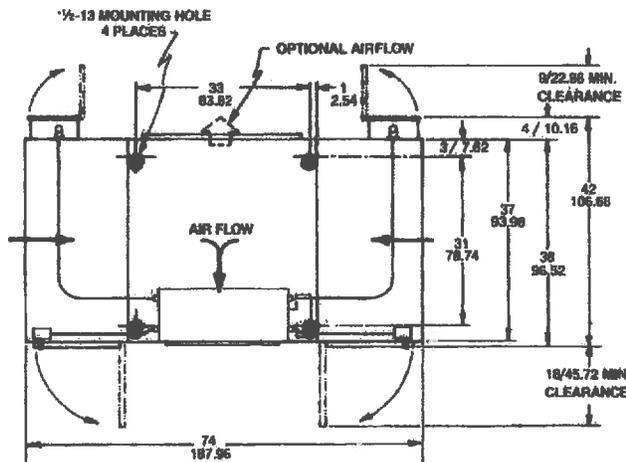
SH-10-PE



SH-20-PE



SH-40-PE/SH-50-PE



SH-40-PE-S/SH-50-PE-S

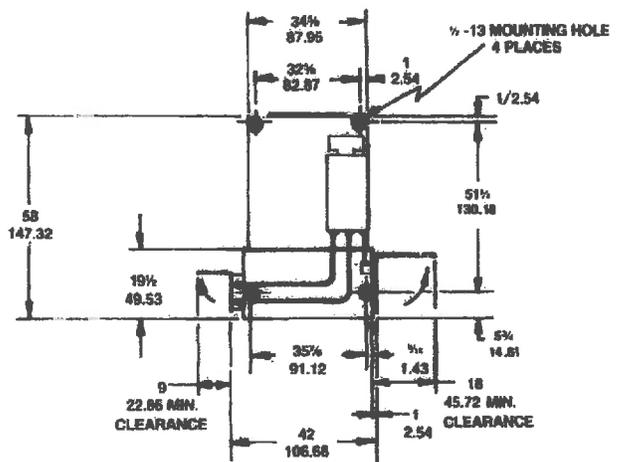


Figure 4
DIMENSIONS AND MOUNTING HOLE LOCATIONS
(IN INCHES AND CENTIMETERS)

should be that suggested by UAS or your local SMOG-HOG representative.

Ducted Installation (for direct capture)

Air diffuser can be set to any position compatible with personnel comfort.

V. ELECTRICAL REQUIREMENTS

Power Connection on C Models

The power cord on SH-6-C, SH-10-C and SH-20-C should be used in connection with a properly sized and appropriately located 115 VAC grounded outlet receptacle. No alteration of the power cord should be attempted nor should extension cords be used.

Power Connection on PE Models

The only electrical connection required is a power source to the terminal block as shown in the wiring diagram inside the top electrical junction box. Connect as indicated on the "Supply Connection Location" label. See unit nameplate for voltage specifications.

Units are factory wired for the voltage requirement indicated to UAS by the customer. The electrical box has no knockouts. Therefore, whatever electrical connectors are standard in your plant may be used to bring the power line into the unit.

The power switch for operating the unit and any fused disconnect switch must be supplied by the customer and located remotely (not supplied as part of the SMOG-HOG). UL listed models are supplied by UAS with a motor starter and remote start/stop pushbutton switch as standard equipment.

VI. MOTOR/BLOWER CHECKOUT

After three-phase connection is made, check the direction of rotation of the blower wheel. See Figure 5 for drive set door access. If the wheel is not rotating in the proper direction, reverse the motor rotation by interchanging any two of the three AC input leads at the terminal block.

CAUTION: Even when running backward, some air motion is noticeable. If the blower is rotating correctly, the access door will be snapped shut by the strong negative pressure within the cabinet.

When the SMOG-HOG is used in a ducted application, blower speed is increased to compensate for the static pressure loss of the ductwork. After ductwork is installed, and with the unit operating, measure the current flow to the unit using an amprobe. The ampere reading should not exceed the FLA rating stamped on the motor nameplate. If current flow is excessive, reduce blower speed by adjustment of the variable pitch sheave on the motor.

CAUTION: Measure the current at the remote starter or disconnect. Erroneous readings will result if

measurements are made in the vicinity of the high voltage power supply located in the electrical box.

Single-phase units (i.e., 115/1/50-60) are prewired for proper rotation and line hook-up. Simply connect to single-phase input circuit and unit is ready for operation.

Input to the high voltage power pack must not exceed 120 volts, 60 Hertz. This is supplied by the power line or the step-down transformer as shown in the wiring diagram inside the main electrical junction box on all units.

The indicator light on the unit is illuminated when high voltage is present at the power pack. If the light fails to illuminate when power is turned on, refer servicing to authorized personnel.

Drive Set Access Procedure

1. Shut down blower.
2. Remove (1) cell and (1) afterfilter.
3. Reach through ESP compartment for access to thumbscrew.
4. Rotate captive thumbscrew until blower compartment door is released.
5. Reverse above operation for closure.

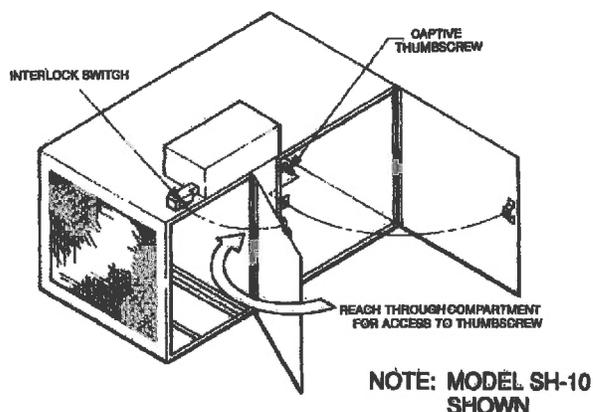


Figure 5
Unit Access

VII. DESCRIPTION OF COMPONENTS

(See page 1 for photos of individual model components)

A. Prefilters. Heavy-duty, reusable aluminum mesh, industrial service filters aid air distribution and mechanically remove large particles not suitable for precipitation. They are interchangeable with afterfilters.

B. Ionizing Sections. Ionizing sections are independent of collection cells for ease of maintenance. The frame, of rugged aluminum construction, supports tungsten steel ionizing wires. Each wire is spring mounted and easily replaced in the field. Both spring and wire support bars and heavy ceramic insulators are located out of the airstream, behind a three-sided aluminum extrusion with an airfoil design, to further limit insulator contamination. An extremely dense ionizing field and integral bypass

prevention baffles assure ionization of all particles entering the precipitator.

C. Collection Cells. Parallel plate collection components are of aluminum construction. Air gap insulators which afford a longer path to ground are located completely out of the dirty airstream. This arrangement maintains nominal operating voltages longer, thus reducing the frequency of cleaning. The insulators, along with the cell's long plate design, assure maximum efficiency and retention of collected contaminant.

D. Afterfilters. Heavy-duty, reusable, industrial aluminum mesh filters aid even air distribution across the cells and trap any collected contaminant that might blow off the cells during start and stop operations. They are interchangeable with prefilters.

E. Power Packs. The proprietary design high-voltage power supply sends 11 KV DC to collection components and is limited to less than .005 amps of current at short out. This limited current draw will protect both the power pack and components in a short-out condition. Power consumption is 75 watts maximum. The power pack is located in an external electrical box.

F. Push-to-Test Buttons. An exclusive UAS feature, these buttons verify electrical continuity during equipment operation without the use of a meter. They are also a convenient means to ground any residual charge in components before removing them from a deactivated unit.

G. Blower. A belt-driven, low speed, centrifugal-type blower with sealed ball bearings is shock-mounted to the cabinet to reduce noise and vibration.

H. Drive. Motors are continuous-duty, totally-enclosed and fastened to adjustable motor mounts. The motor is equipped with a variable speed motor pulley allowing blower speed on-site adjustment.

I. Outlet Vanes. Four-way-direction, individually adjustable deflectors permit adjustment of cleaned air distribution to meet specific application requirements.

J. Cabinet. This 16-gauge steel housing is of wrap-around construction with all seams welded. The cabinet is prepared in a phosphatized wash cycle. The finish coat is an electrostatically-applied powder paint, baked to ensure a durable hard finish. The electrostatic compartment features bypass baffles on the door and rear wall to guide the contaminated airstream through the components.

K. Access Door (Electrostatics). Doors are hinged for easy access and interlocked to shut down high-voltage when opened.

L. Access Door (Drive Set). A separate hinged door allows access to motor and blower for easy adjustment (see Figure 5).

VIII. MAINTENANCE

Normal maintenance is confined to periodic cleaning of cell, ionizer and filters, plus checking of the drive belt. Rarely is any other maintenance necessary.

Cleaning Instructions

- Turn unit off and depress both push-to-test buttons to remove any residual charge from components.
- Slide dirty collection components (prefilter, ionizer, cell and afterfilter) from cabinet.
- Clean components by soaking in a hot solution of detergent for a minimum of 30 minutes. Shake components in the hot solution to remove loosened dirt. Any cleaner used must be inhibited for the protection of aluminum filters and cells. UAS has specific detergent recommendations.
- Immediately after removing components from the detergent bath, flush away any remaining residue and rinse thoroughly with water. Shake off excess water.
- Set collection cells, ionizers and mesh filters in a warm room, with plates standing vertically, until they have completely drained and are dry to the touch. Twenty minutes is normally satisfactory.
- Wipe off contaminant from the high voltage insulators located on the back wall of the cabinet.
- Reinstall components in the cabinet, close the door and turn the unit on. Connecting springs between cell and ionizer sections must be turned to the center of the cabinet for double component units (i.e., units with adjacent removable components — SH-20, SH-40 and SH-50). Electrical contact must be made between cells and ionizers by these springs. Make sure wall and door ground springs are in place and making contact with ionizer and cell endplates respectively. See Figure 10 for properly aligned assembly.

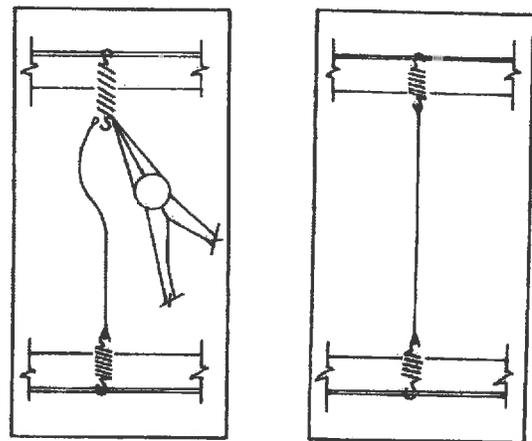


Figure 6
Replacing Ionizer Wire

- Periodically check for loose drive belt on the motor/blower unit. One-half inch deflection under light thumb pressure at mid-point between pulleys is the normal correct tension.

Instructions for Replacing Ionizer Wire

- Remove the damaged wire from each spring. Replace spring if damaged.
- Loop one end of the new wire over the bottom spring then extend the top spring and loop the end of the wire

over the spring (see Figure 6). Pliers may aid this operation.

- Release the spring gently. The wire is now taut and automatically centered.

NOTE: In the event that replacement wires are not available, the ionizer may be left in service. Remove the broken wire(s) and springs from assembly until replacement is made.

THE FOLLOWING SECTIONS ARE FOR THE USE OF TRAINED PERSONNEL ONLY

CAUTION: Hazardous live and moving parts are exposed during the following procedures.

IX. TROUBLESHOOTING

Tools Required:

- Screwdriver 8" or longer with plastic handle
- Volt-Ohm-Meter — used to check low voltage input (115 VAC) and continuity (OHMS)
- High Voltage Probe — used to check high voltage power supply. Range: from 0 to 15 KV DC
- Amp Probe

Troubleshooting Procedures

High voltage problems can generally be isolated by referring to the indicator light. When the light illuminates,

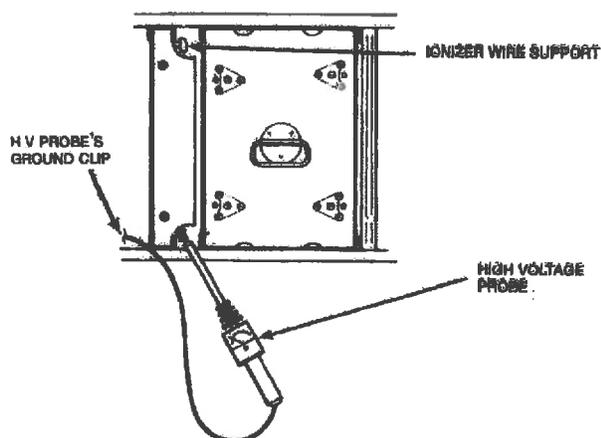


Figure 7
Checking Ionizer Voltage

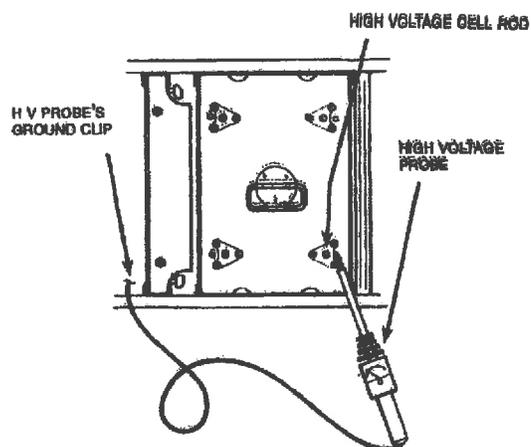


Figure 8
Checking Cell Voltage

high voltage is present at the ionizer and collector terminals of the power pack.

If the indicator light illuminates but there is no high voltage present at the ionizer or collector, the difficulty is caused by an open circuit in the high voltage path. Test for high voltage is made by depressing push-to-test buttons individually. This should short out the circuit, causing the indicator light to go out, thus verifying electrical continuity.

If light does not go out, check for the presence and condition of high voltage contact springs, hardware and (red) high voltage lead wires. See Figure 9 for proper alignment.

If the indicator light is out, proceed to isolate the difficulty as follows:

- Open the access door and depress the interlock switch.
- Check for presence of high voltage at cell and ionizer

with the high voltage test probe by connecting one probe lead to ground and the other lead to the (a) ionizer wire support (Figure 7) and then (b) to the end of the high voltage cell rod (Figure 8).

If high voltage is present, check that contact leads at light terminals and ground plate are snug. If contacts and leads are satisfactory, replace the light. Be sure that the electrical box lid switch and access door switch are closed when making the final check.

If the indicator light is out and no voltage is present at the cell and ionizer, proceed as follows:

Open access door and remove the collection cell(s). Depress the door interlock switch and observe the indicator light. If the light illuminates, the collection cell is shorted. Carefully check for the presence of excessive dirt build-up or foreign material lodged between cell plates or bowed cell plates that would cause the cell to short out.

If the light remains out with the cell removed, close the door, discharge the high voltage with push-to-test buttons and remove the ionizer(s). Depress the door switch and observe the indicator light. If the light illuminates, the ionizer is shorted. Check for broken ionizer wires and build-up of contaminant on insulators. Wipe the insulators clean and replace ionizer wire(s) if necessary.

If the indicator light does not illuminate when components are removed, proceed as follows:

Secure the component access door and open the electrical box lid. Depress the lid interlock switch and check for 115 VAC supply to the power pack. If 115 VAC supply voltage is present, release the lid interlock and remove one of the (red) high voltage leads from the power pack terminals. Depress the lid interlock switch and observe the Indicator light. If the light illuminates, one of the high voltage leads or contact springs is shorted to ground. Check for proper electrical alignment of contact springs and for a defective (red) high voltage lead. Replace if necessary. If the light remains out, repeat the procedure on the second (red) high voltage lead. If the indicator light does not illuminate when both (red) high voltage leads are removed, replace the power pack.

X. Ordering Parts

To order replacement parts refer to "SMOG-HOG Parts Lists" on page 9. Order through your local UAS representative or contact United Air Specialists 4440 Creek Road, Cincinnati, Ohio 45242. Telephone 1-800-252-4647 or Fax 513-891-4171. Please have the unit model number, serial number (from inside component access door) and part numbers available when ordering.

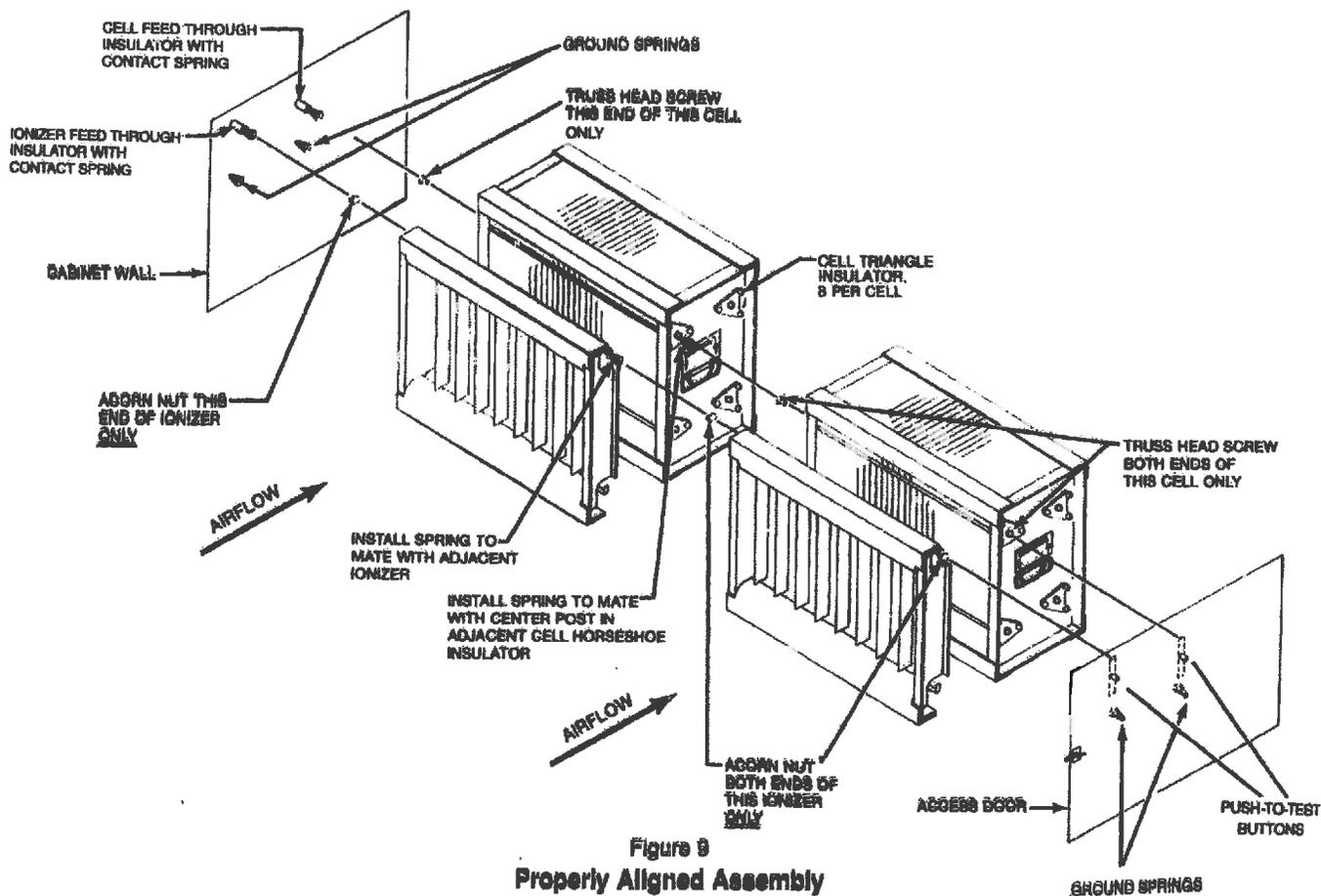


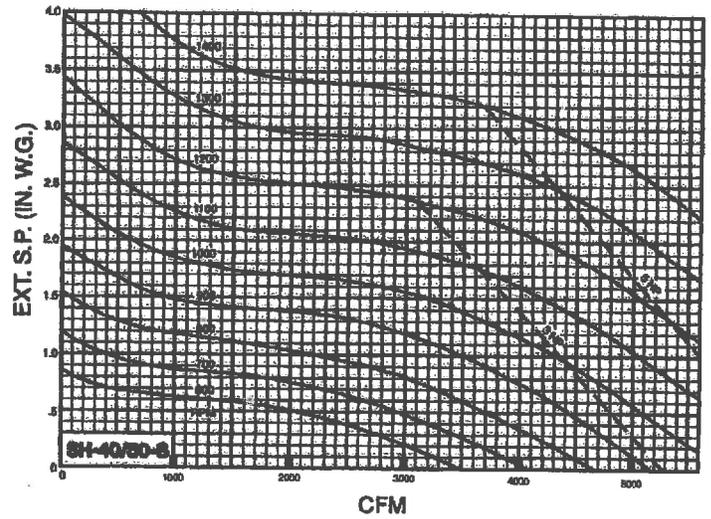
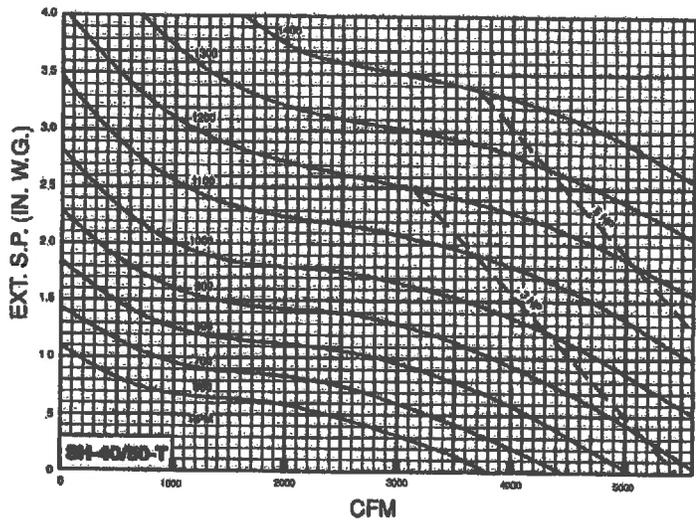
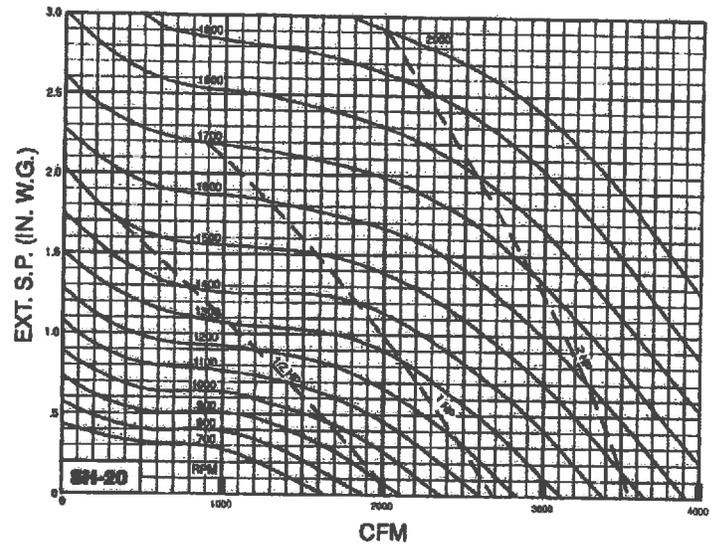
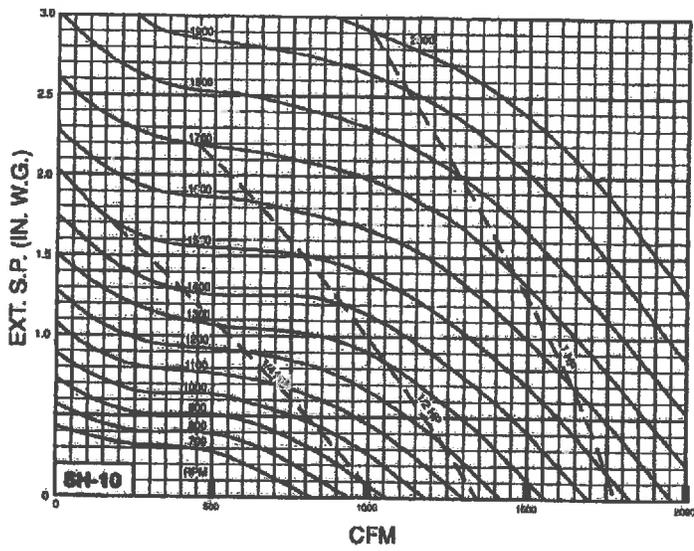
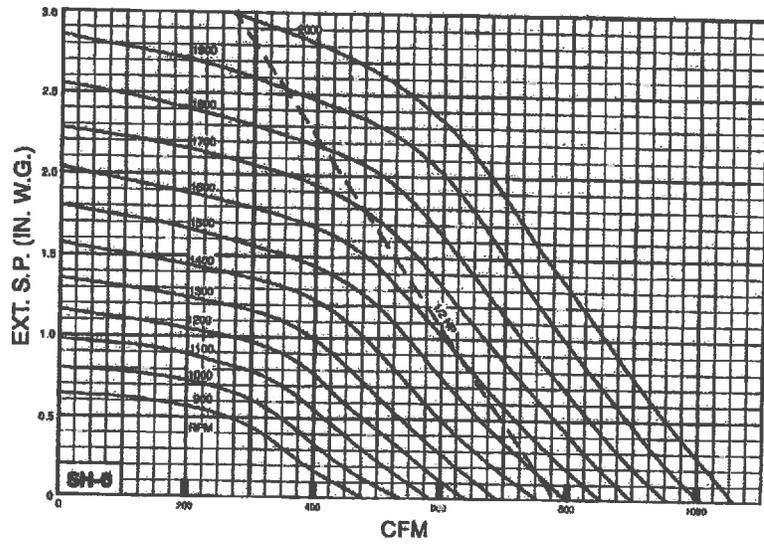
Figure 9
Properly Aligned Assembly

SMOG-HOG PARTS LISTS

COMPONENT DESCRIPTION	PART NUMBER
POWER PACK - POSITIVE (UL LISTED)	21-1216
POWER PACK - NEGATIVE (UL LISTED)	21-1220
LIGHT SOCKET (ALL INCANDESCENT TYPE LIGHTS)*	20-0258
RED LENS*	20-0260
CLEAR LENS*	20-0133
6 V BULB - INCANDESCENT, #47 LIGHT*	20-0467
GREEN 12 V DC LED INDICATOR LIGHT, 10mm (GREEN BODY)	20-2748
GREEN 12 V DC LED INDICATOR LIGHT, 17mm (W/WIRE LEADS)	02-10561-G
100 V.A. STEP-DOWN TRANSFORMER (FOR SH-6, SH-10 & SH-20)	(208 to 115V) (230V or 460V to 115V) (575V to 115V) 21-1279-100 21-1280-100 21-1281-100
150 V.A. STEP-DOWN TRANSFORMER (FOR SH-20, SH-40 & SH-50)	(208 to 115V) (230V or 460V to 115V) (575V to 115V) 21-1279-150 21-1280-150 21-1281-150
250 V.A. STEP-DOWN TRANSFORMER (FOR SH-40 & SH-50)	(208 to 115V) (230V or 460V to 115V) (575V to 115V) 21-1279-250 21-1280-250 21-1281-250
LIMIT SWITCH, CABINET DOOR INTERLOCK	20-0005
LIMIT SWITCH, ENCLOSURE INTERLOCK (SWITCH BRACKET: 20-1243)	20-1239
GPN CELL ASSEMBLY (ALL UNITS EXCEPT SH-6)	02-2339-S
SH-6 CELL ASSEMBLY	02-0003-S
CELL-TO-CELL CONTACT SPRING	36-0009
CELL INSULATOR - HORSESHOE	37-0007
CELL INSULATOR - TRIANGLE (AFTER JULY 1988)	37-0061
✓ FP IONIZER ASSEMBLY - 9 WIRE (ALL UNITS EXCEPT SH-8)	02-0044-S
SH-6 IONIZER	02-0008-S
IONIZER STAND-OFF INSULATOR	37-0004
IONIZER-TO-IONIZER CONTACT SPRING	36-0016
IONIZER WIRES, 6/SET (10 MIL) - (SH-6)	03-0834
IONIZER WIRES, 9/SET (10 MIL) - (SH-10, SH-20, SH-40 & SH-50)	03-0555
IONIZER WIRE SPRINGS, 20/SET	03-0559
PRE/AFTERFILTER - ALUMINUM MESH (ALL UNITS EXCEPT SH-6)	33-0001
SH-6 PRE/AFTERFILTER	33-0098
INSULATOR ASSEMBLY (CELL-TO-CABINET FEED-THRU)	02-0748
INSULATOR ASSEMBLY (IONIZER-TO-CABINET FEED-THRU)	02-0747
INSULATOR (CELL/CABINET INTERNALLY WIRED UNITS)	37-0012
INSULATOR (IONIZER/CABINET INTERNALLY WIRED UNITS)	37-0013
CONTACT SPRING, IONIZER- AND CELL-TO-CABINET OR -DOOR	36-0014
GROUND SPRING	36-0077
TRUSS HEAD SCREW	30-0082
ACORN NUT	30-0223

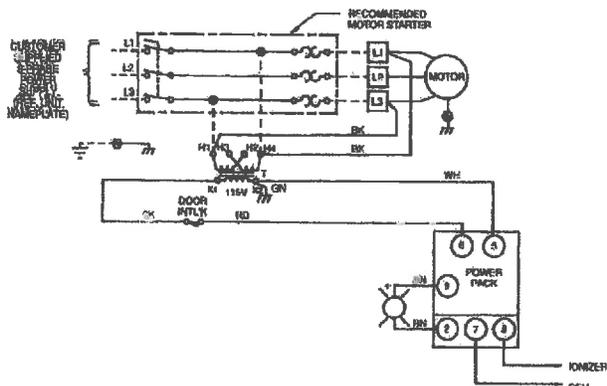
*UNITS WITH 6V INCANDESCENT LIGHTS

SH SERIES AIRFLOW CURVES

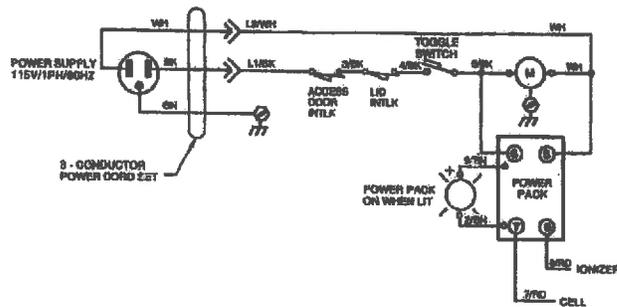


WIRING DIAGRAMS

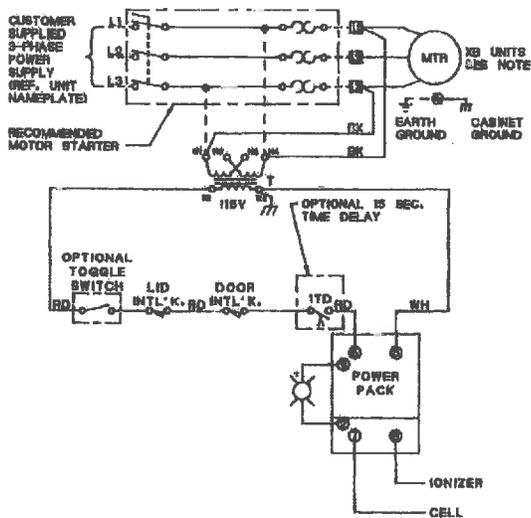
SH 6-PE



SH 10/20 - C

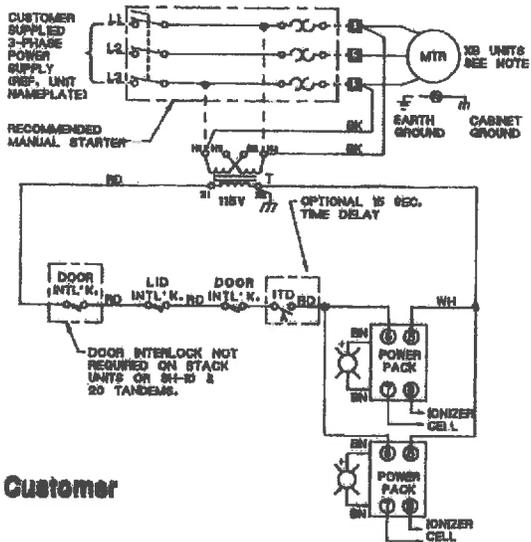


SH 10/20



XB UNITS (LESS MOTOR/MTR) CONTROLS & WIRING, TO BE SUPPLIED BY CUST./CONTR.

SH 40/80



XB UNITS (LESS MOTOR/MTR) CONTROLS & WIRING, TO BE SUPPLIED BY CUST./CONTR.

---Wiring By Customer

UNITED AIR SPECIALISTS, INC.
LIMITED WARRANTY

UAS warrants all equipment manufactured and sold by UAS against defective parts and workmanship for one year from date of shipment to Purchaser. This warranty is subject to the limitations in UAS' standard terms and conditions provided to Purchaser. Any unauthorized repairs or modifications or abnormal use or misuse of equipment will void all warranties. In no case will UAS' responsibility or warranty extend to equipment not manufactured by UAS.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT.

As Purchaser's exclusive remedy for any defects in the equipment, UAS will exchange or repair any defective parts during the warranty period, provided such parts are returned, prepaid, to UAS' factory. The obligation of UAS is limited to furnishing replacement parts F.O.B. UAS' factory or making repairs at UAS' factory of any parts which are determined, upon inspection by UAS, to be defective. UAS is not responsible for labor or transportation charges for the removal, reshipment or reinstallation of the parts.

IN NO EVENT WILL UAS BE RESPONSIBLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES.



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<http://www.uasinc.com>
An ISO 9001 Certified Company

MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet (MSDS) is for U.S. manufactured or distributed welding consumables and related products and may be used to comply with OSHA's Hazard Communication standard, 29 CFR 1910.1200, and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499. The OSHA standard must be consulted for specific requirements. This Safety Data Sheet complies with European Commission Directive 89/106/EEC, 91/155/EEC, ISO 11014-1 and ANSI Z400.1. This document is translated in several languages and available on our website at www.hobartbrothers.com, from your sales representative or by calling customer service at 1 (937) 332-4000.

SECTION 1 - IDENTIFICATION

Manufacturer Name: HOBART BROTHERS COMPANY
Address: 101 TRADE SQUARE EAST, TROY, OH 45373
Website: www.hobartbrothers.com
Telephone No: 1 (937) 332-4000
Emergency No: 1 (800) 424-9300

Products Type: TUBULAR ARC WELDING ELECTRODES FOR FLUX CORED, METAL CORED AND COMPOSITE SUBMERGED ARC WELDING

GROUP A: Product For: Gas Shielded Carbon and Low Alloy Steel
Trade Name: E71T-1M; ECLIPSE RXR-XLS, ULTIMET 716; EXCEL-ARC 71; FABCO 82HD, 85, 90, HORNET, RXR, RXR-XLS, TR70, XL-71; FABCOR 71, 80XLS, 86R, 96, 702, F6; ABDUAL T9M, T91M; FLUX-COR 2, 7, 37, 80A1; GALVACOR; HOBART E71T-GS; METAL-COR 6, 6L, 80D2, EN-VISION; METALLOY 70, 70R, 70X, 76, 80D2, EM12K-S, EM13K-S, X-CEL; SPEED-ALLOY 70, 71, 71A, 71-V, 719, 75, 105D2; SPEED-COR 6; SUPER-COR; TM 11, 22, 37, 55, 72, 73, 81A1, 95D2, 105D2, 711M, 791, 811A1, RX7; TRIPLE-7, 8; VERSATILE; VERTI-COR I, II, III; VISION AP70, HiDep 70, MetCOR 70

GROUP B: Product For: Self-Shielded Carbon Steel
Trade Name: FABSHIELD 4, 21B, 23, 55, 7027; SELF-SHIELD 4, 11, 11GS; SPEED-SHIELD 11, GS; TM 44, 121, 123

GROUP C: Product For: Carbon and Low Alloy Steel
Trade Name: ELEMENT 71Ni1C, 71Ni1M, 71T1C, 71T1M, 81K2C, 81K2M, FABCO 70XHP, 81K2-C, 91K2-C, 107G, 110, 110K3-M, 115, 712M, 750M, 803, 812 Ni1M, MIL-101-TM; FABCO XTREME 101, 120, B2, B3, B3V; FABCOR 100F3-S, 209, 1100, CVN, EDGE, EDGE MC; FABSHIELD 3Ni1, 71K6, 71T8, 81N1, 81N1+, 81N2, K54, XLNT-6, XLR-8, X80, X90, X100, OFFSHORE 71Ni, OFFSHORE 81Ni; FLUX-COR 90K2; FORMULA XL8Ni1, XL8Ni1-C, XL525, XL550; MATRIX; METAL-COR MAXIM; METALLOY 71, 71SG, 80B2, 80N1, 80N2, 90, 90B3, 100, 100F3-S, 110, 120-S, B2-S, B3-S, F2-S, N1-S, N2-S, VANTAGE, VANTAGE D2, VANTAGE Ni1, W-S; MIX2; PREMIER 70; PW-201; SPEED-ALLOY 81Ni1-V, 81Ni2-V, 85, 91B3, 111-V, 115, 125, 712, 712M, 790; TM 71 HYD, 81B2, 81N1, 81N2, 81W, 91B3, 91K2, 91N2, 95K2, 101K3, 111K3, 115, 125K4, 770, 771, 71HYN, 811B2, 811N1, 811N2, 811N3, 811W, 881K2, 910, 911B3, 911N2, 991K2, 101, 1101K3-C, 1101K3-M; VERTI-COR 70, 72, 81Ni2, 91B3, 91K2, 91Ni2, IIN1

GROUP D: Product For: Corrosion Resisting Steel
Trade Name: FABCOR 409; FABLOY 409, 439; FABTUF 960; METAL-COR 409, 409Cb, 439; METALLOY 18CrCb, 409, 439; POWERCORE 91; SPEED-ALLOY 5055; TM B6, B9

SECTION 2 - IDENTIFICATION OF HAZARDS

IMPORTANT - This section covers the hazardous materials from which this product is manufactured. The fumes and gases produced during welding with normal use of this product are also addressed in Section 8. The term "hazardous" in this section should be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200).

HAZARDOUS INGREDIENT	CAS	EINECS ^f	REGULATORY HAZARD CLASSIFICATION/DESIGNATION 67/548/EEC ^d	IARC ^e	NTP ²	OSHA ^h	65 ^g
ALUMINUM	7429-90-5	231-072-3	F - R10, R15, R17	---	---	---	---
ALUMINUM OXIDE	1344-28-1	215-691-6	None	---	---	---	---
ANTIMONY TRIOXIDE	1309-64-4	215-175-0	Carc 3 ^o - R40	2B	---	---	X
BARIUM FLOURIDE	7787-32-8	232-108-0	None	---	---	---	---
CALCIUM CARBONATE	1317-65-3	215-279-6	None	---	---	---	---
CERIUM OXIDE	1306-38-3	215-150-4	None	---	---	---	---
CHROMIUM	7440-47-3	231-157-5	O - R9; Carc 1 ^o - R45; Muta 2 - R46; Repr 3 - R62; T+ - R26; T - R24/25, R48/23; C - R35, R42/43; N - R50, R53 ^{1H}	1 st , 3 rd	K ¹²	X ¹²	X ¹²
COBALT	7440-48-4	231-158-0	Xn; R42/43, R53	2B	---	X	X
COPPER	7440-50-8	231-159-6	None	---	---	---	---
FLUORSPAR	7789-75-5	232-188-7	None	---	---	---	---
IRON	7439-89-6	231-096-4	None	---	---	---	---
IRON OXIDE	1309-37-1	215-168-2	None	3	---	---	---
LITHIUM CARBONATE	554-13-2	209-062-5	F - R14/15; C - R34 ¹	---	---	---	---
LITHIUM FLUORIDE	7789-24-4	232-152-0	F - R14/15; C - R34 ¹	---	---	---	---
LITHIUM OXIDE	12057-24-8	235-019-5	F - R14/15; C - R34 ¹	---	---	---	---
MAGNESIUM	7439-95-4	231-104-6	F - R11, R15, R17	---	---	---	---
MAGNESIUM OXIDE	1309-48-4	215-171-9	None	---	---	---	---
MANGANESE	7439-96-5	231-105-1	Xn - R20/22 ^y	---	---	---	---
MANGANESE OXIDE	1344-43-0	215-171-9	None	---	---	---	---
MOLYBDENUM	7439-98-7	231-107-2	Xn - R48/20/22; Xi - R36/37 ^x	---	---	---	---
NICKEL	7440-02-0	231-111-4	Carc 3 ^o - R40; T - R43, R48/23	1	K	X	X
SILICA	14808-60-7	238-878-4	Xn - R48/20, R40/20	1 ^ψ	K	X	X
(Amorphous Silica Fume)	69012-64-2	273-761-5	None	3	K	---	X
SILICON	7440-21-3	231-130-8	None	---	---	---	---
STRONTIUM FLUORIDE	7783-48-4	232-000-3	None	---	---	---	---
TITANIUM	7440-32-6	231-142-3	None	---	---	---	---
TITANIUM DIOXIDE	13463-67-7	236-675-5	None	2B	---	---	X
ZIRCONIUM	7440-67-7	231-176-9	F - R15, R17	---	---	---	---

f - European Inventory of Existing Chemical Substances Number Δ - European Union Directive 67/548/EEC - Annex 1 E - International Agency for Research on Cancer (1 - Human Carcinogen, 2A - Probably Carcinogenic to Humans, 2B - Possibly Carcinogenic to Humans, 3 - Unclassifiable as to Carcinogenicity in Humans, 4 Probably Not Carcinogenic to Humans) Z - US National Toxicology Program (K - Known Carcinogen, S - Suspected Carcinogen) H - OSHA Known Carcinogen List Θ - California Proposition 65 (X - On Proposition 65 list) --- Dashes indicate the ingredient is not listed with the IARC, NTP, OSHA or 65 Φ - Carcinogen, Mutagen or Reproductive Category per European Council Directive 67/548/EEC Annex I Σ - Metal and Chromium III Compounds ΣΣ - Chromium VI Compounds ΣΣΣ - Chromium (VI) Trioxide EU 67/548/EEC Classification/Designation Y - Manganese Dioxide EU 67/548/EEC Classification/Designation X - Molybdenum Trioxide EU 67/548/EEC Classification/Designation T - Lithium EU 67/548/EEC Classification/Designation ψ - Silica Crystalline α-Quartz

The following symbols correspond with the EU 67/548/EEC column above are in European Union Directive 67/548/EEC Annex 1 and EC 1272/2008 Annex VI - Table 3.2:

 F - Flammable	 Xn - Harmful	 Xi - Irritant	 O - Oxidizer
 C - Corrosive	 N - Dangerous for the Environment	 T - Toxic	 T+ - Extremely Toxic

WARNING! - Avoid breathing welding fumes and gases, they may be dangerous to your health. Always use adequate ventilation. Always use appropriate personal protective equipment.

PRIMARY ROUTES OF ENTRY: Respiratory System, Eyes and/or Skin.

ELECTRIC SHOCK: Arc welding and associated processes can kill. See Section 8.

ARC RAYS: The welding arc can injure eyes and burn skin.

FUMES AND GASES: Can be dangerous to your health.

MATERIAL SAFETY DATA SHEET

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures and electrodes used. Most fume ingredients are present as complex oxides and compounds and not as pure metals. When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in this section, plus those from the base metal and coating, etc., as noted above. Monitor for the materials identified in the list within this section.

Fumes from the use of this product may contain complex oxides or compounds of the following elements and molecules: amorphous silica fume, antimony trioxide, barium, calcium oxide, chromium, cobalt, copper, fluorospar or fluorides, lithium, manganese, nickel, silica and strontium. Other reasonably expected constituents of the fume would also include complex oxides of iron, titanium, silicon and molybdenum. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 and F1.3, available from the "American Welding Society", 8669 Doral Blvd., Suite 130, Doral, FL 33166.

SECTION 3 - HAZARDOUS INGREDIENTS

INGREDIENT	CAS	EINECS	GROUP AND %WEIGHT				INGREDIENT	CAS	EINECS	GROUP AND %WEIGHT			
			A	B	C	D				A	B	C	D
ALUMINUM	7429-90-5	231-072-3	<2	<5	<3 ⁽⁶⁾	---	LITHIUM OXIDE	12057-24-8	235-019-5	---	---	<2	---
ALUMINUM OXIDE	1344-28-1	215-691-6	---	---	<3	---	MAGNESIUM	7439-95-4	231-104-6	---	<3	<2	---
ANTIMONY TRIOXIDE	1309-64-4	215-175-0	---	---	<1 ⁽¹²⁾	---	MAGNESIUM OXIDE	1309-48-4	215-171-9	---	<3	<2	---
BARIUM FLOURIDE	7787-32-8	232-108-0	---	<1 ⁽¹⁾	<1 ⁽⁸⁾	---	MANGANESE	7439-96-5	231-105-1	<5	<2	<4	<2
CALCIUM CARBONATE	1317-65-3	215-279-6	<2	<2 ⁽⁷⁾	---	---	MANGANESE OXIDE	1344-43-0	215-171-9	---	---	<2	---
CERIUM OXIDE	1306-38-3	215-150-4	---	---	<2 ⁽¹¹⁾	---	MOLYBDENUM	7439-98-7	231-107-2	<1	---	<2	<2
CHROMIUM	7440-47-3	231-157-5	---	---	<3	5-20	NICKEL	7440-02-0	231-111-4	---	---	<4	<1
COBALT	7440-48-4	231-158-0	---	---	<1 ⁽¹⁰⁾	---	SILICA	14808-60-7	238-878-4	<2	<2	<2	---
COPPER	7440-50-8	231-159-6	<1 ⁽²⁾	---	<2 ⁽²⁾	---	(Amorphous Silica Fume)	69012-64-2	273-761-5	---	---	---	---
FLUOROSPAR	7789-75-5	232-188-7	<5 ⁽⁵⁾	<10	<5	---	SILICON	7440-21-3	231-130-8	<4	<2 ⁽⁴⁾	<4	<2
IRON	7439-89-6	231-096-4	75-98	75-95	75-98	75-95	STRONTIUM FLUORIDE	7783-48-4	232-000-3	---	<2 ⁽⁸⁾	---	---
IRON OXIDE	1309-37-1	215-168-2	---	---	<12	---	TITANIUM	7440-32-6	231-142-3	---	<2	<2	<2
LITHIUM CARBONATE	554-13-2	209-062-5	---	---	<2	---	TITANIUM DIOXIDE	13463-67-7	236-675-5	<10	<4 ⁽⁴⁾	<10	<2
LITHIUM FLUORIDE	7789-24-4	232-152-0	---	<2 ⁽⁹⁾	<2 ⁽⁹⁾	---	ZIRCONIUM	7440-67-7	231-176-9	---	---	<1	---

--- Dashes indicate the ingredient is not present within the group of products (1) Present only in FABSHIELD 21B, 23; TM 121, 123; SELF-SHIELD 11, 11GS (2) Present only in FABCO 110K3-M; GALVACOR; METALLOY WS; TM-81W, 811W (3) Present only in FABCO XTREME 120, B2, B3; FABSHIELD 3Ni1, 71K6, 71T8, 81N1, 81N1+, 81N2, XLNT-6, X90; FABSHIELD OFFSHORE 71Ni (4) Present only in FABSHIELD 55 (5) Present only in METALLOY EM13K-S; SPEED-ALLOY 105D2; TM 55, 75A1, 95D2, 105D2 (6) Present only in FABCO XTREME 120, B2, B3; FABSHIELD 3Ni1, 71K6, 71T8, 81N1, 81N1+, 81N2, XLNT-6; FABSHIELD OFFSHORE 71Ni (7) Present only in FABSHIELD 7027 (8) Present only in FABSHIELD 21B; TM 121 (9) Present only in FABCO 750M; FABSHIELD 7027 (10) Present only in FABSHIELD 71K6, 81N1, 81N2 (11) Present only in FABSHIELD 71T8, 81N1+, XLNT-6, X90; FABSHIELD OFFSHORE 71Ni; (12) Present only in FABCO CVN; MATRIX; METAL-COR MAXIM; METALLOY VANTAGE, VANTAGE CVN, VANTAGE D2, VANTAGE Ni1

SECTION 4 - FIRST AID MEASURES

INHALATION: If breathing is difficult provide fresh air and contact physician.

EYE/SKIN INJURIES: For radiation burns, see physician.

Section 11 of this MSDS covers the acute effects of overexposure to the various ingredients within the welding consumable. Section 8 of this MSDS lists the exposure limits and covers methods for protecting yourself and your co-workers.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, nonexplosive and essentially nonhazardous until welded. Welding arcs and sparks can ignite combustibles and flammable products. Unused welding consumables may remain hot for a period of time after completion of a welding process. See American National Standard (ANSI) Z49.1 for further general safety information on the use and handling of welding consumables and associated procedures.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Solid objects can be picked up and placed into a container. Wear proper personal protective equipment while handling. Do not discard as general trash.

SECTION 7 - HANDLING AND STORAGE

HANDLING: No specific requirements in the form supplied. Handle with care to avoid cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and product labels.

STORAGE: Keep separate from acids and strong bases to prevent possible chemical reactions.

SECTION 8 - EXPOSURE CONTROL AND PERSONAL PROTECTION

Read and understand the instructions and the labels on the packaging. Welding fumes do not have a specific OSHA PEL or ACGIH TLV. The OSHA PEL for Particulate - Not Otherwise Classified (PNOC) is 5 mg/m³ - Respirable Fraction, 15 mg/m³ - Total Dust. The ACGIH TLV for Particles - Not Otherwise Specified (PNOS) is 3 mg/m³ - Respirable Particles, 10 mg/m³ - Inhalable Particles. The individual complex compounds within the fume may have a lower OSHA PEL or ACGIH TLV than the OSHA Particulate - Not Otherwise Classified (PNOC) and ACGIH Particles - Not Otherwise Specified (PNOS). An Industrial Hygienist, the OSHA Permissible Exposure Limits for Air Contaminants (29 CFR 1910.1000), and the ACGIH Threshold Limit Values should be consulted to determine the specific fume constituents present and their respective exposure limits. European Union Occupational Exposure Limits (EU OEL) are listed with the most stringent limit among the EU member nations. All exposure limits are in milligrams per cubic meter (mg/m³).

INGREDIENT	CAS	EINECS	OSHA PEL	ACGIH TLV	EU OEL
ALUMINUM###	7429-90-5	231-072-3	5 R* (Dust)	1 R* {A4}	4 I*; 1.5 R* - Germany
ALUMINUM OXIDE###	1344-28-1	215-691-6	5 R*	1 R* {A4}	1.5 R* (Aerosol) - Germany; 2 - Poland
ANTIMONY TRIOXIDE	1309-64-4	215-175-0	0.5 (as Sb)	0.5 (as Sb) {A2}	0.1 I*; 0.4*** - Hungary
BARIUM FLOURIDE#	7787-32-8	232-108-0	0.5 (as Ba)	0.5 (as Ba) {A4}	0.1 I* (Aerosol); 0.4*** (Aerosol) - Austria
CALCIUM CARBONATE	1317-65-3	215-279-6	5 R*, 5 (as CaO)	3 R*, 2 (as CaO)	0.5 I* (Aerosol as Ba), 4*** (Aerosol as Ba) - Germany
CERIUM OXIDE	1306-38-3	215-150-4	5 R* (Dust), 15 (Dust)	3 R* (Dust), 10 (Dust)	10 I* (Aerosol) - UK; 3 R* (Aerosol) - Switzerland
CHROMIUM#	7440-47-3	231-157-5	1 (Metal)	0.5 (Metal) {A4}	4 I*; 1.5 R* (as Dust - NOS) - Germany
			0.5 (Cr II & Cr III Cpnds)	0.5 (Cr III Cpnds) {A4}	0.1 I* (Aerosol) - Switzerland
			0.005 (Cr VI Cpnds)	0.05 (Cr VI Sol Cpnds) {A1}	0.005; 0.01*** - Denmark
				0.01 (Cr VI Insol Cpnds) {A1}	0.005 (Total Aerosol); 0.015*** (Total Aerosol) - Sweden
COBALT	7440-48-4	231-158-0	0.1 (Dust and Fume)	0.02 {A3}	0.01 I*; 0.02*** - Denmark
COPPER	7440-50-8	231-159-6	0.1 (Fume), 1 (Dust)	0.2 (Fume), 1 (Dust)	0.1 I* (Aerosol); 0.2 I*** (Aerosol) - Germany
					0.1; 0.2*** - Denmark
FLUOROSPAR	7789-75-5	232-188-7	2.5 (as F)	2.5 (as F) {A4}	1 I* (Aerosol as F); 4*** (Aerosol as F) - Germany
IRON+	7439-89-6	231-096-4	5 R*	5 R* (Fe ₂ O ₃) {A4}	3 R* (Aerosol as Fe ₂ O ₃) - Switzerland
					7*** (as Fe ₂ O ₃) - Denmark
IRON OXIDE	1309-37-1	215-168-2	10 (Oxide Fume)	5 R* (Fe ₂ O ₃) {A4}	3 R* (Aerosol as Fe ₂ O ₃) - Switzerland
					7*** (as Fe ₂ O ₃) - Denmark
LITHIUM CARBONATE	554-13-2	209-062-5	5 R* (Dust), 15 (Dust)	3 R* (Dust), 10 (Dust)	4 I*; 1.5 R* (as Dust - NOS) - Germany
LITHIUM FLUORIDE	7789-24-4	232-152-0	2.5 (as F)	2.5 (as F) {A4}	2.5 - UK
LITHIUM OXIDE	12057-24-8	235-019-5	1 ■ ■	3 R* (Dust), 10 (Dust)	4 I*; 1.5 R* (as Dust - NOS) - Germany
MAGNESIUM+	7439-95-4	231-104-6	5 R*	3 R*	3 R* (Aerosol) - Switzerland

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MAGNESIUM OXIDE	1309-48-4	215-171-9	15 (Fume, Total Part)	10 I* {A4}	4 I* (Aerosol); 1.5 R*** (Aerosol) - Germany 3 R* (Aerosol as Mg) - Switzerland
MANGANESE#	7439-96-5	231-105-1	5 CL ** (Fume) 1, 3 STEL*** ■	0.1 I* {A4} 0.02 R*	4 I* (Aerosol as Mg); 1.5 R*** (Aerosol as Mg) - Germany 0.02 R* (Aerosol); 0.16 R*** (Aerosol) - Germany 0.2 I* (Aerosol) - Germany
MANGANESE OXIDE	1344-43-0	215-171-9	5 CL ** (Fume) 1, 3 STEL*** ■	0.1 I* {A4} 0.02 R*	0.2; 0.4*** - Denmark 0.02 R* (Aerosol); 0.16 R*** (Aerosol) - Germany 0.2 I* (Aerosol) - Germany
MOLYBDENUM	7439-98-7	231-107-2	5 R*	3 R*; 10 I* (Ele and Insol) 0.5 R* (Sol Cpnds) {A3}	0.2; 0.4*** - Denmark 3 R* - Spain; 4; 10*** - Poland
NICKEL#	7440-02-0	231-111-4	1 (Metal) 1 (Sol Cpnds) 1 (Insol Cpnds)	1.5 I* (Ele) {A5} 0.1 I* (Sol Cpnds) {A4}	0.05; 0.1*** - Denmark
SILICA++	14808-60-7	238-878-4	0.1 R*	0.2 I* (Insol Cpnds) {A1} 0.025 R* {A2}	0.1 (Fused, Respirable Dust) - Denmark 0.2*** (Fused, Respirable Dust) - Denmark
(Amorphous Silica Fume)	69012-64-2	273-761-5	0.8	3 R*	2 I*; 4 I*** - Denmark
SILICON+	7440-21-3	231-130-8	5 R*	3 R*	4 R* (Aerosol); 10 I* (Aerosol) - Denmark
STRONTIUM FLUORIDE	7783-48-4	232-000-3	2.5 (as F)	2.5 (as F) {A4}	1 I* (Aerosol as F); 4*** (Aerosol as F) - Germany
TITANIUM+	7440-32-6	231-142-3	5 R*	3 R*	1.5 R* (as TiO ₂) - Germany
TITANIUM DIOXIDE	13463-67-7	236-675-5	15 (Dust)	10 {A4}	1.5 R* - Germany
ZIRCONIUM	7440-67-7	231-176-9	5 (Zr Cpnds)	5, 10 STEL*** (Zr Cpnds) {A4}	1 I* (Aerosol); 0.1 I*** (Aerosol) - Germany

R* - Respirable Fraction R*** - Respirable Fraction - Short Term Exposure Limit I* - Inhalable Fraction I*** - Inhalable Fraction - Short Term Exposure Limit ** - Ceiling Limit *** - Short Term Exposure Limit + - As a nuisance particulate covered under "Particulates Not Otherwise Regulated" by OSHA or "Particulates Not Otherwise Classified" by ACGIH ++ - Crystalline silica is bound within the product as it exists in the package. However, research indicates silica is present in welding fume in the amorphous (noncrystalline) form #- Reportable material under Section 313 of SARA ## - Reportable material under Section 313 of SARA only in fibrous form ### - Reportable material under Section 313 of SARA as dust or fume ■ - NIOSH REL TWA and STEL ■■ - AIHA Ceiling Limit of 1 mg/m³ Ele - Element Sol - Soluble Insol - Insoluble Inorg - Inorganic Cpnds - Compounds NOS - Not Otherwise Specified {A1} - Confirmed Human Carcinogen per ACGIH {A2} - Suspected Human Carcinogen per ACGIH {A3} - Confirmed Animal Carcinogen with Unknown Relevance to Humans per ACGIH {A4} - Not Classifiable as a Human Carcinogen per ACGIH {A5} - Not Suspected as a Human Carcinogen per ACGIH (noncrystalline) form

VENTILATION: Use enough ventilation, local exhaust at the arc or both to keep the fumes and gases below the PEL/TLV/OELs in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

RESPIRATORY PROTECTION: Use NIOSH approved or equivalent fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below the regulatory limits.

EYE PROTECTION: Wear helmet or use face shield with filter lens. As a rule of thumb begin with Shade Number 14. Adjust if needed by selecting the next lighter and/or darker shade number. Provide protective screens and flash goggles, if necessary, to shield others from the weld arc flash.

PROTECTIVE CLOTHING: Wear hand, head and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection as well as dark nonsynthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

PROCEDURE FOR CLEANUP OF SPILLS OR LEAKS: Not applicable

SPECIAL PRECAUTIONS (IMPORTANT): Maintain exposure below the PEL/TLV/OEL. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLV/OEL. Always use exhaust ventilation. Refer to the following sources for important additional information: American National Standard (ANSI) Z49.1; Safety in Welding and Cutting published by the American Welding Society, 8669 Doral Blvd., Suite 130, Doral, FL 33166 and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington, DC 20402.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Welding consumables applicable to this sheet as shipped are nonreactive, nonflammable, nonexplosive and essentially nonhazardous until welded.

PHYSICAL STATE: Cored Wire

COLOR: Gray

ODOR: N/A

FORM: Round Wire

SECTION 10 - STABILITY AND REACTIVITY

GENERAL: Welding consumables applicable to this sheet are solid and nonvolatile as shipped. This product is only intended for use per the welding parameters it was designed for. When this product is used for welding, hazardous fumes may be created. Other factors to consider include the base metal, base metal preparation and base metal coatings. All of these factors can contribute to the fume and gases generated during welding. The amount of fume varies with the welding parameters.

STABILITY: This product is stable under normal conditions.

REACTIVITY: Contact with acids or strong bases may cause generation of gas.

SECTION 11 - TOXICOLOGICAL INFORMATION

SHORT-TERM (ACUTE) OVEREXPOSURE EFFECTS: **Welding Fumes** - May result in discomfort such as dizziness, nausea or dryness or irritation of nose, throat or eyes.

Aluminum Oxide - Irritation of the respiratory system. **Antimony Compounds** - Irritation of nose, throat, eyes and skin. **Barium** - Aching eyes, rhinitis, frontal headache, wheezing, laryngeal spasms, salivation or anorexia. **Calcium Oxide** - Dust or fumes may cause irritation of the respiratory system, skin and eyes. **Chromium** - Inhalation of fume with chromium (VI) compounds can cause irritation of the respiratory tract, lung damage and asthma-like symptoms. Swallowing chromium (VI) salts can cause severe injury or death. Dust on skin can form ulcers. Eyes may be burned by chromium (VI) compounds. Allergic reactions may occur in some people. **Cobalt** - Pulmonary irritation, cough, dermatitis, weight loss. **Copper** - Metal fume fever characterized by metallic taste, tightness of chest and fever. Symptoms may last 24 to 48 hours following overexposure. **Fluorides** - Fluoride compounds evolved may cause skin and eye burns, pulmonary edema and bronchitis. **Iron, Iron Oxide** - None are known. Treat as nuisance dust or fume. **Lithium Compounds** - Overexposure may cause tremor and nausea. **Magnesium, Magnesium Oxide** - Overexposure to the oxide may cause metal fume fever characterized by metallic taste, tightness of chest and fever. Symptoms may last 24 to 48 hours following overexposure. **Manganese, Manganese Oxide** - Metal fume fever characterized by chills, fever, upset stomach, vomiting, irritation of the throat and aching of body. Recovery is generally complete within 48 hours of the overexposure. **Molybdenum, Cerium Oxide** - Irritation of the eyes, nose and throat. **Nickel, Nickel Compounds** - Metallic taste, nausea, tightness in chest, metal fume fever, allergic reaction. **Silica (Amorphous)** - Dust and fumes may cause irritation of the respiratory system, skin and eyes. **Strontium Compounds** - Strontium salts are generally non-toxic and are normally present in the human body. In large oral doses, they may cause gastrointestinal disorders, vomiting and diarrhea. **Titanium Dioxide** - Irritation of respiratory system. **Zirconium** - May cause irritation of the eyes, nose and throat due to mechanical effects.

LONG-TERM (CHRONIC) OVEREXPOSURE EFFECTS: **Welding Fumes** - Excess levels may cause bronchial asthma, lung fibrosis, pneumoconiosis or "siderosis." **Aluminum Oxide** - Pulmonary fibrosis and emphysema. **Antimony Compounds** - Metal fume fever, dermatitis, keratitis, conjunctivitis and ulceration and perforation of the nasal septum. Avoid conditions in which fresh hydrogen will react with antimony to form stibine which is extremely toxic. **Barium** - Long term overexposure to soluble barium compounds may cause nervous disorders and may have deleterious effects on the heart, circulatory system and musculature. **Calcium Oxide** - Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia. **Chromium** - Ulceration and perforation of nasal septum. Respiratory irritation may occur with symptoms resembling asthma. Studies have shown that chromate production workers exposed to hexavalent chromium compounds have an excess of lung cancers. Chromium (VI) compounds are more readily absorbed through the skin than chromium (III) compounds. Good practice requires the reduction of employee exposure to chromium (III) and (VI) compounds. **Cobalt** - Repeated overexposure to cobalt compounds can produce reduced pulmonary function, diffuse nodular fibrosis of lungs and respiratory hypersensitivity. **Copper** - Copper poisoning has been reported in the literature from exposure to high levels of copper. Liver damage can occur due to copper accumulating in the liver characterized by cell destruction and cirrhosis. High levels of copper may cause anemia and jaundice. High levels of copper may cause central nervous system damage characterized by nerve fiber separation and cerebral degeneration. **Fluorides** - Serious bone erosion (Osteoporosis) and mottling of teeth. **Iron, Iron Oxide Fumes** - Can cause siderosis (deposits of iron in lungs) which some researchers believe may affect pulmonary function. Lungs will clear in time when exposure to iron and its compounds ceases. Iron and magnetite (Fe₃O₄) are not regarded as fibrogenic materials. **Lithium Compounds** - May be considered as potentially teratogenic. **Magnesium, Magnesium Oxide** - No adverse long term health effects have been reported in the literature. **Manganese, Manganese Oxide** - Long-term overexposure to manganese compounds may affect the central nervous system. Symptoms may be similar to Parkinson's disease and can include slowness, changes in handwriting, gait impairment, muscle spasms and cramps and less commonly, tremor and behavioral changes. Employees who are overexposed to manganese compounds should be seen by a

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physician for early detection of neurologic problems. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. **Molybdenum, Cerium Oxide** - Prolonged overexposure may result in loss of appetite, weight loss, loss of muscle coordination, difficulty in breathing and anemia. **Nickel, Nickel Compounds** - Lung fibrosis or pneumoconiosis. Studies of nickel refinery workers indicated a higher incidence of lung and nasal cancers. **Silica (Amorphous)** - Research indicates that silica is present in welding fume in the amorphous form. Long term overexposure may cause pneumoconiosis. Noncrystalline forms of silica (amorphous silica) are considered to have little fibrotic potential. **Strontium Compounds** - Strontium at high doses is known to concentrate in bone. Major signs of chronic toxicity, which involve the skeleton, have been labeled as "strontium rickets". **Titanium Dioxide** - Pulmonary irritation and slight fibrosis. **Zirconium** - May cause pulmonary fibrosis and pneumoconiosis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing impaired lung functions (asthma-like conditions). Persons with a pacemaker should not go near welding and cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device. Respirators are to be worn only after being medically cleared by your company-designated physician.

EMERGENCY AND FIRST AID PROCEDURES: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. If irritation or flash burns develop after exposure, consult a physician.

CARCINOGENICITY: Chromium VI compounds, nickel compounds and silica (crystalline quartz) are classified as IARC Group 1 and NTP Group K carcinogens. Titanium dioxide, antimony trioxide compounds and cobalt compounds are classified as IARC Group 2B carcinogens. Chromium VI compounds, cobalt compounds, nickel compounds, silica (crystalline quartz) and welding fumes must be considered as carcinogens under OSHA (29 CFR 1910.1200).

CALIFORNIA PROPOSITION 65: For Group C and D products: **WARNING:** This product contains or produces a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et seq.) For Group A and B products: **WARNING:** This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

SECTION 12 - ECOLOGICAL INFORMATION

Welding processes can release fumes directly to the environment. Welding wire can degrade if left outside and unprotected. Residues from welding consumables and processes could degrade and accumulate in the soil and groundwater.

SECTION 13 - DISPOSAL CONSIDERATIONS

Use recycling procedures if available. Discard any product, residue, packaging, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

SECTION 14 - TRANSPORT INFORMATION

No international regulations or restrictions are applicable. No special precautions are necessary.

SECTION 15 - REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label and the material safety data sheet. Observe all local and federal rules and regulations. Take all necessary precautions to protect yourself and others.

United States EPA Toxic Substance Control Act: All constituents of these products are on the TSCA inventory list or are excluded from listing.

CERCLA/SARA TITLE III: Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs):

Ingredient name	RQ(lb)	TPQ (lb)
Products on this MSDS are a solid solution in the form of a solid article.	---	---

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

Section 311 Hazard Class

As shipped: Immediate	In use: Immediate delayed
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EPCRA/SARA TITLE III 313 TOXIC CHEMICALS: The following metallic components are listed as SARA 313 "Toxic Chemicals" and potentially subject to annual SARA 312 reporting: Antimony Trioxide, Chromium, Cobalt, Copper, Lithium Carbonate, Manganese, and Nickel. See Section 3 for weight percentage.

CANADIAN WHMIS CLASSIFICATION: Class D; Division 2, Subdivision A

CANADIAN CONTROLLED PRODUCTS REGULATION: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

SECTION 16 - OTHER INFORMATION

The following Risk and Safety Phrase Texts and Hazard Statements correspond with the columns labeled - EU 67/548/EEC within Section 2 of this material safety data sheet. Take appropriate precautions and protective measures to eliminate or limit the associated hazard.

EU Directive 67/548/EEC - Risk Phrase Texts

R9 - Explosive when mixed with combustible material	R24/25 - Toxic in contact with skin and if swallowed	R42/43 - May cause sensitization by inhalation and skin contact	R48/20/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
R10 - Flammable	R26 - Very toxic by inhalation	R43 - May cause sensitization by skin contact	R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation
R11 - Highly flammable	R34 - Causes burns	R45 - May cause cancer	R50 - Very toxic to aquatic organisms
R14/15 - Reacts violently with water, liberating extremely flammable gases	R35 - Causes severe burns	R46 - May cause heritable genetic damage	R53 - May cause long-term adverse effects in the aquatic environment
R15 - Contact with water liberates extremely flammable gases	R36/37 - Irritating to eyes and respiratory system	R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation	R62 - Possible risk of impaired fertility
R17 - Spontaneously flammable in air	R40 - Limited evidence of a carcinogenic effect		
R20/22 - Harmful by inhalation and if swallowed	R40/20 - Harmful: possible risk of irreversible effects through inhalation		

For additional information please refer to the following sources:

USA: American National Standard (ANSI) Z49.1 "Safety in Welding and Cutting", ANSI/American Welding Society (AWS) F1.5 "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes", AWSF3.2M/F3.2 "Ventilation Guide for Weld Fume", American Welding Society, 8669 Doral Blvd., Suite 130, Doral, FL 33166. Safety and Health Fact Sheets available from AWS at www.aws.org.

OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Hygienists (ACGIH), 6500 Glenway Ave., Cincinnati, Ohio 45211, USA.

NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.

UK: WMA Publication 236 and 237, "Hazards from Welding Fume", "The arc welder at work, some general aspects of health and safety".

Canada: CSA Standard CAN/CSA-W117.2-01 "Safety in Welding, Cutting and Allied Processes".

Hobart Brothers Company strongly recommends the users of this product study this MSDS, the product label information and become aware of all hazards associated with welding. Hobart Brothers Company believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Hobart Brothers Company cannot make any expressed or implied warranty as to this information.

MATERIAL SAFETY DATA SHEET

F75KXR7050-1426
00 01

DATE OF PREPARATION
Nov 7, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

F75KXR7050-1426

PRODUCT NAME

KEM* 400 Enamel, Mustang

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
<i>*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)</i>	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
6	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
33	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	
0.1	136-52-7	Cobalt 2-Ethylhexanoate		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
6	108-65-6	1-Methoxy-2-Propanol Acetate		
		ACGIH TLV	Not Available	1.8 mm
		OSHA PEL	Not Available	
1	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	
0.3	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.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

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

SIGNS AND SYMPTOMS OF OVEREXPOSURE

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

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

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

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT 73 °F TCC	LEL 0.9	UEL 13.1	FLAMMABILITY CLASSIFICATION RED LABEL -- Flammable, Flash below 100 °F (38 °C)
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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 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.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.27 lb/gal	991 g/l
SPECIFIC GRAVITY	1.00	
BOILING POINT	240 - 325 °F	115 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	60%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
4.32 lb/gal	518 g/l	Less Water and Federally Exempt Solvents
4.32 lb/gal	518 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY**STABILITY — Stable****CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION**CHRONIC HEALTH HAZARDS**

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

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Cobalt and cobalt compounds are classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity.

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

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.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
64742-89-8	V. M. & P. Naphtha	LC50 RAT LD50 RAT	4HR	Not Available Not Available
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 mg/kg
1330-20-7	Xylene	LC50 RAT LD50 RAT	4HR	5000 ppm 4300 mg/kg
136-52-7	Cobalt 2-Ethylhexanoate	LC50 RAT LD50 RAT	4HR	Not Available Not Available
108-65-6	1-Methoxy-2-Propanol Acetate	LC50 RAT LD50 RAT	4HR	Not Available 8500 mg/kg
13463-67-7	Titanium Dioxide	LC50 RAT LD50 RAT	4HR	Not Available Not Available
1333-86-4	Carbon Black	LC50 RAT LD50 RAT	4HR	Not Available Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

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

US Ground (DOT)

5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. OR ORM-D

Larger Containers are Regulated as:

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

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Ethylbenzene 1000 lb RQ

Xylenes (isomers and mixture) 100 lb RQ

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

RQ, UN1263, PAINT, 3, PG III, (XYLENES (ISOMERS AND MIXTURE)),

(ERG#128)

Canada (TDG)

UN1263, PAINT, CLASS 3, PG III, LIMITED QUANTITY, (ERG#128)

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1263, PAINT, CLASS 3, PG III, (23 C c.c.), EmS F-E, S-E, ADR (D/E)

IATA/ICAO

UN1263, PAINT, 3, PG III

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	6	
1330-20-7	Xylene	33	
	Cobalt Compound	0.1	0.02

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

F75KXN7091-1426
00 01

DATE OF PREPARATION
Sep 17, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

F75KXN7091-1426

PRODUCT NAME

KEM* 400 Enamel, English Saddle

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
<small>*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)</small>	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
6	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
37	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	
0.1	136-52-7	Cobalt 2-Ethylhexanoate		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
7	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
0.1	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.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

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

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

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

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

72 °F TCC

LEL

0.9

UEL

7.0

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.

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.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.62 lb/gal	1032 g/l
SPECIFIC GRAVITY	1.04	
BOILING POINT	240 - 325 °F	115 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	64%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
4.54 lb/gal	544 g/l	Less Water and Federally Exempt Solvents
4.54 lb/gal	544 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY**STABILITY — Stable****CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION**CHRONIC HEALTH HAZARDS**

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

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Cobalt and cobalt compounds are classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity.

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

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.

TOXICOLOGY DATA

CAS No.	Ingredient Name	LC50 RAT	LD50 RAT	4HR	Not Available
64742-89-8	V. M. & P. Naphtha				Not Available
100-41-4	Ethylbenzene				Not Available
1330-20-7	Xylene				3500 mg/kg
136-52-7	Cobalt 2-Ethylhexanoate				5000 ppm
13463-67-7	Titanium Dioxide				4300 mg/kg
1333-86-4	Carbon Black				Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
 No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

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

SECTION 14 — TRANSPORT INFORMATION

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

- US Ground (DOT)**
 5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. OR ORM-D
 Larger Containers are Regulated as:
 UN1263, PAINT, 3, PG II, (ERG#128)
- DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities**
 Ethyl benzene 1000 lb RQ
 Xylenes (isomers and mixture) 100 lb RQ
- Bulk Containers may be Shipped as (check reportable quantities):**
 RQ, UN1263, PAINT, 3, PG II, (XYLENES (ISOMERS AND MIXTURE)), (ERG#128)
- Canada (TDG)**
 UN1263, PAINT, CLASS 3, PG II, (ERG#128)
- IMO**
 5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
 UN1263, PAINT, CLASS 3, PG II, (22 C c.c.), EmS F-E, S-E, ADR (D/E)
- IATA/ICAO**
 UN1263, PAINT, 3, PG II

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	6	
1330-20-7	Xylene	37	
	Cobalt Compound	0.1	0.02

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

F75KXN7090-1426
00 01

DATE OF PREPARATION
Jan 17, 2013

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

F75KXN7090-1426

PRODUCT NAME

KEM* 400 Enamel, Tan

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
<small>*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)</small>	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
6	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
37	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	
0.1	136-52-7	Cobalt 2-Ethylhexanoate		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
9	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

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

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

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**

72 °F TCC

LEL

0.9

UEL

7.0

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.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

DOL Storage Class IB

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGEContents 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.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.71 lb/gal	1043 g/l
SPECIFIC GRAVITY	1.05	
BOILING POINT	240 - 325 °F	115 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	64%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
4.56 lb/gal	546 g/l	Less Water and Federally Exempt Solvents
4.56 lb/gal	546 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY**STABILITY — Stable**
CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION**CHRONIC HEALTH HAZARDS**

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Cobalt and cobalt compounds are classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity.

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

TOXICOLOGY DATA

CAS No.	Ingredient Name			
64742-89-8	V. M. & P. Naphtha	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
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
136-52-7	Cobalt 2-Ethylhexanoate	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
13463-67-7	Titanium Dioxide	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

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

SECTION 14 — TRANSPORT INFORMATION

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

US Ground (DOT)

5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. OR ORM-D

Larger Containers are Regulated as:

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

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Ethylbenzene 1000 lb RQ

Xylenes (isomers and mixture) 100 lb RQ

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

RQ, UN1263, PAINT, 3, PG II, (XYLENES (ISOMERS AND MIXTURE)), (ERG#128)

Canada (TDG)

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

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1263, PAINT, CLASS 3, PG II, (22 C c.c.), EmS F-E, S-E, ADR (D/E)

IATA/ICAO

UN1263, PAINT, 3, PG II

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	6	
1330-20-7	Xylene	37	
	Cobalt Compound	0.1	0.02

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

F75KXL7051-1426
00 01

DATE OF PREPARATION
Sep 4, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

F75KXL7051-1426

PRODUCT NAME

KEM* 400 Enamel, Horizon Blue

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
<i>*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)</i>	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
7	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
38	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	
0.1	136-52-7	Cobalt 2-Ethylhexanoate		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
1	108-65-6	1-Methoxy-2-Propanol Acetate		
		ACGIH TLV	Not Available	1.8 mm
		OSHA PEL	Not Available	
5	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

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

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

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

- the liver
- the urinary system

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

- the hematopoietic (blood-forming) system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

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

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

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

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT

72 °F TCC

LEL

0.9

UEL

13.1

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

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.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.37 lb/gal	1003 g/l
SPECIFIC GRAVITY	1.01	
BOILING POINT	240 - 325 °F	115 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	64%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
4.52 lb/gal	542 g/l	Less Water and Federally Exempt Solvents
4.52 lb/gal	542 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable**CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

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

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Cobalt and cobalt compounds are classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity.

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

TOXICOLOGY DATA

CAS No.	Ingredient Name			
64742-89-8	V. M. & P. Naphtha	LC50 RAT LD50 RAT	4HR	Not Available Not Available
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 mg/kg
1330-20-7	Xylene	LC50 RAT LD50 RAT	4HR	5000 ppm 4300 mg/kg
136-52-7	Cobalt 2-Ethylhexanoate	LC50 RAT LD50 RAT	4HR	Not Available Not Available
108-65-6	1-Methoxy-2-Propanol Acetate	LC50 RAT LD50 RAT	4HR	Not Available 8500 mg/kg
13463-67-7	Titanium Dioxide	LC50 RAT LD50 RAT	4HR	Not Available Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

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

SECTION 14 — TRANSPORT INFORMATION

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

US Ground (DOT)

5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. OR ORM-D

Larger Containers are Regulated as:

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

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Ethyl benzene 1000 lb RQ

Xylenes (isomers and mixture) 100 lb RQ

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

RQ, UN1263, PAINT, 3, PG II, (XYLENES (ISOMERS AND MIXTURE)), (ERG#128)

Canada (TDG)

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

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1263, PAINT, CLASS 3, PG II, (22 C c.c.), EmS F-E, S-E, ADR (D/E)

IATA/ICAO

UN1263, PAINT, 3, PG II

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	7	
1330-20-7	Xylene	38	
	Cobalt Compound	0.1	0.02

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

F75KXA7089-1426
00 01

DATE OF PREPARATION
Sep 17, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

F75KXA7089-1426

PRODUCT NAME

KEM* 400 Enamel, Ash

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
<i>*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)</i>	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
7	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
7	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
38	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	
0.1	136-52-7	Cobalt 2-Ethylhexanoate		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
5	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	
0.3	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.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

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

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

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

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

72 °F TCC

LEL

0.9

UEL

7.0

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.

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.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.34 lb/gal	999 g/l
SPECIFIC GRAVITY	1.00	
BOILING POINT	240 - 325 °F	115 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	64%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	4.54 lb/gal	544 g/l
	Less Water and Federally Exempt Solvents	
	4.54 lb/gal	544 g/l
	Emitted VOC	

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable**CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

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

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Cobalt and cobalt compounds are classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity.

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

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.

TOXICOLOGY DATA

CAS No.	Ingredient Name	LC50 RAT	LD50 RAT	4HR	Not Available
64742-89-8	V. M. & P. Naphtha				Not Available
100-41-4	Ethylbenzene				Not Available
1330-20-7	Xylene				3500 mg/kg
136-52-7	Cobalt 2-Ethylhexanoate				5000 ppm
13463-67-7	Titanium Dioxide				4300 mg/kg
1333-86-4	Carbon Black				Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

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

SECTION 14 — TRANSPORT INFORMATION

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

- US Ground (DOT)**
5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. OR ORM-D
Larger Containers are Regulated as:
UN1263, PAINT, 3, PG II, (ERG#128)
- DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities**
Ethyl benzene 1000 lb RQ
Xylenes (isomers and mixture) 100 lb RQ
- Bulk Containers may be Shipped as (check reportable quantities):**
RQ, UN1263, PAINT, 3, PG II, (XYLENES (ISOMERS AND MIXTURE)), (ERG#128)
- Canada (TDG)**
UN1263, PAINT, CLASS 3, PG II, (ERG#128)
- IMO**
5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, CLASS 3, PG II, (22 C c.c.), EmS F-E, S-E, ADR (D/E)
- IATA/CAO**
UN1263, PAINT, 3, PG II

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	7	
1330-20-7	Xylene	38	
	Cobalt Compound	0.1	0.02

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.

hemorrhage (bleeding) and may be fatal.***
XYLENE/ETHYL BENZENE: Ingestion produces similar effects to vapor inhalation. The liquid causes damage to stomach and intestinal linings.

CHRONIC HEALTH RISKS

Prolonged or repeated exposure to solvents may cause permanent brain and nervous system damage, including memory loss and impairment of coordination and reaction time. May cause toxic brain disease (encephalopathy), associated with brain tissue death. May cause liver and kidney damage. Inhaling concentrated vapors is harmful and may be fatal.

XYLENE/ETHYL BENZENE: Can interfere with motor functions in exposed workers, loss of appetite, nausea, headache, dizziness, sleeplessness, indigestion, nose bleeds, liver and kidney damage, toxic brain disease (encephalopathy), dementia (loss of memory), and other neurological disorders. Experimental animals experienced teratogenic and reproductive effects. Temporary blood disorders and kidney damage has been observed in male rats.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Exposure for employees with a history of certain medical conditions such as skin, liver, kidney, eye, chronic respiratory, central and peripheral nervous system disease may have an increased risk from exposure to this material.

SECTION 4 - FIRST AID MEASURES

EYE AND SKIN CONTACT: In case of contact, immediately flush eyes (lifting eyelids occasionally) or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

INGESTION: If swallowed, do not induce vomiting. Get medical attention immediately.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT: 81 F / 27 C

FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: .8 **UPPER:** 7

EXTINGUISHING MEDIA: Foam, Alcohol foam, CO2, Dry chemical, Water fog.

SPECIAL FIREFIGHTING PROCEDURES: Hazardous decomposition products may form from incomplete combustion. Wear full protection gear with self-contained positive pressure breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLAMMABLE LIQUID AND VAPORS!! Closed container can build pressure from heat and rupture violently. Volatile vapors can burn in the open or explode if confined. Vapor is heavier than air and can travel long distances to source of ignition.

MATERIAL SAFETY DATA SHEET

3T2 XYLENE THINNER

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Evacuate all nonessential personnel. Remove all source of ignition. Ventilate area if possible. Avoid breathing vapors. Spill clean up beyond the scope of normal maintenance activities should be performed by trained response personnel.

In the event of a large transportation related spill or emergency call CHEMTREC at 1(800)424-9300.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: FLAMMABLE LIQUID AND VAPORS. Store only in areas approved for flammable liquids. Keep clear of all sources of ignition. Ground and bond all holding and transfer containers and equipment to prevent buildup of static electricity. Storage temperature must be below 120 deg. F. Freezing temperatures may effect product stability. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT TRANSFER TO UNLABELED CONTAINER.

OTHER PRECAUTIONS: Ignition temperatures of this product will decrease with increased vapor volume and vapor/air contact time and are influenced by pressure changes. Any proposed use of this product in elevated-temperature processes should be evaluated to assure that safe operating conditions are established.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: If ventilation is not adequate to reduce vapors below regulatory limits, use a self-contained (air supplied) positive pressure breathing apparatus, or a NIOSH approved air purifying respirator (APR) equipped with organic vapor cartridges (black striped cartridge). Failure to use proper respiratory protection may be harmful or fatal.

User must be properly trained and fitted to assure effective protection. Follow all manufacturers recommendations for use of filter.

WARNING: Do not use an APR if oxygen level is below 19.5% by volume.

VENTILATION: Sufficient ventilation, in volume and pattern should be provided to keep the air contaminants below the TLV/PEL levels. Remove vapors from low areas of stagnant air (e.g., corners near floor where vapors may collect).

PROTECTIVE GLOVES: Use gloves impervious to solvent. Follow glove manufacturer's recommendation for selecting gloves according to the solvents in this product.

EYE PROTECTION: Wear splash goggles or use face shield with safety glasses for splash protection. If vapor concentration causes eye irritation wear full-face respirator. Do not wear contact lenses when working with chemicals. Contact lenses can trap chemical next to eye which may increase eye damage.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: A protective apron should be used for splash protection. When spraying this product a

MATERIAL SAFETY DATA SHEET

3T2 XYLENE THINNER

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spray hood is recommended to cover hair and face. Skin should be covered as much as possible to protect from overspray or mist. A continuous 15 minute eye wash station and a chemical spill shower should be available in case of emergency.

WORK/HYGIENIC PRACTICES: In handling any chemicals, personal hygiene is extremely important. Always wash your hands and face before eating or when done handling or using this product. Keep food and drink out of work areas. Some items such as cigarettes or gum readily absorb solvent vapors and may increase your overall exposure to this product.

SECTION 9 - PHYSICAL / CHEMICAL PROPERTIES

BOILING RANGE: 277 - 279 deg F

DENSITY: 7.24 lb/gl

SPECIFIC GRAVITY (H2O=1): .87

VAPOR DENSITY : Heavier than air.

EVAPORATION RATE: Slower than ether.

SOLUBILITY IN WATER: Insoluble.

APPEARANCE AND ODOR: Clear liquid with strong solvent odor.

VOC EMISSIONS: 7.24 lb/gl 868 g/l

VOC EXCLUDING EPA EXEMPT SOLVENTS/WATER: 7.24 lb/gl 868 g/l

NOTE: Check with your state/local Air Quality regulatory agency to determine which VOC calculation you should use.

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable.

CONDITIONS TO AVOID: High temperatures, sources of ignition. Do not use in areas with poor ventilation.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents.
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon monoxide, carbon dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

CARCINOGENICITY:

NTP CARCINOGEN: No **IARC MONOGRAPHS:** Yes **OSHA REGULATED:** No

ETHYL BENZENE: Classified by IARC (International Agency for Research on Cancer) as possibly carcinogenic to humans (group 2B). Risk of cancer depends on duration and level of exposure.

SECTION 12 - ECOLOGICAL INFORMATION

This product has not been tested for environmental effects.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Waste material is a RCRA hazardous waste. Dispose of in accordance to Federal, state and local waste disposal regulations. Do not discharge into public water ways or water treatment facilities. Do not bury.

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SECTION 14 - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION (GROUND): UN1307, Xylenes, 3, PG III.
ERG # 130

DOT SHIPPING INFORMATION (LIMITED QUANTITIES/GROUND): Inner packaging 1 quart (1 L) or less each net capacity in strong outer packaging and total package weight not exceeding 66 pounds (30 kg): Consumer Commodity, ORM-D (Note: After 12/31/13 Consumer Commodity - ORM-D must be shipped as Limited Quantity).

IATA SHIPPING DESCRIPTION (AIR SHIPMENTS): UN1307, Xylenes, Class 3, PGIII

IMDG SHIPPING DESCRIPTION (WATERWAYS SHIPMENTS): UN1307, Xylenes, Class 3, PG III. Flashpoint 27 C

SECTION 15 - REGULATORY INFORMATION

SARA 313 / 40 CFR 372:

		% / WT
* XYLENE	001330-20-7	90
* ETHYL BENZENE	000100-41-4	10.0

CLEAN AIR ACT AMENDMENT SECTION 112 (HAPS):

		% / WT
+ XYLENE	001330-20-7	90
+ ETHYL BENZENE	000100-41-4	10.0

+ Indicates volatile Hazardous Air Pollutant chemicals at or above the reporting requirements of the Clean Air Act Amendments Section 112.

OSHA CLASSIFICATION: Flammable Liquid - Class IC.

CLEAN AIR ACT - OZONE DEPLETING CHEMICALS: Not known to contain or be manufactured with Class 1 or Class 2 Ozone Depleting Chemicals (ODC's).

RoHS DIRECTIVE: This product complies with the RoHS (Restriction of Hazardous Substances) Directive.

U.S. TOXIC SUBSTANCES CONTROL ACT: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

SECTION 16 - OTHER INFORMATION

The above information is based on current information available to Forrest Paint Co. and is believed to be accurate but is not warranted.

MATERIAL SAFETY DATA SHEET

Paints

SHOPCOAT PRIMER - WHITE

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SECTION 1 - MANUFACTURER IDENTIFICATION

PRODUCT CODE: 16P100BX
PRODUCT NAME: SHOPCOAT PRIMER - WHITE
MANUFACTURER'S NAME: FORREST PAINT CO.
ADDRESS : *1011 MCKINLEY ST.
EUGENE, OR 97402
HMIS CODES: H F R P
2*3 0 J

EMERGENCY PHONE : 1(800)424-9300 (CHEMTREC - Contract # 8730)
INFORMATION PHONE : 1(541)342-1821
DATE ISSUED : 10/15/2012
INFORMATION CONTACT: T. BOLLENBAUGH

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

REPORTABLE COMPONENTS	CAS NUMBER	mm Hg @ TEMP	WEIGHT PERCENT
XYLENE PEL-TWA: 100 ppm, PEL-STEL: 150 ppm, ACGIH-TLV: 100 ppm	001330-20-7	5.1 68	25 - 35
TITANIUM DIOXIDE PEL-TWA: 15 mg/m3, ACGIH-TLV: 10 mg/m3	013463-67-7		15 - 25
TOLUENE PEL-TWA: 100 ppm, PEL-STEL: 150 ppm, ACGIH-TLV: 20 ppm - skin	000108-88-3	25 68	1 - 10
ETHYL BENZENE PEL-TWA/ACGIH-TLV: 100 ppm; STEL: 150 ppm	000100-41-4	7 68	1 - 10
ZINC PHOSPHATE PEL-TWA: 10 mg/m3 Total dust, 5 mg/m3 Respirable dust; ACGIH-TLV: 10 mg/m3 Total dust	007779-90-0		1 - 10
ZINC OXIDE ACGIH-TLV: 10 mg/m3	001314-13-2		1 - 10

SEE SECTION 15 FOR SARA AND HAPS INFORMATION.

SECTION 3 - HAZARD IDENTIFICATION

Note: This product is a blend of materials which has not been tested as a mixture. The health effect data is based on the individual components.

INHALATION:

TOLUENE: Vapors or aerosol mists are central nervous system (CNS) depressant and a mild irritant of the eyes and upper respiratory tract. Narcotic in high concentration. High concentrations can cause unconsciousness which may go to coma, difficult breathing, tremors and nausea, excitation and hyperactivity, impairment of coordination and reaction time.
XYLENE/ETHYL BENZENE: Vapors are irritating to the eyes, mucous membranes and skin; at high concentrations it causes narcosis or unconsciousness. Giddiness, anorexia, vomiting, headache, vertigo (dizziness), gastric (stomach) discomfort, dryness of the throat and signs of slight drunkenness.

EYE CONTACT:

TOLUENE: Toluene is a strong irritant to the eyes.
XYLENE/ETHYL BENZENE: Eye contact with liquid is irritating and may

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SHOPCOAT PRIMER - WHITE

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cause conjunctivitis, redness, tearing and blurred vision.

SKIN CONTACT:

TOLUENE: Minor skin contact causes some irritation. Prolonged contact will cause drying of the skin and cracking.
XYLENE/ETHYL BENZENE: Skin contact may result in immediate irritation characterized by redness (erythema and hyperemia) and will remove fat from the skin resulting in dermatitis. Painful burning sensation and blisters formed on exposed areas.

SKIN ABSORPTION:

TOLUENE: Can be absorbed and cause systemic poisoning.
XYLENE/ETHYL BENZENE: Can be slowly absorbed through the skin and cause systemic poisoning.

INGESTION:

If vomiting occurs do not allow vomitus to be breathed into the lungs. Even small quantities may cause chemical pneumonia and fluid in the lungs (pulmonary edema) which may result in hemorrhage (bleeding) and may be fatal.

TOLUENE: Ingestion produces similar effects to vapor inhalation. The liquid causes damage to stomach and intestinal linings.

XYLENE/ETHYL BENZENE: Ingestion produces similar effects to vapor inhalation. The liquid causes damage to stomach and intestinal linings.

CHRONIC HEALTH RISKS

Prolonged or repeated exposure to solvents may cause permanent brain and nervous system damage, including memory loss and impairment of coordination and reaction time. May cause toxic brain disease (encephalopathy), associated with brain tissue death. May cause liver and kidney damage. Inhaling concentrated vapors is harmful and may be fatal.

TOLUENE: Prolonged contact will cause drying of the skin and cracking. Muscular weakness syndromes, gastrointestinal syndromes or neuropsychiatric syndromes are common symptoms in toluene sniffers. Encephalopathy (toxic brain disease), progressive memory loss, fatigue, impaired concentration, irritability, persistent headaches and brain dysfunction has been reported.

XYLENE/ETHYL BENZENE: Can interfere with motor functions in exposed workers, loss of appetite, nausea, headache, dizziness, sleeplessness, indigestion, nose bleeds, liver and kidney damage, toxic brain disease (encephalopathy), dementia (loss of memory), and other neurological disorders. Experimental animals experienced teratogenic and reproductive effects. Temporary blood disorders and kidney damage has been observed in male rats.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Exposure for employees with a history of certain medical conditions such as skin, liver, kidney, eye, chronic respiratory, central and peripheral nervous system disease may have an increased risk from exposure to this material.

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SHOPCOAT PRIMER - WHITE

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SECTION 4 - FIRST AID MEASURES

EYES: In case of contact, immediately flush eyes with plenty of water while lifting eyelids occasionally, for at least 15 minutes. Get medical attention immediately.

SKIN: In case of contact, immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.

INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

INGESTION: If swallowed, do not induce vomiting. Call physician immediately

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT: 23 F / (-5) C

FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: .8 **UPPER:** 7.6

EXTINGUISHING MEDIA: Foam, Alcohol foam, CO₂, Dry chemical, Water fog.

SPECIAL FIREFIGHTING PROCEDURES: Hazardous decomposition products may form from incomplete combustion. Wear full protection gear with self-contained positive pressure breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLAMMABLE LIQUID AND VAPORS!! Closed container can build pressure from heat and rupture violently. Volatile vapors can burn in the open or explode if confined. Vapor is heavier than air and can travel long distances to source of ignition.

Dried paint residue may spontaneously combust. Sweepings, rags, etc., should be wet down and put in a closed container.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Evacuate all nonessential personnel. Remove all source of ignition. Ventilate area if possible. Avoid breathing vapors. Spill clean up beyond the scope of normal maintenance activities should be performed by trained response personnel.

In the event of a large transportation related spill or emergency call CHEMTREC at 1(800)424-9300.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: FLAMMABLE LIQUID AND VAPORS. Store only in areas approved for flammable liquids. Keep clear of all sources of ignition. Ground and bond all holding and transfer containers and equipment to prevent buildup of static electricity. Storage temperature must be below 120 deg. F. Freezing temperatures may effect product stability. **KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT TRANSFER TO UNLABELED CONTAINER.**

OTHER PRECAUTIONS: Ignition temperatures of this product will decrease with increased vapor volume and vapor/air contact time and are influenced by pressure changes. Any proposed use of this product

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SHOPCOAT PRIMER - WHITE

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in elevated-temperature processes should be evaluated to assure that safe operating conditions are established. To avoid spontaneous combustion during temporary storage, soak soiled rags and waste immediately after use in a water-filled, closed metal container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: If ventilation is not adequate to reduce vapors below regulatory limits, use a self-contained (air supplied) positive pressure breathing apparatus, or a NIOSH approved air purifying respirator (APR) equipped with organic vapor cartridges (black striped cartridge). Failure to use proper respiratory protection may be harmful or fatal.

User must be properly trained and fitted to assure effective protection. Follow all manufacturers recommendations for use of filter.

WARNING: Do not use an APR if oxygen level is below 19.5% by volume.

VENTILATION: Sufficient ventilation, in volume and pattern should be provided to keep the air contaminants below the TLV/PEL levels. Remove vapors from low areas of stagnant air (e.g., corners near floor where vapors may collect).

PROTECTIVE GLOVES: Use gloves impervious to solvent. Follow glove manufacturer's recommendation for selecting gloves according to the solvents in this product.

EYE PROTECTION: Wear splash goggles or use face shield with safety glasses for splash protection. If vapor concentration causes eye irritation wear full-face respirator. Do not wear contact lenses when working with chemicals. Contact lenses can trap chemical next to eye which may increase eye damage.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: A protective apron should be used for splash protection. When spraying this product a spray hood is recommended to cover hair and face. Skin should be covered as much as possible to protect from overspray or mist. A continuous 15 minute eye wash station and a chemical spill shower should be available in case of emergency.

WORK/HYGIENIC PRACTICES: In handling any chemicals, personal hygiene is extremely important. Always wash your hands and face before eating or when done handling or using this product. Keep food and drink out of work areas. Some items such as cigarettes or gum readily absorb solvent vapors and may increase your overall exposure to this product.

SECTION 9 - PHYSICAL / CHEMICAL PROPERTIES

BOILING RANGE: 232 deg F - 279 deg F

DENSITY: 10.7 lb/gl

SPECIFIC GRAVITY (H2O=1): 1.29

VAPOR DENSITY : Heavier than air.

EVAPORATION RATE: Slower than ether.

SOLUBILITY IN WATER: Insoluble.

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APPEARANCE AND ODOR: Liquid with strong solvent odor.

VOC EMISSIONS: 4.41 lb/gl 528 g/l

VOC EXCLUDING EPA EXEMPT SOLVENTS/WATER: 4.41 lb/gl 528 g/l

NOTE: Check with your state/local Air Quality regulatory agency to determine which VOC calculation you should use.

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable.

CONDITIONS TO AVOID: High temperatures, sources of ignition.
Do not use in areas with poor ventilation.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents.
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon monoxide, carbon dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

CARCINOGENICITY:

NTP CARCINOGEN: No IARC MONOGRAPHS: Yes OSHA REGULATED: No

ETHYL BENZENE: Classified by IARC (International Agency for Research on Cancer) as possibly carcinogenic to humans (group 2B). Risk of cancer depends on duration and level of exposure.

TITANIUM DIOXIDE: Classified by IARC (International Agency for Research on Cancer) as possibly carcinogenic to humans (group 2B).

SECTION 12 - ECOLOGICAL INFORMATION

This product has not been tested for environmental effects.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Waste material is a RCRA hazardous waste. Dispose of in accordance to Federal, state and local waste disposal regulations. Do not discharge into public water ways or water treatment facilities. Do not bury.

SECTION 14 - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION (GROUND): UN1263, Paint, 3, PGII. ERG # 128

DOT SHIPPING INFORMATION (LIMITED QUANTITIES/GROUND): Inner packaging 1.3 gallons (5 L) or less each net capacity in strong outer packaging and total package weight not exceeding 66 pounds (30 kg): Limited Quantity

IATA SHIPPING DESCRIPTION (AIR SHIPMENTS): UN1263, Paint, Class 3, PG II.

IMDG SHIPPING DESCRIPTION (WATERWAYS SHIPMENTS): UN1263, Paint, Flammable Liquid, Class 3, PG II. Flashpoint -5 C.

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SECTION 15 - REGULATORY INFORMATION

SARA 313 / 40 CFR 372:

		% / WT
* XYLENE	001330-20-7	30
* TOLUENE	000108-88-3	5
* ETHYL BENZENE	000100-41-4	4.2
* ZINC PHOSPHATE	007779-90-0	4
* ZINC OXIDE	001314-13-2	1

CLEAN AIR ACT AMENDMENT SECTION 112 (HAPS):

		% / WT
+ XYLENE	001330-20-7	30
+ TOLUENE	000108-88-3	5
+ ETHYL BENZENE	000100-41-4	4.2

+ Indicates volatile Hazardous Air Pollutant chemicals at or above the reporting requirements of the Clean Air Act Amendments Section 112.

OSHA CLASSIFICATION: Flammable Liquid - Class IB.

CLEAN AIR ACT - OZONE DEPLETING CHEMICALS: Not known to contain or be manufactured with Class 1 or Class 2 Ozone Depleting Chemicals (ODC's).

RoHS DIRECTIVE: This product complies with the RoHS (Restriction of Hazardous Substances) Directive.

U.S. TOXIC SUBSTANCES CONTROL ACT: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

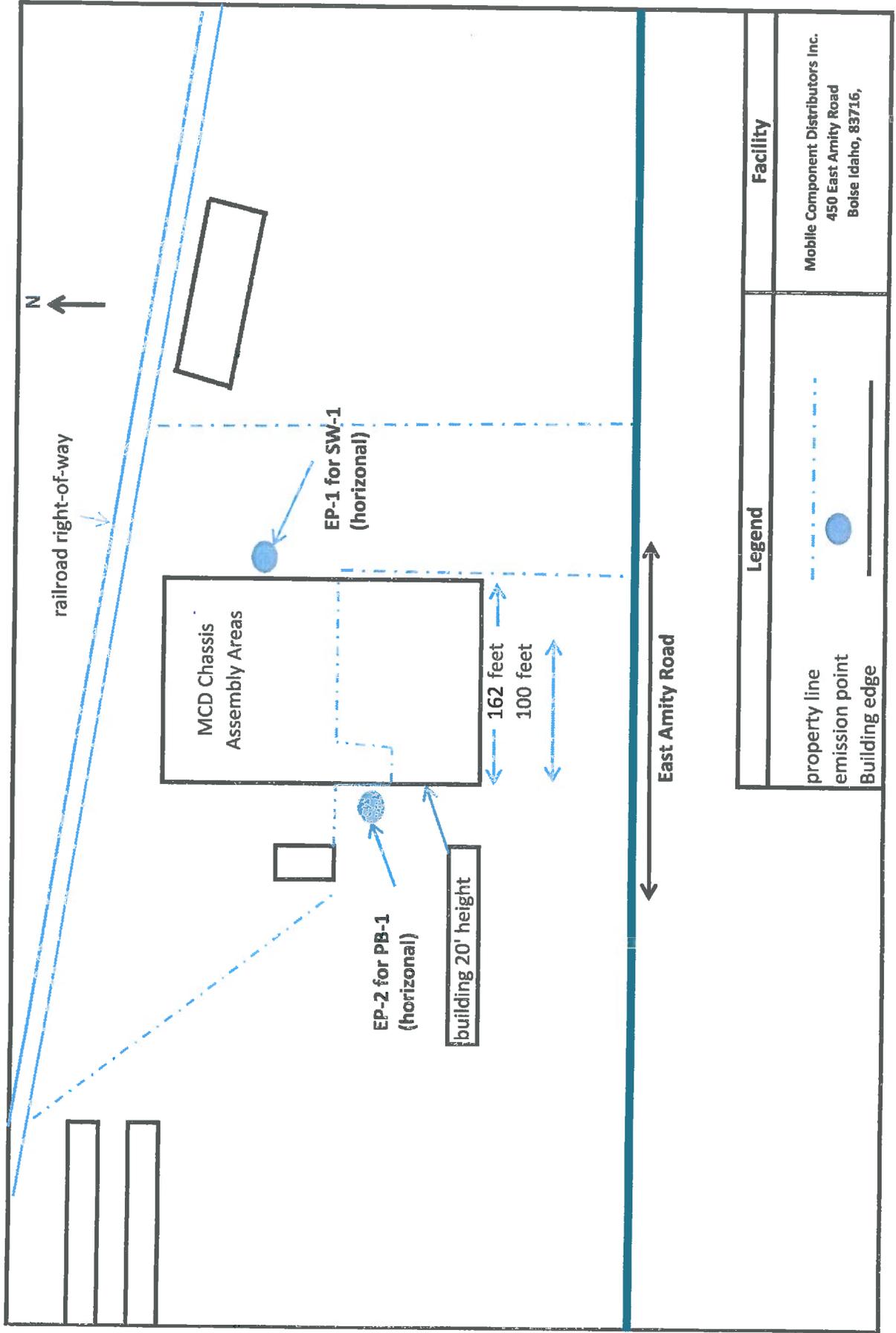
SECTION 16 - OTHER INFORMATION

The above information is based on current information available to Forrest Paint Co. and is believed to be accurate but is not warranted.

Figure#2 MCD Aerial View



Mobile Component Distributors Inc.
Facility Plot Plan
 Sep-13



Legend		Facility	
— · — · — · — · — ·	property line		
●	emission point		
—	Building edge		
		Mobile Component Distributors Inc. 450 East Amity Road Boise Idaho, 83716,	