ENAMO GRIP

**DESCRIPTION**
ENAMO GRIP is a two-part aliphatic polyurethane enamel available in clear and colors. It forms a uniquely hard and durable coating film, which demonstrates unsurpassed semi-gloss and color retention, as well as chalk resistance when used in exterior applications. It is resistant to water and humidity, stains, acids, solvents, and chemicals, as well as having tremendous scuff, mar and impact resistance. ENAMO GRIP will self-level to an even and smooth finish.

**TYPICAL USES**
- For architectural and maintenance solutions that require the utmost in exterior durability;
- As a topcoat for RUST GRIP® and MOIST METAL GRIP;
- As a floor covering where a tough, long-lasting finish is required.
- Very good alkali resistance and good acid.
- Anywhere a solvent-based UV-resistant topcoat is required.

**APPLICATION METHODS**
ENAMO GRIP can be applied to metal, concrete, masonry, wood and other porous surfaces. The application can be by brush, roller, or airless sprayer. For specific instructions on surface preparation, mixing and application, please refer to the SPI’s application instructions for ENAMO GRIP.

**NOTE:** This product must not be applied on or within 2 inches of chlorinated rubber.

**NOTE:** Never use mineral spirits to prep surfaces or to thin this product.

**MINIMUM SPREAD RATE (mil thickness)**

| Porous Surfaces | Apply 1 application of RUST GRIP® or ENAMO GRIP @ 200 sq ft/gallon (18 sq mtr/gal); 8 mils wet / 3.92 mils dry (200 microns wet / 98 dry) to absorb into substrate. Apply 2 additional coats of ENAMO GRIP @ 200 sq ft/gallon; 8 mils wet / 3.92 mils dry, each application. |
| Non-Porous Surfaces | First apply RUST GRIP® as a primer; then apply 1 coat of ENAMO GRIP @ 200 sq ft./gal. (18 sq mtr/gal); 8 mils wet (200 microns)/3.92 mils dry (98 microns), as an architectural coating. Apply a 2nd coat of ENAMO GRIP in areas that may have machine or foot traffic, handrails, or anywhere there is consistent wear on the surface. |
| Clear Coat Only | Apply 3 applications of ENAMO GRIP @ 200 sq ft. per gallon (18 sq. mtr./gal); 8 mils wet / 3.0 mils dry (200 microns wet / 78 dry), each application (See Application Instruction). |

**TESTS AND CERTIFICATIONS**
1. USDA Approved
2. Marine Approval for Salt Water/Maritime Uses:
   - US Coast Guard (under renewal)
   - ABS (American Bureau of Shipping)
   - IMO (International Marine Organization) (under renewal)
3. Flame Spread (ASTM E84) Class A Fire Rating
4. Abrasion (ASTM D4060)
5. Resistance to Wind-Driven Rain (ASTM D 6904)
6. Water Vapor Transmission (ASTM E 96)
7. 5000-hour Salt Spray (ASTM B117)
8. 5000-hour UV/Salt Spray (ASTM D5894)

**PHYSICAL DATA**
- Reacted Solids: White - By weight: 64 % / By volume: 49%
- Reacted Solids: Clear HG - By weight: 44 % / By volume: 38%
- Reacted Solids: Clear SG –By weight: 45 % / By volume: 39.5%
- Reacted Solids: Clear M – By weight: 47 % / By volume: 41%
- Viscosity: 300-470 centipoise
- 30-60 minutes to tack free at 70°F (21°C)
- Overcoat window is three hours or less at 70°F (21°C)
- Average Perms: 0.6809
- Cures by chemical reaction
- Impact Resistance: (Front) 160 psi / (Back) 100 psi
- Mix Ratio: 3 parts base to 1 part curing agent by volume
- Pot-Life: 4-6 hours at 70°F (21°C), 1 hour at 90°F (32°C).
- Maximum Surface Temperature after curing: 300°F (149°C)
- In hot (90°F) temperatures and 85% relative humidity (RH) climates, cut the ENAMO GRIP 4-gallon kit with one quart of MAK solvent (Methyl n-Amyl Ketone) to slow down the flash off and skinning of the surface film.

**SAFETY PRECAUTIONS**
Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: proper ventilation, use of proper lamps, wearing of protective clothing and masks, tenting, and proper separation of application areas. This coating is flammable. Keep away from flame, fire, or other sources of ignition. For more specific safety procedures, please refer to the ENAMO GRIP Safety Data Sheet. **KEEP OUT OF REACH OF CHILDREN.**

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**LIMITATION OF LIABILITY:** The information contained in this data sheet is based upon tests that we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the products made by SPI, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge is reliable. The products and information are designed for users having the requisite knowledge and industrial skills, and the end-user has the responsibility to determine the suitability of the product for its intended use. SPI has no control over either the quality of condition of the substrate, or the many factors affecting the use and application of the product. Therefore, SPI does not accept any liability arising from loss, injury, or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

The information contained in this data sheet is subject to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues and the user has the responsibility to ensure that this sheet is current prior to using the product.
**ENAMO GRIP SERIES**

**Application Instructions (07/10/19)**

**ENAMO GRIP** is a two-part polyurethane enamel that forms a uniquely hard and durable coating film.

**SURFACE PREPARATION**  
Surface must be clean from oil, tar, rust, grease, salts, and films.  
1) Use general degreaser if needed.  
2) Clean surface using TSP (tri-sodium-phosphate) or a citrus cleaner to release dirt and degreaser residue.  
3) Pressure-wash if possible @ 3500 psi.  
4) Salt contamination on a surface can come as a result of salt water, fertilizers, and car exhaust. Use Chlor-Rid or equivalent to decontaminate surface if salts are present. Acceptable levels: Nitrates: 5-10 mcg/cm², Sulfates: 5-10 mcg/cm², Chlorides: 3-5 mcg/cm²

**Surface must be completely dry before applying.**  
1) ENAMO GRIP must be applied during proper temperatures (below) and the prescribed overcoat window of the coating over which it will be applied.  
2) If applied over an existing coating having a glossed or shiny finish, it must be sanded and roughed to remove gloss before application, to improve the profile.  
3) Additional coats of ENAMO GRIP can only be applied when the 1st coat becomes tacky to the touch and has little to no transfer of coating. After this stage, the surface must be lightly sanded to improve the profile.

**MIXING**  
1) Open pail, mix base with curing agent (3 parts base : 1 part curing agent) (ratio by volume, not by weight)  
2) Mix by hand for two minutes, or using drill and mixing blade for a minimum of 30 seconds with NO vortex.

**APPLICATION**  
ENAMO GRIP can be applied by brush, roller or spray; however, the preferred method is by air or airless sprayer.  
1) If application is by brush, use a soft bristle brush.  
2) If application is by roller, use a 1/4 inch nap roller.  
**NOTE:** If rolling/brushing, add 2 oz. Bubble Breaker per gallon.

3) If application is by spray, use a standard airless sprayer (1.5 gallons/minute at 3,300 psi.) with a .011-.015 tip.  
   - **NOTE:** The number of applications and the thickness of each should be in accordance with the job specifications.  
   - **NOTE:** It may be necessary to use a “bubble breaker” when using a brush or roller.  
   - **NOTE:** Temperatures must always be a minimum of 5 degrees above the dew point during application.  
   - **NOTE:** In hot (90°F) temperatures and 85% humidity climates, cut the ENAMO GRIP 4-gallon kit with one quart of MAK solvent (Methyl n-Amyl Ketone) to slow down the flash off and skinning of the surface film.

**APPLICATION OVER CAULK**  
Only use a high performance, solvent-borne, polyurethane caulk. (Do not use a water-borne caulk or one that is water soluble.)

**TEMPERATURE**  
1) Apply between 40°F (4°C) and 100°F (38°C).  
2) Maximum temperature for continuous use when cured is 300°F (149°C).  
3) Store unmixed product between 40°F (4°C) and 100°F (38°C) according to hazmat standards on MSDS.  
4) Mix base and curing agent and use immediately if ambient temperature is above 60°F (16°C). If below 60°F (16°C), allow mixed product to stand for 30 minutes before using.

**MINIMUM SPREAD RATES (mil thickness)**  
- **Porous Surfaces** – Apply 1 application of RUST GRIP® or ENAMO GRIP @ 200 sq ft/gallon (18 sq mtr/gallon); 8 mils wet / 3.92 mils dry (200 microns wet / 98 dry) to absorb into substrate. Apply 2 additional coats of ENAMO GRIP @ 200 sq ft/gallon; 8 mils wet / 3.92 mils dry, each application.  
- **Non-Porous Surfaces** – First apply RUST GRIP® as a primer; then apply 1 coat of ENAMO GRIP @ 200 sq ft/gal. (18 sq mtr/gal.); 8 mils wet (200 microns)/3.92 mils dry (98 microns), as an architectural coating. Apply a 2nd coat of ENAMO GRIP in areas that may have machine or foot traffic, handrails, or anywhere there is consistent wear on the surface.

**ENAMO GRIP CLEAR SPREAD RATE**  
- **High-Gloss** - at 406 sq.ft./gal (36 mtr/gal) 3.9 mils wet (99 microns) 1.5 mils dry (37 microns).  
- **Semi-Gloss** - as 395 sq.ft./gal (36.6 mtr/gal) 4 mils wet (102 microns) 1.6 mils dry (40 microns).  
- **Matt** - at 386 sq.ft./gal (35.8 mtr/gal) 4.1 mils wet (104 microns) 1.7 mils dry (43 microns).

**POT LIFE**  
4-6 hours at 70°F (21°C) - 1 hour at 90°F (32°C)

**CURE TIME**  
1) 30-60 minutes to tack free at 70°F (21°C).  
2) Overcoat window is three hours or less at 70°F (21°C).  
3) If temperature is over 90°F (32°C), overcoat window and pot life is shortened to 1 hour.  
4) Fully cures in ten days.

**CLEAN-UP EQUIPMENT**  
1) During breaks, spray system should be flushed with solvent.  
2) After completion, spray systems should be flushed and cleaned with MEK or other comparable solvents.  
3) After completion, brushes and rollers should be cleaned with MEK or other comparable solvents, stored and re-used.
SECTION I - IDENTIFICATION OF PRODUCT AND COMPANY:

PRODUCT IDENTIFIER: ENAMO GRIP Base
GHS PRODUCT IDENTIFIED: Global Harmonized System #3208.90.000
CHEMICAL TYPE: Two-part, Hydroxl functional polyol
MANUFACTURER: SUPERIOR PRODUCTS INT'L II, INC.
ADDRESS: 10835 W. 78th St., Shawnee, KS 66214
PRODUCT USE: Applied to provide a tough, protective topcoat
EMERGENCY TELEPHONE NUMBER: 800/424-9300; 202/483-7616

SECTION II - HAZARD IDENTIFICATION:

The product is a flammable, solvent-based polyurethane and should be treated according to all known safety precautions. Refer to Section VII for Storage and Handling recommendations, Section VIII for Personal Protection, Section XIV for transport.

SECTION III - HAZARDOUS INGREDIENTS:

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENTS</th>
<th>%</th>
<th>CAS/PIN</th>
<th>TLV</th>
<th>PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-butyl acetate</td>
<td>&lt;5.0</td>
<td>123-86-4</td>
<td>150.00</td>
<td>150.00</td>
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<tr>
<td>Tert Butyl Acetate</td>
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<td>540-88-5</td>
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</tr>
<tr>
<td>Aromatic hydrocarbon</td>
<td>&lt;5.0</td>
<td>64742-95-6</td>
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<td>N/A</td>
</tr>
<tr>
<td>PM Acetate</td>
<td>5-10</td>
<td>108-65-6</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Ethyl3-Ethoxypropianate</td>
<td>10-20</td>
<td>763-69-9</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SECTION IV - FIRST AID MEASURES:

INHALATION: Remove to fresh air. Give oxygen if required. Seek medical help.
EYES: Flush w/clear lukewarm water for 15-20 minutes, occasionally lifting eyelids. See physician.
SKIN: Remove contaminated clothing. Wash affected areas & clothing w/mild soap & water.
INGESTION: Do not induce vomiting. Keep at rest. Get prompt medical attention.

SECTION V - FIREFIGHTING MEASURES:

CONDITIONS OF FLAMMABILITY: Spraying or other activities to create finely divided droplets around open flame/sparks
HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, aldehydes, fumes
AUTOIGNITION TEMP.: >499C. degrees
FLASH POINT & METHOD: 40F. TCC
FLAMMABLE LIMITS: (Lower) 1.4% (Upper) NAV
SENSITIVITY TO STATIC DISCHARGE? NAV
SENSITIVITY TO MECHANICAL IMPACT? NAV
SPECIAL PROCEDURES: Firefighters should wear full-body protection & SCBA
MEANS OF EXTINCTION: Foam, water spray (fog), dry chemical, carbon dioxide & vaporizing liquid type extinguishing agents

SECTION VI - ACCIDENTAL RELEASE MEASURES:

Ventilate the area, control spill by covering w/sawdust or similar agent. Pour decontamination solution over spill (non-ionic surfactant Union Carbide’s Tergitol TMN-10 (20%) + water (80%); avoid breathing vapors

SECTION VII - HANDLING AND STORAGE:

Storage Requirements: Maintain temperature between 32-122F. degrees; average shelf life is 3 years @ 77F. degrees. Empty containers may contain residual liquid or vapors, and should not be pressurized, cut, welded or exposed to ignition sources.
Handling Procedures/Equipment: Ground all containers; use non-sparking tools. Keep away from ignition sources as liquid contains volatiles that give off invisible vapors.
SECTION VIII - EXPOSURE CONTROLS AND PERSONAL PROTECTION:

**Personal Protective Equipment:** Half-face respirator w/organic vapor filter, safety glasses w/shields, PVA or nitrile chemical-resistant gloves, skin protection

**Engineering Controls:** Mechanical exhaust fans; use explosion proof equipment

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES:

**Appearance and Odor:** White-colored liquid, ester solvent odor

**Solubility in Water:** Insoluble

**Freezing Point:** NAP  **Boiling Point:** >241F. deg.  **pH:** NAP

**Specific Gravity:** 1.29  **Odor Threshold:** NAV

**Coeff. Water/Oil:** NAV  **Evaporation Rate:** 1%

**Vapour Density (Air = 1):** 1.0+  **Vapour Pressure:** NAV

**VOLATILES:** 54.1%

SECTION X - STABILITY AND REACTIVITY DATA:

**Conditions of Reactivity:** By high heat or fire

**Chemical Incompatibility:** Oxidizing materials, aminos, alcohols

**Conditions of Instability:** Stable, under normal conditions

**Hazardous Decomposition Products:** By high heat/fire--Carbon dioxide, carbon monoxide, fumes, smoke, aldehydes

**Corrosive Behavior:** NO

SECTION XI - HEALTH HAZARD DATA:

Health effects to over exposure to CONCENTRATE: Corrosive to mucose membranes, eyes and skin. The seriousness of the lesions and the prognosis of intoxication depend directly upon the concentration and duration of exposure.

Skin: May cause TEMPORARY skin discoloration and irritation

Eyes: May cause severe eye damage

If swallowed: HARMFUL OR FATAL - Causes chemical burns of mouth and stomach; Corrosive to gastrointestinal tract; Paleness and cyanosis of the face; Excessive fluid in the mouth and nose; Bloating of stomach and belching; Nausea and vomiting; Risk of chemical pneumonitis and pulmonary edema

If inhaled: Vapors or mist can cause irritation. People with asthma or lung problems may be more affected.

Fire hazard, acute health hazard, chronic health hazard.

SECTION XII - ENVIRONMENTAL INFORMATION:

Air: 2.04 lbs./gallon V.O.C. (reactive 244g/l-white; 540g/l-clear)*

Soil: Lead- and chromate-free/not hazardous under RCRA 40CFR, Part 372

SECTION XIII - WASTE DISPOSAL:

Incineration preferred. Dispose of in accordance with federal, state and local government regulations.

SECTION XIV - TRANSPORT INFORMATION:

Classified a hazardous material(Class 3//UN1263//P.G. II//F.P.=5C), and should be marked and handled according to specific regulations. Tariff code: 3208.90.0000

SECTION XV - REGULATORY INFORMATION:

Materials listed under Superfund Amendments & Reauthorization Act of 1986 (SARA) reviewed according to the EPA under sections 311 and 312 under Title III. All components are either listed on the US TSCA inventory, or are not regulated under TSCA.

SECTION XVI - OTHER INFORMATION:

*Product is compliant with many national and local VOC content regulations. However, because manufacturer is not familiar with all local VOC requirements, the user is responsible for understanding the local VOC rules and for verifying that the product selections meet the most current VOC requirements of the area in which the products are to be used.

PREPARATION INFORMATION:

PREPARED BY: J. Pritchett, Superior Products Int'l II, Inc.  DATE: 8/23/18
SAFETY DATA SHEET (E/S/10/02)

SECTION I - IDENTIFICATION OF PRODUCT AND COMPANY:
PRODUCT IDENTIFIER: ENAMO GRIP curing agent
GHS PRODUCT IDENTIFIED: Global Harmonized System #3208.90.000
CHEMICAL TYPE: Aliphatic Polyisocyanate
MANUFACTURER: SUPERIOR PRODUCTS INT’L II, INC.
ADDRESS: 10835 W. 78th St., Shawnee, KS 66214
PRODUCT USE: Applied to provide a tough, protective topcoat
EMERGENCY TELEPHONE NUMBER: 800/424-9300; 202/483-7616

SECTION II - HAZARD IDENTIFICATION:
The product is a flammable, solvent-based polyurethane and should be treated according to all known safety precautions. Refer to Section VII for Storage and Handling recommendations, Section VIII for Personal Protection, Section XIV for transport.

SECTION III - HAZARDOUS INGREDIENTS:

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<th>TLV</th>
<th>PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl-3-Ethoxypropionate</td>
<td>30-50</td>
<td>763-69-9</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Hexamethylene Diisocyanate Oligomers</td>
<td>60-80</td>
<td>28182-81-2</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SECTION IV - FIRST AID MEASURES:

INHALATION: Remove to fresh air. Give oxygen if required. Seek medical help.
EYES: Flush w/clear lukewarm water for 15-20 minutes, occasionally lifting eyelids. See physician.
SKIN: Remove contaminated clothing. Wash affected areas & clothing w/mild soap & water.
INGESTION: Do not induce vomiting. Keep at rest. Get prompt medical attention.

SECTION V - FIREFIGHTING MEASURES:

CONDITIONS OF FLAMMABILITY: Spraying or other activities to create finely divided droplets around open flame/sparks
HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, aldehydes, fumes
AUTOIGNITION TEMP.: >499C. degrees
FLASH POINT & METHOD: 24F. TCC
FLAMMABLE LIMITS: (Lower) 1.4% (Upper) NAV
SENSITIVITY TO STATIC DISCHARGE? NAV
SENSITIVITY TO MECHANICAL IMPACT? NAV
SPECIAL PROCEDURES: Firefighters should wear full-body protection & SCBA
MEANS OF EXTINCTION: Dry Chemical--monoammonium phosphate, potassium chloride, carbon dioxide, high expansion (protenic) chemical foam, water spray for large fires

SECTION VI - ACCIDENTAL RELEASE MEASURES:
Ventilate the area, control spill by covering w/sawdust or similar agent. Pour decontamination solution over spill (non-ionic surfactant Union Carbide’s Tergitol TMN-10 (20%) + water (80%); avoid breathing vapors.

SECTION VII - HANDLING AND STORAGE:
Storage Requirements: Maintain temperature between 32-122F. degrees; average shelf life is 3 years @ 77F. degrees. Empty containers may contain residual liquid or vapors, and should not be pressurized, cut, welded or exposed to ignition sources.
Handling Procedures/Equipment: Ground all containers; use non-sparking tools. Keep away from ignition sources as liquid contains volatiles that give off invisible vapors.
SECTION VIII - EXPOSURE CONTROLS AND PERSONAL PROTECTION:
Personal Protective Equipment: Half-face respirator w/organic vapor filter, safety glasses w/shields, PVA or nitrile chemical-resistant gloves, skin protection
Engineering Controls: Mechanical exhaust fans; use explosion proof equipment

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES:
APPEARANCE AND ODOR: Clear/pale yellow medium-low viscosity liquid with ketone-solvent odor
SOLUBILITY IN WATER: Insoluble, reacts slowly with water to liberate CO2 gas
FREEZING POINT: NAP  BOILING POINT: >241F. deg. VOLATILES: 54%
SPECIFIC GRAVITY: 1.03  VAPOUR DENSITY (Air = 1): 1.0
COEFF. WATER/OIL: NAV  EVAPORATION RATE: 1.22%
VAPOUR PRESSURE: Polyisocyanate @ 7.5x10-5 mmHg@20C  pH: NAP

SECTION X - STABILITY AND REACTIVITY DATA:
CONDITIONS OF REACTIVITY: By high heat or fire
CHEMICAL INCOMPATIBILITY: Oxidizing materials, aminos, alcohols
CONDITIONS OF INSTABILITY: Stable, under normal conditions; unstable if contacted with water
HAZARDOUS DECOMPOSITION PRODUCTS: By high heat/fire--Carbon dioxide, carbon monoxide, fumes, smoke, aldehydes

SECTION XI - TOXICOLOGICAL PROPERTIES:
ROUTES OF ENTRY:SKIN CONTACT _X_  EYE CONTACT _X_  INHALATION _X_
SYNERGISTIC PRODUCTS NAV  EXPOSURE LIMITS: NAV
EFFECTS OF ACUTE EXPOSURE: Burning sensation on mucous membranes & respiratory tract. Flu-like symptoms (fever and chills); skin irritation
EFFECTS OF CHRONIC EXPOSURE: Chemical asthma - chest tightness, wheezing, coughing, shortness of breath. Can cause lung damage.
MUTAGENICITY: NAV  CARCINOGENICITY: NAV
IRRITANCY: Burning sensation  TERATOGENICITY: NAV
REPRODUCTIVE TOXICITY: NAV
SENSITIZATION: Can cause future reaction to lesser amounts

SECTION XII - ENVIRONMENTAL INFORMATION:
Air: 2.04 lbs./gallon V.O.C. (reactive 244g/l-white; 540g/l-clear)*
Soil: Lead- and chromate-free/not hazardous under RCRA 40CFR, Part 372

SECTION XIII - WASTE DISPOSAL:
Incineration preferred. Dispose of in accordance with federal, state and local government regulations.

SECTION XIV - TRANSPORT INFORMATION:
Classified a hazardous material (Class 3//UN1263//P.G. II//F.P.=-5.C), and should be marked and handled according to specific regulations. Tariff code: 3208.90.0000

SECTION XV - REGULATORY INFORMATION:
Materials listed under Superfund Amendments & Reauthorization Act of 1986 (SARA) reviewed according to the EPA under sections 311 and 312 under Title III. All components are either listed on the US TSCA inventory, or are not regulated under TSCA.

SECTION XVI - OTHER INFORMATION:
*Product is compliant with many national and local VOC content regulations. However, because manufacturer is not familiar with all local VOC requirements, the user is responsible for understanding the local VOC rules and for verifying that the product selections meet the most current VOC requirements of the area in which the products are to be used.

PREPARATION INFORMATION:
PREPARED BY: J. Pritchett, Superior Products Int’l II, Inc.  DATE: 8/23/18