



SPI COATINGS

PROVEN PERFORMANCE • REAL WORLD SOLUTIONS

**INSULATION
AND
CORROSION
SPECIALISTS**

RUST GRIP®-E

Technical Data Sheet (05/29/19)

DESCRIPTION

RUST GRIP-E is a two-part epoxy coating system that has been designed with specific additives to promote adhesion when used on metal and contains metal pigment to strengthen coating and retard chalking. RUST GRIP-E was developed to be applied to metal surfaces that cannot be dry enough to use traditional RUST GRIP®. It can be used directly to wet or damp metal surfaces and maintain excellent adhesion to prevent further surface corrosion. It is a water repelling epoxy for use under water or in areas where constant splashing or condensation is a problem. It is resistant to chemicals and solvents, and is designed to be applied directly to concrete, masonry and metal. RUST GRIP-E must be top-coated to prevent chalking.

TYPICAL USES

- For metal that is moist or in high humidity.
- To encapsulate existing rusted surfaces.
- To protect metal with condensation issues.
- To line tanks.
- Very good acid and good alkali resistance
- As a primer before ENAMO GRIP, LINING KOTE or other coatings are applied.

APPLICATION METHODS

RUST GRIP-E can be applied to metal, as well as concrete or masonry substrates. The coating can be applied by airless sprayer, brush or roller. For specific instructions on surface preparation, mixing and application, please refer to the SPI's application instructions for RUST GRIP-E.

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

NOTE: Never use mineral spirits to prep surfaces or for thinning.

TEST AND CERTIFICATIONS

1. USDA approved
2. ASTM B117 – Salt spray corrosion test, 5000 hrs
3. ASTM D1654 – 450 hour evaluation over black steel
4. Adhesion: ASTM class 5B – no film pull off

FIELD TEST HAVE PROVEN:

1. The coating has outstanding adhesion
2. The coating is resistant to solvents and chemical splashes
3. The coating is flexible, yet resistant to impact

MINIMUM SPREAD RATES (mil thickness)

Wet Surfaces – Apply 2-3 applications of RUST GRIP-E @ 200 sq ft/gallon; (18 sq mtr/gallon); 8 mils wet/4 mils dry (200 microns wet / 100 dry) each coat. This will leave a total thickness of 8-12 dry mils (200-300 microns dry)

Dry Surfaces – Apply 1 coat of RUST GRIP-E (8 mils wet/4 mils dry)/18 sq.mtr./gallon-200 microns wet/100 dry).

NOTE: Surface and ambient temperatures will determine cure-time. Introduction of heat beneath or over surface will enhance the cure time.

Induction Period: 20 minutes at 70°F (21°C).
No induction time is necessary over 90°F (32°C).

PHYSICAL DATA

- ◆ Reacted Solids: By weight 69% / By volume 53%
- ◆ 30-60 MINUTES TO TACK FREE AT 70°F (21°C)
- ◆ Overcoat window is three hours or less at 70°F (21°C)
- ◆ Ultimate tensile strength, psi (ASTM D2370) = 1166
- ◆ Cures by chemical reaction
- ◆ Reacted Weight: 10.87 lbs. per gallon
- ◆ Amine-epoxy
- ◆ Modulus of Elasticity (ASTM D2370)
- ◆ Shelf Life: Up to 3 years (unopened) under appropriate storage condition (see MSDS)
- ◆ Impact Resistance (ASTM D2794-93) – 1kg @ 14 inches, no cracking
- ◆ Mix Ratio; 4 part base to 1 part curing agent by volume
- ◆ Reactive VOC - Silver: 2.01 lbs/gal; 241 grams per liter
- ◆ Resistant to mild concentrations of solvents, chemicals and acids
- ◆ Adhesion by tape test (ASTM D3359-09) = 5A
- ◆ Maximum Surface Temp when applying; 150°F (65°C)
- ◆ Minimum Surface Temp when applying; 40°F (4°C)
- ◆ Maximum Surface Temp after curing; 400°F (205°C)
- ◆ Failure will occur at a constant temperature equal to or greater than 400°F (205°C); consult SPI for intermittent temperatures greater than 300°F (149°C)
- ◆ Viscosity: 90 seconds, #4 ford cup @ 74°F

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 fire, or other sources of ignition. For more specific safety procedures, please refer to the RUST GRIP-E Material Safety Data Sheet.

KEEP OUT OF REACH OF CHILDREN.

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.



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Application Instructions (7/10/19)

RUST GRIP-E is a two-part epoxy coating system that has been designed with specific additives to promote adhesion when used on metal and contains metal pigment to strengthen coating and retard chalking. RUST GRIP-E was developed to be applied to metal surfaces that cannot be dry enough to use standard RUST GRIP®. It can be used directly to wet or damp metal surfaces and maintain excellent adhesion to prevent further surface corrosion. It is a water repelling epoxy for use under water or in areas where constant splashing or condensation is a problem. It is resistant to chemicals and solvents and is designed to be applied directly to concrete, masonry and metal.

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 should be as dry as possible before applying.

- 1) RUST GRIP-E 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 RUST GRIP-E can only be applied when the 1st coat becomes tacky to the touch and has little to no transfer of coating. If the first coat is allowed to cure more than 3 days to where it is not tacky, the surface must be lightly sanded to make it rough before the second coat is applied.

MIXING

- 1) Open pail, mix base with matched curing agent (4 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.

TEMPERATURE

- 1) Apply between 40°F (4°C) and 150°F (65°C).
- 2) Maximum temperature for use when cured is 400°F (205°C). See tech sheet.
- 3) Store unmixed product between 40°F (4°C) and 100°F (38°C) according to hazmat standards on MSDS.

POT LIFE

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

APPLICATION

RUST GRIP-E can be applied by brush, roller or airless sprayer; however, the preferred method is by airless sprayer.

- 1) If application is by brush, use a soft bristle brush.
- 2) If application is by roller, use a 1/2 inch nap roller.
- 3) If application is by spray, use a standard airless sprayer (1.5 gallons/minute at 3,300 psi) with a .017-.021 tip.
 - **NOTE:** The number of applications and the thickness of each should be in accordance with the job specifications.

MINIMUM SPREAD RATES (mil thickness)

Wet Surfaces – Apply 1st application at 200 sq ft/gallon (18 sq mtr/gallon; use a roller to force coating into pores); 8 mils wet/4 mils dry (to penetrate into pores.) Allow 4 hours to dry and ventilate well, then apply 2nd application of 100% RUST GRIP-E at 200 sq ft/gallon; 8 mils wet, 4 mils dry. Wait 24 hours and apply the last coat of RUST GRIP-E at 200 sq ft/gallon.

Dry Surfaces – Apply one coat (8 mils wet/4 mils dry/18 sq.mtr./gallon-200 microns wet/100 dry).

CURE TIME

Note: Surface and ambient temperatures will determine cure time which is normally 14 full days. Introduction of heat over surface will enhance the cure time.

Induction Period: 10 minutes at 70°F (21°C); No induction time is necessary over 90°F (32°C).

NOTE: It is critical that each coat of RUST GRIP-E be firmly adhered to the substrate before the next coat is applied. Depending on ambient and surface temperatures, it may take longer than a 24 hour recoat application window.

NOTE: May use MEK to reduce, if needed.

CLEAN-UP EQUIPMENT

- 1) After completion, spray systems should be flushed and cleaned with MEK or other comparable solvents.
- 2) After completion, brushes and rollers can be cleaned with MEK or comparable solvents, stored and reused.

SAFETY DATA SHEET (E/S/10/02)

pg 1 of 2

SECTION I - IDENTIFICATION OF PRODUCT AND COMPANY:

PRODUCT IDENTIFIER: **RUST GRIP-E Base**

GHS PRODUCT IDENTIFIED: Global Harmonized System #3208.90.000

CHEMICAL TYPE: **Modified Bisphenol-A Type Epoxy**

MANUFACTURER: **SUPERIOR PRODUCTS INT'L II, INC.**

ADDRESS: **10835 W. 78th St., Shawnee, KS 66214**

PRODUCT USE: **Cover and protect all metal surfaces above & below waterline**

EMERGENCY TELEPHONE NUMBER: **800/424-9300; 202/483-7616**



SECTION II - HAZARD IDENTIFICATION:

The product is a flammable, solvent-based epoxy 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:

<u>HAZARDOUS INGREDIENTS</u>	<u>%</u>	<u>CAS/PIN</u>	<u>TLV</u>	<u>PEL</u>
Methyl N-Amyl Ketone	9.7	110-43-0	50.00	50.00
Methyl Isobutyl Ketone	9.7	108-10-1	50.00	50.00
Xylene	8.9	1330-20-7	100.00	100.00

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:** 64F. TCC

FLAMMABLE LIMITS: (Lower) 1.40% **(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 may all be suitable for service.

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 which may settle in low areas or travel some distance.

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: Silver colored Liquid, Ketone-dominant solvent odor

SOLUBILITY IN WATER: Insoluble **NON-VOLATILES:** 51%

FREEZING POINT: NAP **BOILING POINT:** N/A **pH:** NAP

SPECIFIC GRAVITY: 1.32 **ODOR THRESHOLD:** NAV

COEFF. WATER/OIL: NAV **EVAPORATION RATE:** 1.05%

VAPOUR DENSITY (Air = 1): 1.0+ **VAPOUR PRESSURE:** NAV

SECTION X - STABILITY AND REACTIVITY DATA:

CONDITIONS OF REACTIVITY: By high heat or fire

CHEMICAL INCOMPATIBILITY: Oxidizing materials

CONDITIONS OF INSTABILITY: Stable, under normal conditions

HAZARDOUS DECOMPOSITION PRODUCTS: By high heat/fire--Carbon dioxide, carbon monoxide, fumes, smoke

CORROSIVE BEHAVIOR? NO

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: 2.01 lbs./gallon V.O.C. (Reactive 241g/l) *

Water: Insoluble in water

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

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), 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 1988 (SARA) Title III 302, 304, 311, 312, 313: Methyl Isobutyl Ketone (CAS 108-10-1)

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.

SAFETY DATA SHEET (E/S/10/02)

pg 1 of 2

SECTION I - IDENTIFICATION OF PRODUCT AND COMPANY:

PRODUCT IDENTIFIER: **RUST GRIP-E curing agent**

GHS PRODUCT IDENTIFIED: Global Harmonized System #3208.90.000

CHEMICAL TYPE: **Modified Polyamide**

MANUFACTURER: **SUPERIOR PRODUCTS INT'L II, INC.**

ADDRESS: **10835 W. 78th St., Shawnee, KS 66214**

PRODUCT USE: **Cover and protect all metal surfaces above & below waterline**

EMERGENCY TELEPHONE NUMBER: **800/424-9300; 202/483-7616**



SECTION II - HAZARD IDENTIFICATION:

The product is a flammable, solvent-based epoxy 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:

<u>HAZARDOUS INGREDIENTS</u>	<u>%</u>	<u>CAS/PIN</u>	<u>TLV</u>	<u>PEL</u>
Xylene	45.9	1330-20-7	100.00	100.00

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.: >488C. degrees **FLASH POINT & METHOD:** 64F. 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 which may settle in low areas or travel some distance.

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: Amber-clear liquid, alcohol-solvent odor
SOLUBILITY IN WATER: Slightly soluble **NON-VOLATILES:** 59%
FREEZING POINT: NAP **BOILING POINT:** N/A
SPECIFIC GRAVITY: .98 **ODOR THRESHOLD:** NAV
COEFF. WATER/OIL: NAV **EVAPORATION RATE:** 1.04%
VAPOUR DENSITY (Air = 1): 1.0+ **VAPOUR PRESSURE:** NAV **pH:** NAP

SECTION X - STABILITY AND REACTIVITY DATA:

CONDITIONS OF REACTIVITY: By high heat or fire
CHEMICAL INCOMPATIBILITY: Oxidizing materials
CONDITIONS OF INSTABILITY: Stable, under normal conditions
HAZARDOUS DECOMPOSITION PRODUCTS: By high heat/fire--Carbon dioxide, carbon monoxide, fumes, smoke
CORROSIVE BEHAVIOR? NO

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: 1.6 lbs./gallon V.O.C. (Reactive 214g/l) *
Water: Insoluble in water
Soil: Lead- and chromate-free/not hazardous under RCRA 40CFR

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), 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 1988 (SARA) Title III 302, 304, 311, 312, 313: None

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.