



GLOBAL INDUSTRIES, INC.

Steel Basins Interior Rubber Liner

Instructions



1

PermaDri™ Rubber Liner

Rubber Liner Products:

1. Mine Spray, or Spray Liner
2. Mine Coat, which is brushed on

NOTE: Read the sprayer manual before operating the sprayer!



Note: If rain is expected within 2 - 4 hours, delay installation of rubber liner until conditions and surfaces are dry!



Note: If rubber liner membrane is punctured, repair with a layer of Rubber Coat, embed with geotextile fabric and cover with an additional layer of Rubber Coat. *Geotextile Fabric recommendation: APOC 483 Fabric, Henry HE195, Tietex T272 Polyester.




Note: Read and understand to the instructions that came with your PermaDri™ products and equipment before applying PermaDri™ products!



Note: Read and understand to the instructions that came with your PermaDri™ products and equipment before applying any PermaDri™ products! Read and understand all PermaDri™ instructions pertaining to safety, operation, equipment, product familiarization, rubber spray, mixing, identifying product contamination, product maintenance, part “B” accelerator, pump, cleaning, and all other instructions pertaining to your installation.





Apply Liner to Sidewalls

 **Note:** The third liner layer (LINER LAYER 3) of Spray Liner should yield **96 Wet Mils or 60 Dry Mils**. If the liner is applied too thick, it will take too long to cure. If the liner is applied too thin, you will not have an adequate liner! **If you do not achieve the correct consistent Liner thickness or Mine Coat thickness everywhere the liner is applied, THIS WILL VOID YOUR WARRANTY!**

 **Note:** Spray Liner and Mine Coat application differs from painting. If your Rubber Liner is not applied properly, **THIS WILL VOID YOUR WARRANTY!** If your Rubber Liner is not applied correctly, as indicated in these instructions, **THIS WILL VOID YOUR WARRANTY!** Read pages 9 - 11 before applying.



 **Note:** When applying Spray Liner or when in the work area while Spray Liner is applied, you must wear a NIOSH N95 dust respirator mask. For proper use, see the instructions that come with your NIOSH N95 mask!

 **Note:** **REQUIRED BEFORE LINER APPLICATION.** Etch walls with vinegar. Apply vinegar with a sprayer or with a cloth rag. Put vinegar covering on walls for 15 minutes minimum, then rinse / pressure wash with water and allow to fully dry.



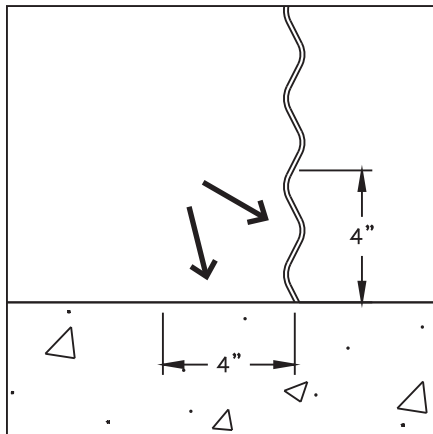
Prep-work: APPLY MINE COAT AND FABRIC AT THE SIDEWALL TO FLOOR TRANSITION

1

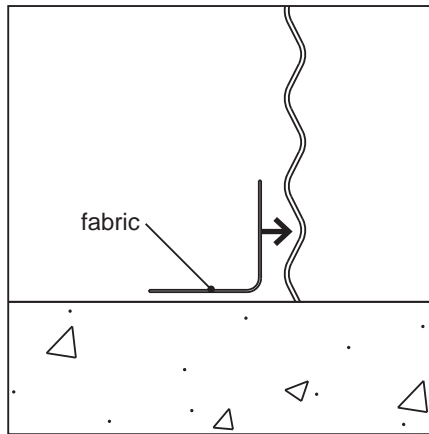
brush on Mine Coat, work-in fabric

<A> Start the Prep-work. Brush on Mine Coat gloves until saturated with coating. Coat approximately 4" up the sidewall and 4" out from the wall on the floor. (Cut and apply fabric in manageable lengths (5' - 10').)

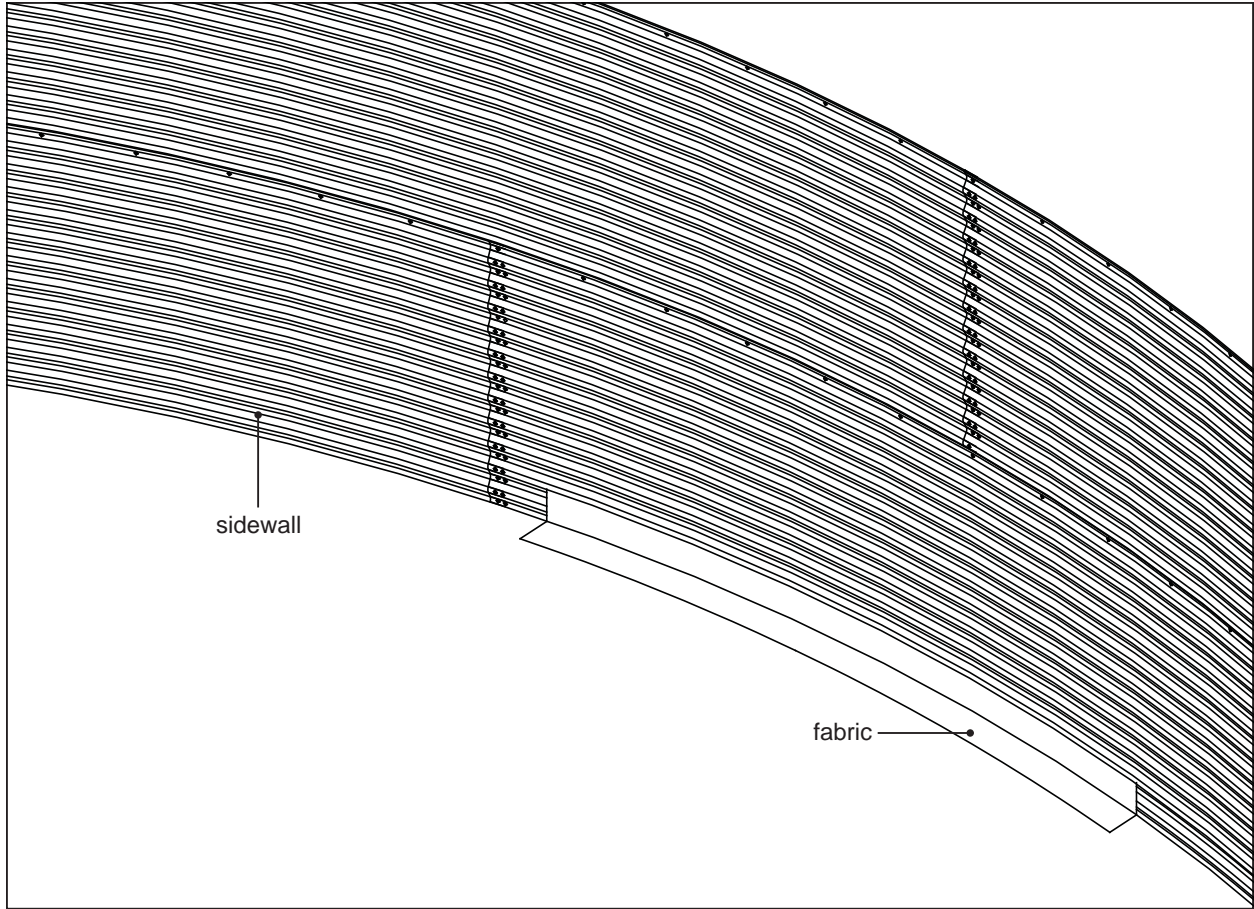
 Work-In Fabric (6"-wide) in sections all the way around the basin with
<C> Brush on thin layer of Mine Coat over fabric.



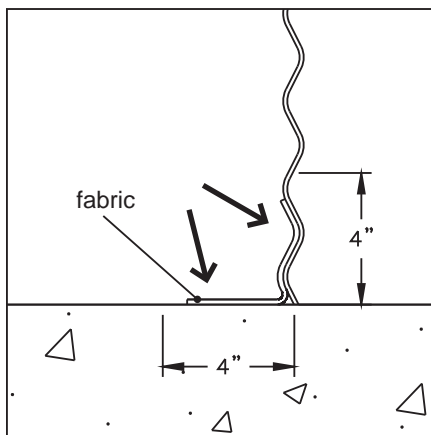
<A> Brush on Mine Coat



 Work-in Fabric



 Work-in Fabric



<C> Brush on Mine Coat over fabric



Prep-work: COAT ALL SEAMS AND BOLTS WITH MINE COAT AND SPRAY ALL PREP-WORK WITH 1 PASS OF LINER

2

coat / dab Mine Coat on seams/bolts

A. Continue Prep-work. Coat / dab Mine Coat over all bolt heads and coat all sidewall seams. Make certain bolts are completely coated. Use a stiff brush.

B. Let all Prep-work Mine Coat cure/blacken and dry to the touch. (This may take up to 12 hours depending on weather conditions.)

3

apply 1 pass of part A and B liner

Spray all Prep-work with a 1-direction pass of Spray Liner, spraying both parts A and B. Use 4008 TIP "A" Nozzle. Allow all Prep-work to dry to cure and dry to the touch. Always lead with part A liner product.

Apply Spray Liner to the Entire Sidewall



Note: Read and understand the **Liner Spraying Technique** instructions on pages 9 - 11 before starting spray liner application!

4

start applying liner at base of basin

Follow the Spray Technique instructions. Spray walls starting from bottom (with 4015 TIP "A" Nozzle).

A. ALWAYS KEEP NOZZLE PERPENDICULAR to work surface.

B. Start at the base of the basin. First, spray 2' out from the sidewall on the floor.

C. Work in lengths of 10' - 12'.

D. Now, apply Liner following the Spraying Technique instructions. Uniformly apply 96 Wet Mills of Spray Liner parts A and B to the first full sidewall ring up to the level of the first sidewall seam. (Make certain all 4-sides of bolts are covered to avoid bolt shadowing.)

5

continue applying liner up wall

Following the same method, continue up the sidewall. Apply liner, (1) sidewall ring at a time, from the bottom sidewall ring to the top sidewall ring. Apply liner until a 96 Wet Mills / 60 Dry Mills liner thickness is achieved over the entire sidewall.

6

allow liner to cure, rinse with water

Allow the entire sidewall liner to cure and dry to the touch. Rinse or use a wet rag and remove all salt from the entire liner. Allow all rinsed or wiped surfaces to dry to the touch.



Apply Liner to Floors



Note: Read and understand the Spraying Technique instructions on pages 9 - 11 before starting spray liner application!

1

apply spray liner to floors

A. Clean and rinse floor from sidewall application. Remove excess water.

B. ALWAYS KEEP NOZZLE PERPENDICULAR to work surface.

C. Spray and paint / blacken entire floor with a light coat of Part “A” - Liner only. If the floor is sloped, start application at the lowest point. Wait until this this entire first light coat of Part “A” Liner blackens (or is walkable) before continuing on to the next part of the process.



Note: If blistering of Part “A” - Liner occurs, LEAVE IT ALONE.

2

continue applying liner up wall

A. Follow the Spray Technique instructions. Spray entire concrete floor with 96 Wet Mills of Spray Liner. Tie into 2' area already applied to the concrete floor without adding more material into the area of the transition angle between the concrete floor and sidewall.

B. Allow all liner to cure and dry to the touch.



Liner Inspection



Note: When complete, your Spray Liner should yield 96 Wet Mils or 60 Dry Mils. If you do not achieve the correct consistent Liner thickness or Mine Coat thickness everywhere the liner is applied, THIS WILL VOID YOUR WARRANTY!

1

inspect liner, coat over any cracks

- A. After liner has dried for 6 - 12 hours, check liner for any cracks.
- B. Brush on Mine coat on any cracks and apply 2 coats of Spray Liner to any cracks which are found.

2

prepare for the hydro test

- A. 24 - 36 hours after the last spray application was made, check the moisture level of the coating using the meter indicated. Press meter into coating. Average moisture readings must be 15% - 18%.
- C. After liner is dry, check liner thickness everywhere on each basin for 60 Dry Mils thickness. Rinse any locations which are not thick enough to remove the salt before applying more liner.
- D. Apply more spray liner / mine coat to all areas which are too thin until correct 60 Dry Mils thickness is achieved everywhere on the liner.
- B. If the average moisture readings everywhere on the liner is between 15% - 18%, then you are ready to conduct the Hydro Test.



Liner Spraying Technique

FOLLOW THE INSTRUCTIONS IN THIS MANUAL SECTION TO CORRECTLY APPLY 96 WET MILS OF SPRAY LINER



Note: The third liner layer of overlapping double passes (**LINER LAYER 3**) of Spray Liner should yield **96 Wet Mils or 60 Dry Mils**. If the liner is applied too thick, it will take too long to cure. If the liner is applied too thin, you will not have an adequate liner! **If you do not achieve the correct consistent Liner thickness or Mine Coat thickness everywhere the liner is applied, THIS WILL VOID YOUR WARRANTY!**



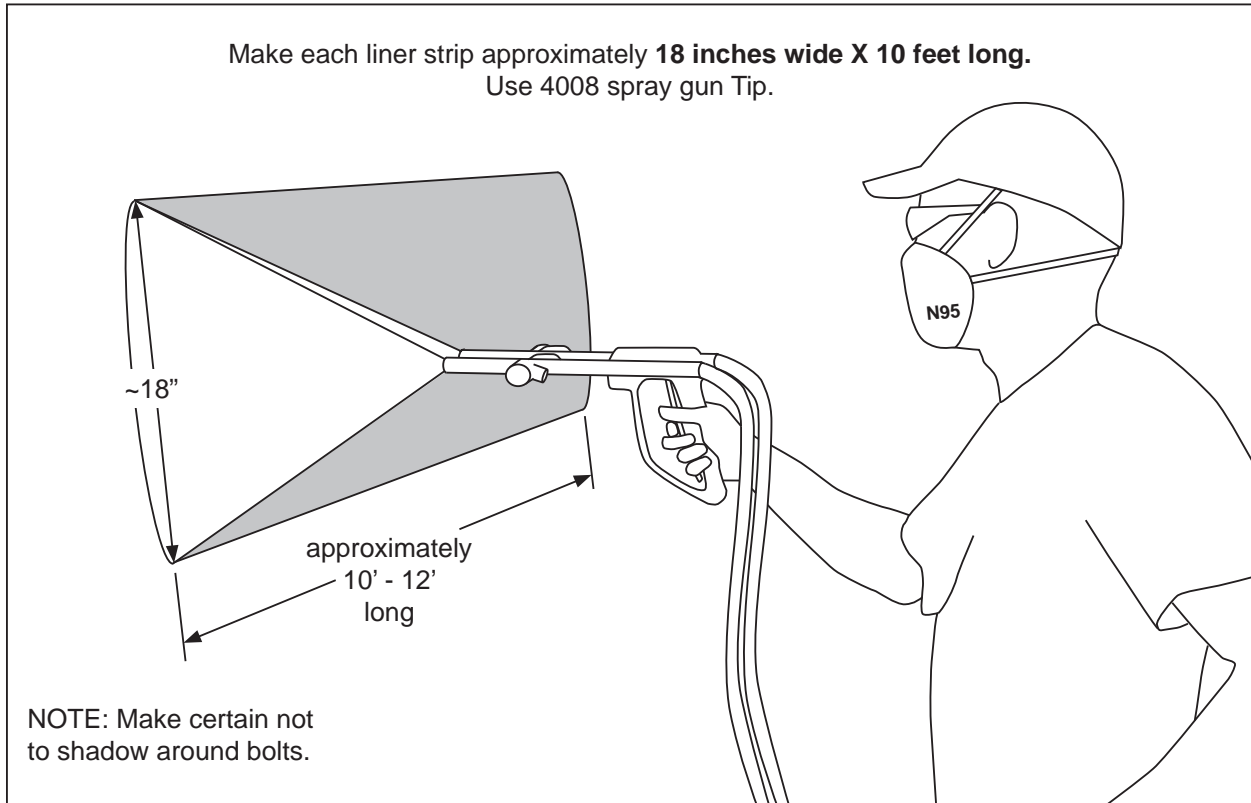
Note: Spray Liner and Mine Coat application differs from painting. If your Rubber Liner is not applied properly, **THIS WILL VOID YOUR WARRANTY!** If your Rubber Liner is not applied correctly, as indicated in these instructions, **THIS WILL VOID YOUR WARRANTY!** See [pages 9 - 11](#) before applying.



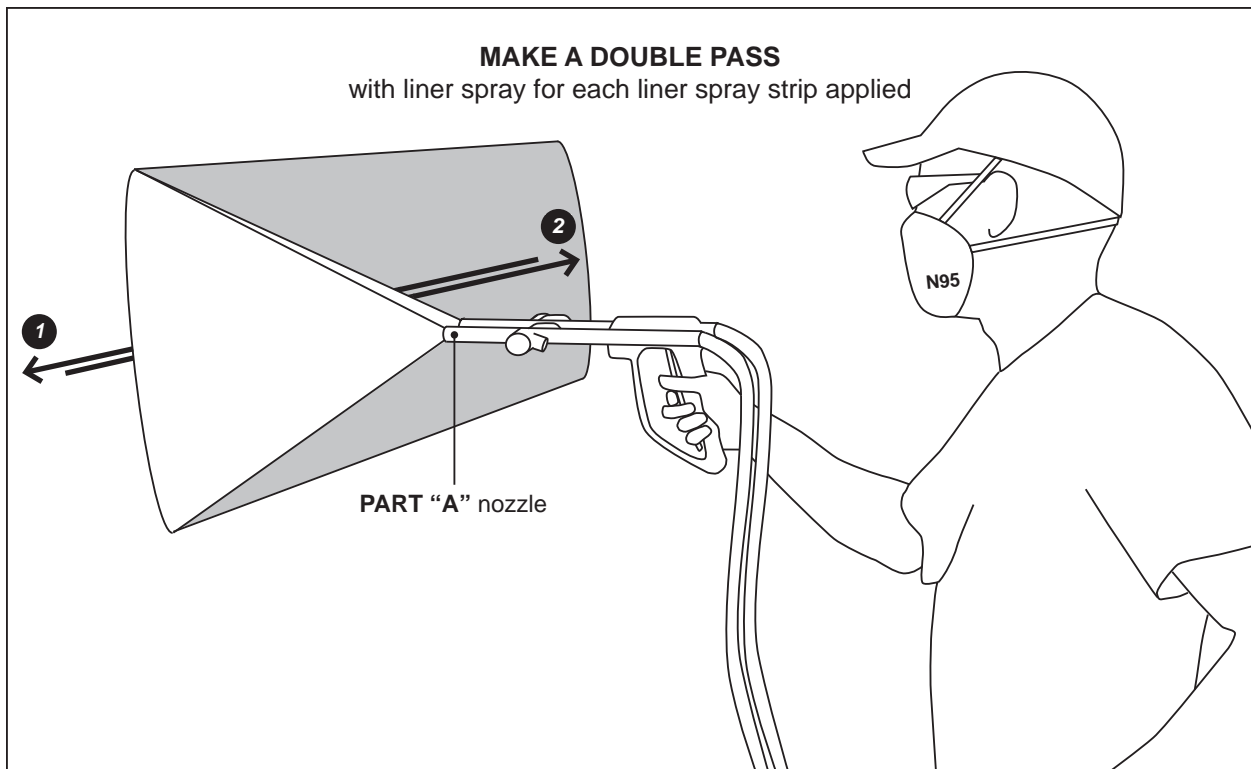
Note: When applying Spray Liner or when in the work area while Spray Liner is applied, you must wear a NIOSH N95 dust respirator mask. For proper use, see the instructions that come with your NIOSH N95 mask!



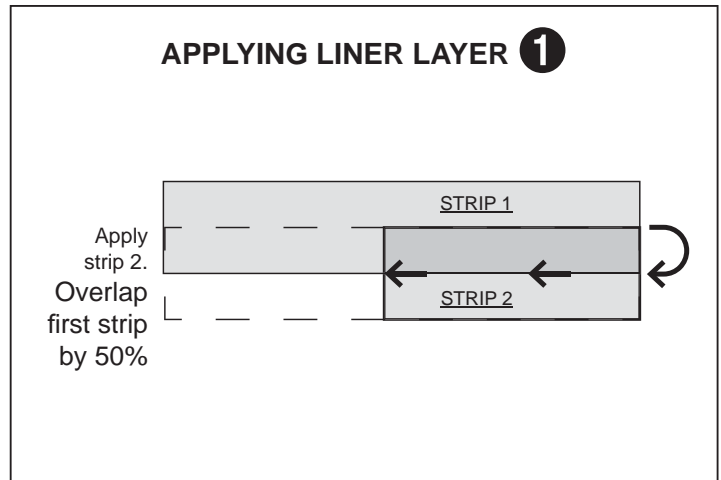
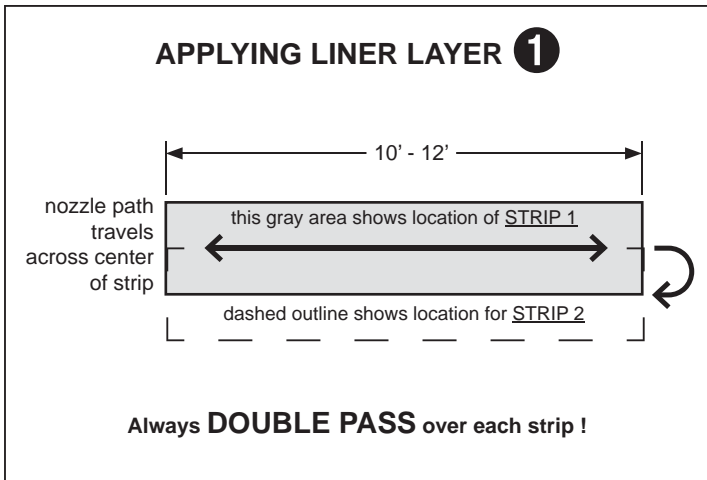
Note: **REQUIRED BEFORE LINER APPLICATION.** Etch walls with vinegar. Apply vinegar with a sprayer or with a cloth rag. Put vinegar covering on walls for 15 minutes minimum, then rinse / pressure wash with water and allow to fully dry.



<A> When applying a liner strip, make each strip approximately 18" wide and 10' - 12' long.

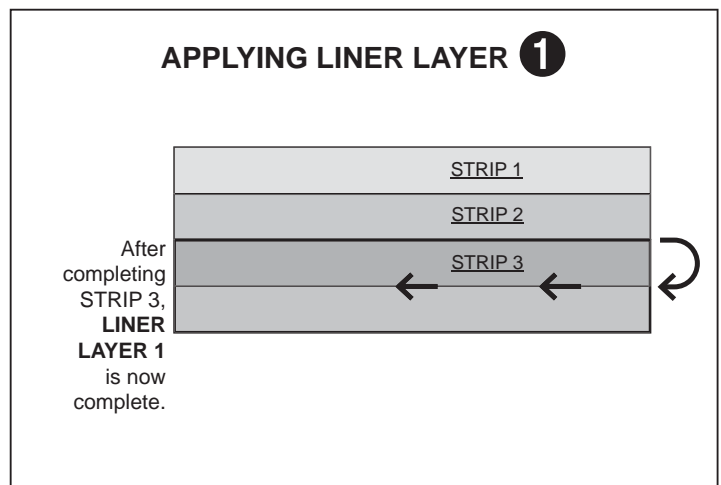
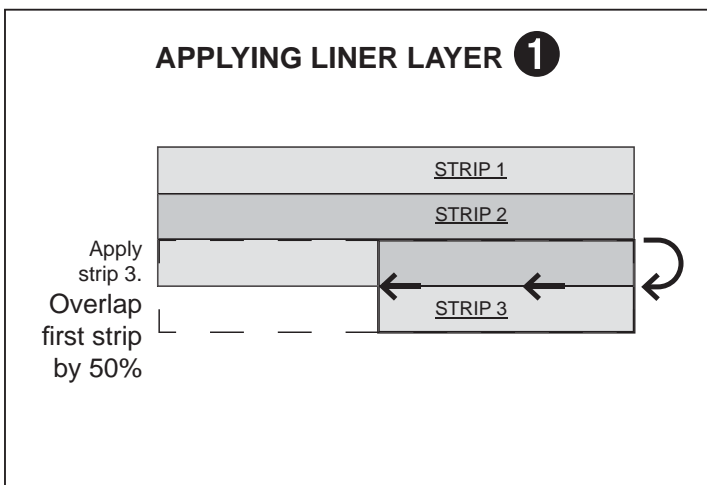


**** When applying a liner strip, make a double pass (2 passes) with liner spray for each strip of liner applied, left and then right. **ON THE FIRST PASS OF EACH STRIP, ALWAYS LEAD WITH PART "A" LINER PRODUCT.**



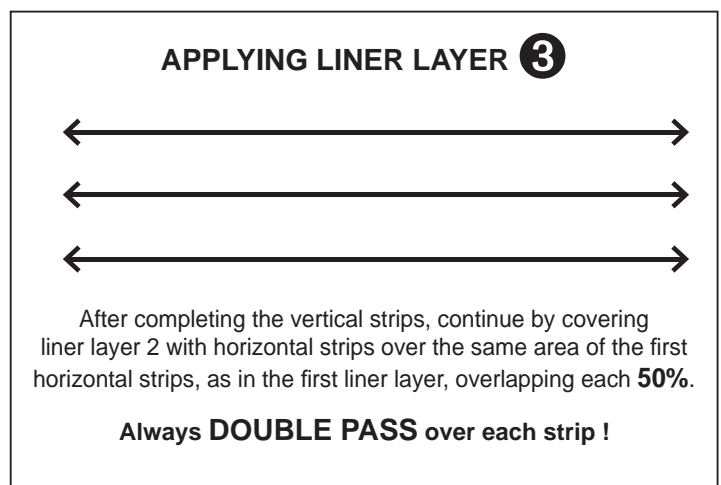
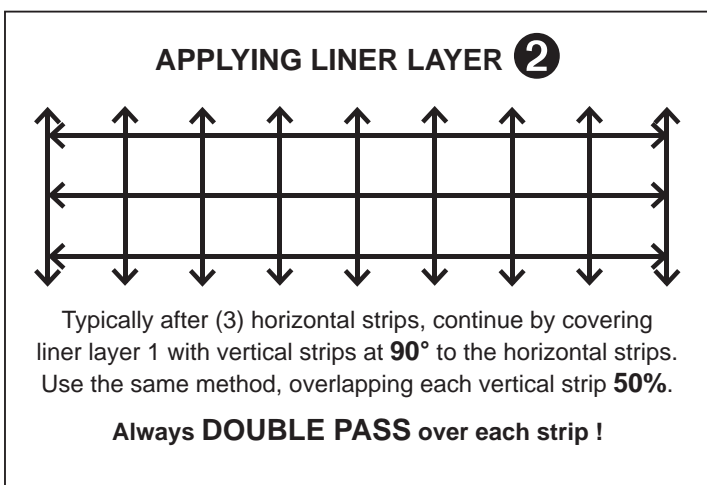
<C> Start spray liner layer 1. Apply spray liner strip 1.

<D> Apply spray liner strip 2.



<E> Apply spray liner strip 3.

<F> Complete liner layer 1 by completing strip 3.



<G> Apply liner layer 2.

<H> Apply liner layer 3.

2

PermaDri™ Site Checklists

PermaDri™, Items Needed Checklist

TYPICAL ITEMS NEEDED ON JOBSITE:

1. SHEARS FOR FABRIC (GOOD RAZOR KNIVES)
2. DUST MASKS
3. 1 BOTTLE OF GOO-GONE
4. 5 GALLONS OF MINERAL SPIRITS
5. EMPTY 5 GALLON BUCKETS
6. TYVEK SUITS
7. DRILL WITH LONG MIXER BLADE (MIX SALT WATER & EMULSION)
8. UNLEADED GAS
9. NON-DETERGENT 10/30WT OIL
10. DISPOSABLE GLOVES
11. 9" SHORT NAP PAINT ROLLERS
12. HANDLES FOR THE PAINT ROLLERS
13. 3" or 4" CHIP BRUSHES
14. ELECTRICAL EXTENTION CORD
15. SHOP TOWELS
16. DRINKING WATER
17. SUN SCREEN
18. SHADE COVERING
19. PLASTIC OR TARP FOR UNDER MACHINE (SPILLS)
20. SMOOTH SOLE SHOES (STEEL TOE)



PermaDri™, Quality Checklist

- Motor Oil
- Gear Oil
- Belts Tightened
- Controller Clips
- Check Hoses
- Compensator Pressure MP30
- Compensator Pressure MP20
- Suction Hose
- Dual Gun Check
- Check Port Caps

PUMP:

- A) ---- Check Oil
- B) ---- Check Oil
- Fluid Flow
- Fluid Flow
- Pressure
- Pressure

PACKING LIST:

- Pump Package
- 200' Pressure Hose w/ Caps
- A Side Suction Tube & Hose
- B Side Suction Tube & Hose
- Return Hoses (2)
- Dual Gun W/Wands 8"
- Spray Tips (2 @ 4001, 2 @ 4008, 2 @ 4015)
- Spare Parts Kit 5026-080
- Magic Tape
- Manuals (Honda & comet)
- Air Pressure/ Inflator Tool
- Gun Repair Kit Plus additional Brass Seat
- 1 ea. Metric Allen Wrench set
- 1 ea. Dentist Tool to remove Check Valves
- 1 ea. Crescent Wrench 8" & 10"
- Small wire Brush
- Small Bottle Cleaning Brush
- Hose Clamps (4)
- Tie-Wraps
- 13/16" Spark Plug Wrench w/ a 4" Extension
- 1 Quart of SAE 30 Non-Detergent Oil
- 1 Roll of Aluminum Window Screen
- Duct Tape

3

PermaDri™ MSDS

MINE COAT™

Mine Coat™ is a modified elastomeric asphalt emulsion specifically formulated for application by brush, squeegee or roller. **Mine Coat™** is a cold applied, single component product that yields a membrane with excellent strength, elasticity and adhesion. **Mine Coat™** is an environmentally friendly waterproofing product that can be applied indoors and outdoors with conventional protective equipment. *See below

FREE OF FLAMMABLE SOLVENTS · NON-TOXIC, ODORLESS, WATER BASED EXCELLENT STRENGTH, ELASTICITY & ADHESION

PHYSICAL PROPERTIES

PROPERTY	TYPICAL RESULTS
Specific gravity (liquid) g/cm ³	Approx. 1.0
Odor	None
VOC	Contains no solvents
Color	Brown to black
% Solids (wt)	53-58
Viscosity, Brookfield, sp.#5, 20 rpm	8000-9000
pH	10-12

PERFORMANCE (Cured Membrane)

PROPERTY	TYPICAL RESULTS
Color	Black
Specific Gravity, g/cm ³	Approximately 1.0
Chemical Resistance	Resistant to most inorganic solutions. Not recommended for gasoline or other petroleum products. Consult Chemical Resistance chart for further information.
Biological Resistance ASTM E 154, ASTM D412	Passed (> 90% original value)
Impact Resistance CSB 37-GP-500 @23°C in lbs	Passed (168)
Water tightness after impact	Passed (no leakage)
Water tightness CGSB 37-GP-56	Zero Leakage
Tensile Strength ASTM D412, psi	90
Elongation, %	850
Accelerated Weathering. ASTM G155, D412	Passed (no deterioration of film)
Tensile Strength	Passed (>90% original value)
Hardness, Durometer Type 00	85-87
Surface Corrosion ASTM D610	No corrosion after 500 hours, 0.03% after 1,000 hours
Adhesion to Concrete ASTM C907	111 psi
Hardness ASTM D2246	50 Type A
Puncture Resistance CGSB 37-GP-56	No perforations
Water Vapor Transmissions ASTM E96	0.04 perms

Application

Mine Coat™ is a water-based, environmentally safe alternative to conventional hot-applied, solvent based and sheet membrane waterproofing systems. Since Mine Coat™ cures by evaporation, a minimum application temperature of 40°F (4.5°C) is required. Apply in thin coats. The product cures within 24-48 hours at 70°F (21°C) and 50% relative humidity, at a thickness of 40 mils (1mm).

For best results, surfaces must be dry and free of dirt, debris, oil or grease. Application is not recommended if rain is imminent, or in high humidity environments.

Mine Coat™ is applied between 20-30 ft²/gal (0.3-0.7 m²/litre) to produce a 40-60 mil (1-1.5 mm) protective membrane. Mine Coat™ dries to the touch within minutes at 70°F (21°C). Curing time will vary depending on temperature and relative humidity.

LIMITATIONS

* Mine Coat™ is mildly alkaline. When applying this product observe appropriate safety precautions, wear gloves, eye protection and other suitable protective equipment. For further information please consult the product MSDS.

Mine Coat™ should not be applied when the ambient temperature is below 40°F (4.5°C). The uncured membrane may be damaged if frozen. Some surface base coats, such as coal tar are unsuitable for use with Mine Coat™.

CAUTION

For industrial use only. Keep out of reach of children. Avoid storage below 40°F (4.5°C). Please consult the MSDS before using Mine Coat™.

TECHNICAL SERVICE:
559-275-9620 | 800-279-5604

NON-TOXIC
NO VOCs



BRUSH GRADE

MINE COAT™

MSDS

Materials Safety Data Sheet

Supplier: PermaDri, Incorporated 4595 West Jacquelyn Ave., Fresno, CA 93722 • Phone: 559-275-9620 • 800-279-5604 • Fax: 559-275-9629
 THIS PRODUCT IS NOT SUBJECT TO THE CONTROLLED PRODUCTS OR THE TRANSPORTATION DANGEROUS GOODS REGULATIONS

SECTION I: MATERIAL IDENTIFICATION

TRADE NAME: Mine Coat™ • EMERGENCY TELEPHONE #: 559-275-9620

CHEMICAL FAMILY: Water suspension of petroleum derived hydrocarbons (polymer modified emulsified asphalt) and inert fillers.

MATERIAL USE: Protective Coating • T.D.G. CLASSIFICATION: NON REGULATED • WHIMIS CLASSIFICATION: NON REGULATED

SECTION II: HAZARDOUS INGREDIENTS

COMPONENT	CAS#	%(BY MASS)	LC50 (ppm) (rat inhal)	LD50 (mg/kg) (rat oral)
Complex mixture of bitumens	n/a	40-70	n/a	n/a
Anionic surfactants	n/a	0.5-2.0	n/a	n/a
Water	7732-18-5	30-60	n/a	n/a
Modifier		5-25	n/a	n/a

SECTION III: PHYSICAL PROPERTIES

Odor and appearance: Viscous brown liquid, slight resinous petroleum odor. • Odor threshold: n/a • Specific gravity: 1.00 (approx.).

Coefficient of water/oil distribution: n/a • Vapor pressure (mm Hg): 17 @20°C (water) • Boiling point: 100°C (water) • Freezing point: 0°C

pH: 7-13 • Vapor density (air = 1): > 1 • Evaporation rate (nBuAcetate = 1): <1 • Volatiles %: 40-60 (water) • Solubility in water: partially soluble

SECTION IV: FIRE & EXPLOSION DATA

Means of extinction: n/a • Sensitivity to mechanical impact/static discharge: n/a • Flash point (method): n/a (non-combustible)

Upper flammable limits %: n/a • Lower flammable limits %: n/a • Autoignition temperature: n/a • Special fire fighting instructions: n/a

Unusual fire and explosion hazards: Product will not burn but may splatter if temperature exceeds the boiling point.

SECTION V: REACTIVITY DATA

Chemical stability: Stable • Incompatible materials: Will react with alkaline sensitive materials such as acids and certain metals. Contact with reactive metals such as aluminum or magnesium will result in the formation of explosive hydrogen gas.

Hazardous decomposition products: Avoid heating above 200°C. At elevated temperatures hazardous vapors can be released, including carbon monoxide, hydrogen chloride, organic acids and aldehydes. • Hazardous polymerization: Will not occur.

SECTION VI: HEALTH INFORMATION

Exposure limit: n/a • Inhalation: n/a • Skin: adhesion • Eyes: adhesion, irritation. • Ingestion: Blockage of digestive and/or respiratory tract. Chronic effects: n/a

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: n/a Skin: This is an alkaline product. If splashed on the skin immediately wash thoroughly with fresh water. If the product has dried on the skin massage the area with medical grade mineral oil, baby oil or edible oil, then wash with soap and water. If irritation persists seek medical attention. Eyes: Flush thoroughly with fresh water for at least ten minutes. Seek medical attention. Ingestion: DO NOT INDUCE VOMITING. Seek medical attention.

SECTION VII: SPILL PROCEDURES

In the event of a spill: Dike and contain, transfer to containers for recovery or disposal. Keep out of sewers. Waste disposal method: Follow federal, provincial and local regulations regarding disposal.

SECTION VIII: SPECIAL PROTECTION

Respiratory protection: n/a • Ventilation: n/a • Protective gloves: Recommended • Eye protection: safety glasses/splash goggles recommended.

Other protective equipment: Long sleeves, loose clothing recommended.

SECTION IX: SPECIAL PRECAUTIONS

Storage and handling conditions: Keep containers tightly closed when not in use. KEEP FROM FREEZING.

Special shipping information: Not regulated by the Transportation of Dangerous Goods Regulations.

Prepared by: PermaDri, Incorporated • Preparation date: 04/10/07

The information contained herein is based on available data and is provided for information only. PermaDri, Inc. makes no warranties, guarantees or conditions, expressed or implied, regarding the accuracy of the data or its use therein. PermaDri, Inc. will not be liable for any damages arising from the use of the information or product described on this data sheet.

4595 W Jacquelyn Avenue • Fresno, CA 93722 • TEL: 559-275-9620 • 800-279-5604 • FAX: 559-275-9629 • PERMADRI.COM



MINE PATCH™

Mine Patch™ is a modified elastomeric asphalt emulsion specifically formulated for application by trowel. **Mine Patch™** is a cold applied, single component product that yields a membrane with excellent strength, elasticity and adhesion **Mine Patch™** is an environmentally friendly waterproofing product that can be applied indoors and outdoors with conventional protective equipment. *See below

FREE OF FLAMMABLE SOLVENTS · NON-TOXIC, ODORLESS, WATER BASED · EXCELLENT STRENGTH, ELASTICITY & ADHESION

PHYSICAL PROPERTIES

PROPERTY	TYPICAL RESULTS
Specific gravity (liquid) kg/m ³	Approx. 1.0
Odor	None
VOC	Contains no solvents
Color	Brown to black
% Solids (wt)	63-68
Viscosity, Brookfield, sp.#5, 20 rpm	20,000-30,000
pH	10-12

PERFORMANCE (Cured Membrane)

PROPERTY	TYPICAL RESULTS
Color	Black
Specific Gravity, kg/m ³	Approximately 1.0
Chemical Resistance	Resistant to most inorganic solutions. Not recommended for gasoline or other petroleum products. Consult Chemical Resistance chart for further information.
Tensile Strength ASTM D412, psi	50
Elongation,%	100
Accelerated Weathering. ASTM G155, D412	Passed
Tensile Strength	Passed (>90% original value)
Hardness, Durometer Type 00	85-90

DURABLE · WATER-BASED · ENVIRONMENTALLY SAFE
MINE SPRAY · MINE COAT · MINE PATCH
 SPECIALLY FORMULATED FOR THE MINING INDUSTRY

Application

Mine Patch™ is a water-based, environmentally safe alternative to solvent based and sheet membrane corrosion protective waterproofing systems. Since Mine Patch™ cures by evaporation, a minimum application temperature of 40°F (4.5°C) is required. Apply in thin coats. The product cures within 24-48 hours at 70°F (21°C) and 50% relative humidity, at a thickness of 40 mils (1mm).

For best results, surfaces must be dry and free of dirt, debris, oil or grease. Application is not recommended if rain is imminent, or in high humidity environments.

Mine Patch™ is applied between 20-30 ft²/gal (0.3-0.7 m²/litre) to produce a 40-60 mil (1-1.5 mm) protective membrane. Mine Patch™ dries to the touch within minutes at 70°F (21°C). Curing time will vary depending on temperature and relative humidity.

LIMITATIONS

* Mine Patch™ is mildly alkaline. When applying this product observe appropriate safety precautions, wear gloves, eye protection and other suitable protective equipment. For further information please consult the product MSDS.

Mine Patch™ should not be applied when the ambient temperature is below 40°F (4.5°C). The uncured membrane may be damaged if frozen. Some surface base coats, such as coal tar are unsuitable for use with Mine Patch™.

CAUTION

For industrial use only. Keep out of reach of children. Avoid storage below 40°F (4.5°C). Please consult the MSDS before using Mine Patch™.

TECHNICAL SERVICE:
 559-275-9620 | 800-279-5604

NON-TOXIC
NO VOCs



TROWEL GRADE

MINE PATCH™

MSDS

Materials Safety Data Sheet

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MATERIAL USE: Protective Coating • **T.D.G. CLASSIFICATION:** NON REGULATED • **WHIMIS CLASSIFICATION:** NON REGULATED

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COMPONENT	CAS#	%(BY MASS)	LC50 (ppm) (rat inhal)	LD50 (mg/kg) (rat oral)
Complex mixture of bitumens	n/a	40-70	n/a	n/a
Anionic surfactants	n/a	0.5-2.0	n/a	n/a
Water	7732-18-5	30-60	n/a	n/a
Modifier		5-25	n/a	n/a

SECTION III: PHYSICAL PROPERTIES

Odor and appearance: Viscous brown liquid, slight resinous petroleum odor. • **Odor threshold:** n/a • **Specific gravity:** 1.00 (approx.).

Coefficient of water/oil distribution: n/a • **Vapor pressure (mm Hg):** 17 @20°C (water) • **Boiling point:** 100°C (water) • **Freezing point:** 0°C

pH: 7-13 • **Vapor density (air = 1):** > 1 • **Evaporation rate (nBuAcetate = 1):** <1 • **Volatiles %:** 40-60 (water) • **Solubility in water:** partially soluble

SECTION IV: FIRE & EXPLOSION DATA

Means of extinction: n/a • **Sensitivity to mechanical impact/static discharge:** n/a • **Flash point (method):** n/a (non-combustible)

Upper flammable limits %: n/a • **Lower flammable limits %:** n/a • **Autoignition temperature:** n/a • **Special fire fighting instructions:** n/a

Unusual fire and explosion hazards: Product will not burn but may splatter if temperature exceeds the boiling point.

SECTION V: REACTIVITY DATA

Chemical stability: Stable • **Incompatible materials:** Will react with alkaline sensitive materials such as acids and certain metals. Contact with reactive metals such as aluminum or magnesium will result in the formation of explosive hydrogen gas.

Hazardous decomposition products: Avoid heating above 200°C. At elevated temperatures hazardous vapors can be released, including carbon monoxide, hydrogen chloride, organic acids and aldehydes. • **Hazardous polymerization:** Will not occur.

SECTION VI: HEALTH INFORMATION

Exposure limit: n/a • **Inhalation:** n/a • **Skin:** adhesion • **Eyes:** adhesion, irritation. • **Ingestion:** Blockage of digestive and/or respiratory tract. **Chronic effects:** n/a

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: n/a **Skin:** This is an alkaline product. If splashed on the skin immediately wash thoroughly with fresh water. If the product has dried on the skin massage the area with medical grade mineral oil, baby oil or edible oil, then wash with soap and water. If irritation persists seek medical attention. **Eyes:** Flush thoroughly with fresh water for at least ten minutes. Seek medical attention. **Ingestion:** DO NOT INDUCE VOMITING. Seek medical attention.

SECTION VII: SPILL PROCEDURES

In the event of a spill: Dike and contain, transfer to containers for recovery or disposal. Keep out of sewers. **Waste disposal method:** Follow federal, provincial and local regulations regarding disposal.

SECTION VIII: SPECIAL PROTECTION

Respiratory protection: n/a • **Ventilation:** n/a • **Protective gloves:** Recommended • **Eye protection:** safety glasses/splash goggles recommended.

Other protective equipment: Long sleeves, loose clothing recommended.

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Special shipping information: Not regulated by the Transportation of Dangerous Goods Regulations.

Prepared by: PermaDri, Incorporated • **Preparation date:** 04/10/07

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4595 W Jacquelyn Avenue • Fresno, CA 93722 • TEL: 559-275-9620 • 800-279-5604 • FAX: 559-275-9629 • PERMADRI.COM



MINE SPRAY™

Mine Spray™ is a modified elastomeric asphalt emulsion specifically formulated for application with a specially designed spray system. **Mine Spray™** is a cold applied, dual component product that yields a membrane with excellent strength, elasticity and adhesion. **Mine Spray™** is an environmentally friendly waterproofing product that can be applied indoors and outdoors with conventional protective equipment. *See below

FREE OF FLAMMABLE SOLVENTS - NON-TOXIC, ODORLESS, WATER BASED - EXCELLENT STRENGTH, ELASTICITY & ADHESION

PHYSICAL PROPERTIES

PROPERTY	TYPICAL RESULTS
Specific gravity (liquid) g/cm ³	Approx. 1.0
Odor	None
VOC	Contains no solvents
Color	Brown to black
% Solids (wt)	53-58
Viscosity, SSF @ 25°C, seconds	15-20
pH	10-12

PERFORMANCE (Cured Membrane)

PROPERTY	TYPICAL RESULTS
Color	Black
Specific Gravity, g/cm ³	Approximately 1.0
Chemical Resistance	Resistant to most inorganic solutions. Not recommended for petroleum products. Consult Chemical Resistance chart for further information.
Biological Resistance ASTM E 154, ASTM D412	Passed (> 90% original value)
Impact Resistance CSB 37-GP-500 @23°C in lbs	Passed (168)
Water tightness after impact	Passed (no leakage)
Tensile Strength ASTM D412, psi	125
Elongation, %	850
Salt Fog Corrosion, ASTM B117-97 (scribed), 1000 hrs.	Passed
Surface Corrosion, ASTM D610, 1000 hrs.	None Detectable
Blistering, ASTM D714, 1000 hrs.	None
Corrosion Creepback, ASTM D1654, 1000 hrs.	None
Adhesion to Concrete ASTM C907 (amended to tensile adhesion), psi	111 psi
Puncture Resistance CGSB 37-GP-56, 24 hr @29N, -5°C	Passed (no perforations)
Accelerated Weathering, ASTM G155, D412	Passed (no deterioration of film)
Tensile Strength	Passed (>125% original value)
Hardness, Durometer Type 00	85-87

Application

Mine Spray™ is a water-based, environmentally safe alternative to solvent-based and sheet membrane waterproofing systems. Since Mine Spray™ cures by evaporation, a minimum application temperature of 40°F (4.5°C) is required. Apply in thin coats. The product cures within 24-48 hours at 70°F (21°C) and 50% relative humidity, at a thickness of 40 mils (1mm).

For best results, surfaces must be dry and free of dirt, debris, oil or grease. Application is not recommended if rain is imminent, or in high humidity environments.

Mine Spray™ is applied between 20-30 ft²/gal (0.3-0.7 m²/litre) to produce a 40-80 mil (1-2 mm) protective membrane. Mine Spray™ dries to the touch instantly. Curing time will vary depending on temperature and relative humidity.

LIMITATIONS

* Mine Spray™ is mildly alkaline. When applying this product observe appropriate safety precautions, wear gloves, eye protection and other suitable protective equipment. For further information please consult the product MSDS.

Mine Spray™ should not be applied when the ambient temperature is below 40°F (4.5°C). The uncured membrane may be damaged if frozen. Some surface base coats, such as coal tar are unsuitable for use with Mine Spray™.

CAUTION

For industrial use only. Keep out of reach of children. Avoid storage below 40°F (4.5°C). Please consult the MSDS before using Mine Spray™.

TECHNICAL SERVICE:
559-275-9620 | 800-279-5604

NON-TOXIC
NO VOCs



SPRAY GRADE

MINE SPRAY™

MSDS

Materials Safety Data Sheet

Supplier: PermaDri, Incorporated 4595 West Jacquelyn Ave., Fresno, CA 93722 • Phone: 559-275-9620 • 800-279-5604 • Fax: 559-275-9629
 THIS PRODUCT IS NOT SUBJECT TO THE CONTROLLED PRODUCTS OR THE TRANSPORTATION DANGEROUS GOODS REGULATIONS

SECTION I: MATERIAL IDENTIFICATION

TRADE NAME: Mine Spray™ • **EMERGENCY TELEPHONE #:** 559-275-9620

CHEMICAL FAMILY: Water suspension of petroleum derived hydrocarbons (polymer modified emulsified asphalt) and inert fillers.

MATERIAL USE: Protective Coating • **T.D.G. CLASSIFICATION:** NON REGULATED • **WHIMIS CLASSIFICATION:** NON REGULATED

SECTION II: HAZARDOUS INGREDIENTS

COMPONENT	CAS#	%(BY MASS)	LC50 (ppm) (rat inhal)	LD50 (mg/kg) (rat oral)
Complex mixture of bitumens	n/a	40-70	n/a	n/a
Anionic surfactants	n/a	0.5-2.0	n/a	n/a
Water	7732-18-5	30-60	n/a	n/a
Modifier		5-25	n/a	n/a

SECTION III: PHYSICAL PROPERTIES

Odor and appearance: Viscous brown liquid, slight resinous petroleum odor. • **Odor threshold:** n/a • **Specific gravity:** 1.00 (approx.).

Coefficient of water/oil distribution: n/a • **Vapor pressure (mm Hg):** 17 @20°C (water) • **Boiling point:** 100°C (water) • **Freezing point:** 0°C

pH: 7-13 • **Vapor density (air = 1):** > 1 • **Evaporation rate (nBuAcetate = 1):** <1 • **Volatiles %:** 40-60 (water) • **Solubility in water:** partially soluble

SECTION IV: FIRE & EXPLOSION DATA

Means of extinction: n/a • **Sensitivity to mechanical impact/static discharge:** n/a • **Flash point (method):** n/a (non-combustible)

Upper flammable limits %: n/a • **Lower flammable limits %:** n/a • **Autoignition temperature:** n/a • **Special fire fighting instructions:** n/a

Unusual fire and explosion hazards: Product will not burn but may splatter if temperature exceeds the boiling point.

SECTION V: REACTIVITY DATA

Chemical stability: Stable • **Incompatible materials:** Will react with alkaline sensitive materials such as acids and certain metals. Contact with reactive metals such as aluminum or magnesium will result in the formation of explosive hydrogen gas.

Hazardous decomposition products: Avoid heating above 200°C. At elevated temperatures hazardous vapors can be released, including carbon monoxide, hydrogen chloride, organic acids and aldehydes. • **Hazardous polymerization:** Will not occur.

SECTION VI: HEALTH INFORMATION

Exposure limit: n/a • **Inhalation:** n/a • **Skin:** adhesion • **Eyes:** adhesion, irritation. • **Ingestion:** Blockage of digestive and/or respiratory tract. **Chronic effects:** n/a

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: n/a **Skin:** This is an alkaline product. If splashed on the skin immediately wash thoroughly with fresh water. If the product has dried on the skin massage the area with medical grade mineral oil, baby oil or edible oil, then wash with soap and water. If irritation persists seek medical attention.

Eyes: Flush thoroughly with fresh water for at least ten minutes. Seek medical attention. **Ingestion:** DO NOT INDUCE VOMITING. Seek medical attention.

SECTION VII: SPILL PROCEDURES

In the event of a spill: Dike and contain, transfer to containers for recovery or disposal. Keep out of sewers. **Waste disposal method:** Follow federal, provincial and local regulations regarding disposal.

SECTION VIII: SPECIAL PROTECTION

Respiratory protection: n/a • **Ventilation:** n/a • **Protective gloves:** Recommended • **Eye protection:** safety glasses/splash goggles recommended.

Other protective equipment: Long sleeves, loose clothing recommended.

SECTION IX: SPECIAL PRECAUTIONS

Storage and handling conditions: Keep containers tightly closed when not in use. KEEP FROM FREEZING.

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P. O. Box 2105 • 2928 East Highway 30
Grand Island, Nebraska 68801, U.S.A.

(308) 384-9320 • FAX (308) 382-6954

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