

Section	Paragraph	Description
13210	1.5.E.2	Tank Surface Preparation, Coating & Testing Instructions

OSR45-11 (Rev 10-22-2008)

Savannah River Site

Supplier Document Status

1. Work may proceed.
2. Submit Final Document work may proceed.
3. Revise and Resubmit. Work may proceed subject to Resolution of Comments.
4. Revise and Resubmit. Work may not proceed.
5. Permission to proceed is not required.

pk# 29123

Permission to proceed does not constitute acceptance or approval of design details, calculations, test methods, analysis or materials developed or selected by the supplier, and does not relieve supplier from full compliance with contractual obligations or release of any 'holds' placed on the contract.

WB00001K-032-C-MDM

Document Category 4.1	Date 6/25/09
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Reviewer
John A. Phillips PER TELECON FOR
W. COLEMAN MILES

2010 JUN 25 AM 10: 10

ENGINEERING DOC. CONTROL - SRS



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UNIVERSAL PAINTING

Sandblasting • Painting • Water-Jetting

September 4, 2009

MDM Services Corporation
Savannah River Research Center
227 Gateway Drive Suite 223B
Aiken, South Carolina 29803

Attn: Martin Lunn

RE: QB00485K – Z Area Storage Vaults –
Savannah River Site in Aiken, S.C.

Subject: Final Coatings Re-Submittal with Revisions.

Dear Mr. Lunn,

Please find the Final Coatings Re-submittal with revisions:

Exterior Roof Deck (Slab) – Surfaces of each tank.

Coating Systems Schedule with revisions.

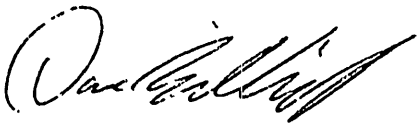
Internal Coatings of Concrete Tanks.

Coating Systems Schedule with revisions and details.

If you have any further questions please feel free to give me a call.

Sincerely,

Universal Painting Corporation



Dave Billingsley
Project Manager

cc:file

2234 Old Tampa Highway Lakeland, Florida 33815
(863) 594-1912 * (864) 844-3512 * Fax (863) 594-1915

13210,1.5,E.2 Tank Surface Preparation, Coating Application & Testing Instructions**COATING SYSTEMS SCHEDULE****Internal Coatings of Concrete Tanks:**

The following coating system shall be applied to the walls, floor of the tanks and a minimum of 1 foot up each of the roof support columns

Surface Preparation: New concrete cured 28 days, concrete should exhibit a compressive strength of 3,000 PSI minimum and tensile strength of 300 psi or higher. Ground slabs and new concrete should be tested for excess moisture in accordance with ASTM D 4263 Plastic Sheet Test Method: any water on the backside of the sheet after overnight exposure is an unacceptable surface for coating. Re-testing shall be performed till no moisture present. Abrasive blast clean concrete per NACE No. 6/SSPC SP-13.

Surface prep standards for comparison shall be included, after prep is completed.

The pH of the concrete should be checked prior to coatings being applied. The range per manufacturer should be between 3 to 10.

Chloride testing of concrete shall be conducted on bare concrete prior to coatings being applied.

Environmentals: The surface temperature shall be kept with a laser thermometer, ambient temperature with a sling psychrometer, dew point obtained with ambient (dry bulb), relative humidity and weather bureau NOAA dew point tables. The information shall be recorded on our daily environmental logs.

Bug Hole & Crack Filler: After surface prep and prior to coatings, as required.

Fill honeycombs, large & small holes/voids.

Blome International MP 83 Epoxy Adhesive/Mortar.

Bughole repair/ concrete surface 20 mils maximum per coat, 83 MP should be hard to touch (not tacky or your fingernail should not indent film) approximately 6-8 hours depending on temperature and less than 24 hours. Larger (deep) holes and voids may be filled, with the use of lifts (layers) of 83 MP in separate coats.

Primer: 1 coat Blome International TL-75 - add Blome 410C Powder (Carbon Filler Powder - Part C) to create conductive Primer. 2 to 4 mils DFT.

The manufacturer does not have a product data sheet for 410C, we have provided the label. The mixing ratio is 1.5 pints of 410C to 1.5 mixed gallons of Blome 75 primer.

Topcoat: 2 coats Blome International TL-45S with fabric (Blome 441 Mat - Standard 1 ounce Chopped Strand Mat) embed between coats, 30-40 DFT per coat.

The above revised sequence of applications has been changed to delete the need for sweep blasting the surface of coating in between coats to satisfy concern of fracturing (micro-cracking) the coating system. This has been accomplished by applying the complete system within the recoat windows for a pre-determined amount of square footage to be accomplished in a days time. The only need to abrade the surface if for some reason windows are exceeded due to weather or environmentals and also, the ending edge (approx 4 inches) of the previous days work so we may overlap and continue. Abrading can be accomplished with several methods grinding, sweep blasting, and scarification. High Voltage testing and repair of lining shall be performed after all coating work is complete and cured.

The bolts, embeds and all other penetrations shall be sealed per the manufacturer's details attached.

The curb detail at floor and wall interface shall be coated per the manufacturer's detail attached. CIM application changed to Blome system per detail ECD-1001 and/or APD-1013 attached.

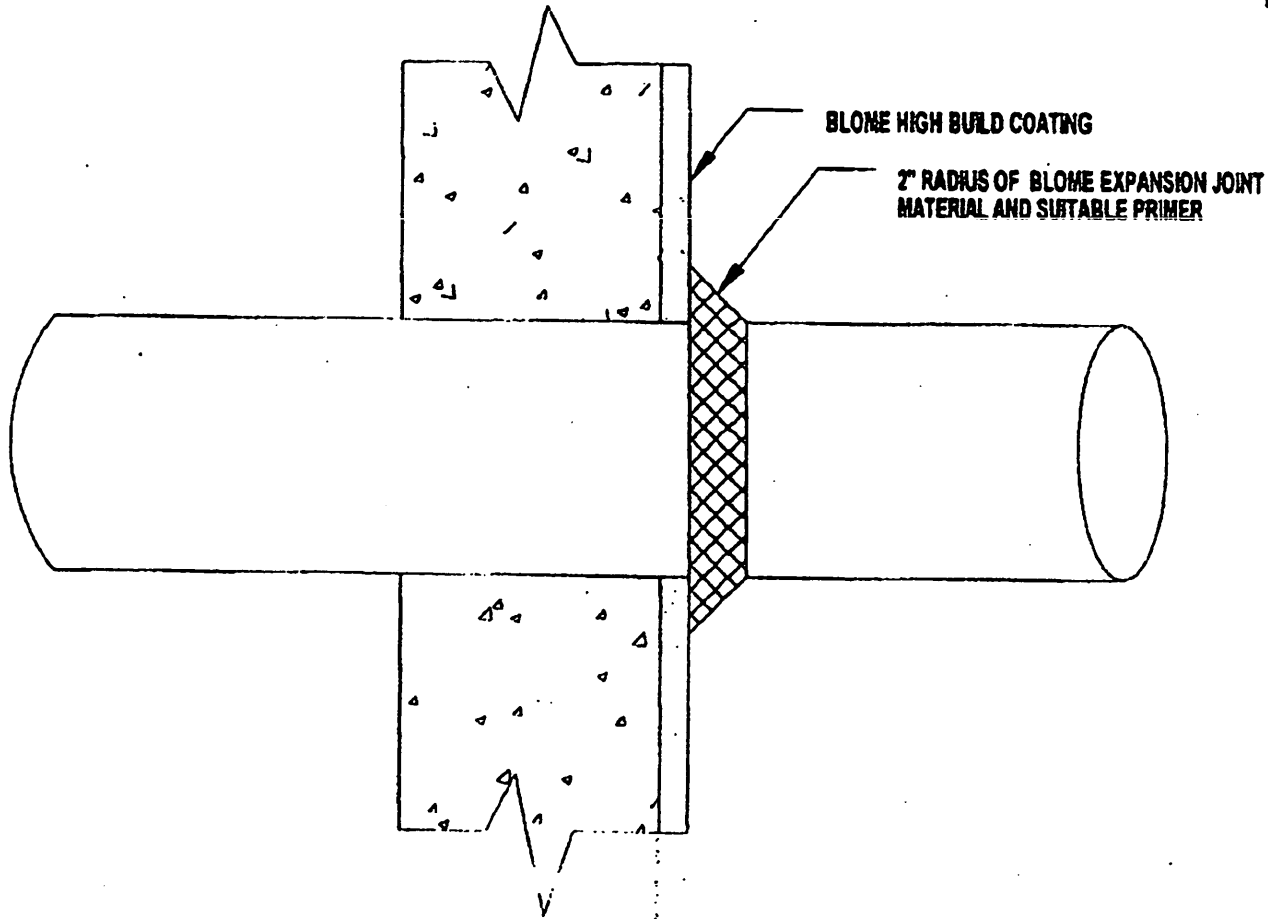
Storage Areas: Stored materials shall be kept inside Storage Trailer. Per the manufacturer, we shall keep all components tightly sealed in their original containers until ready for use and stored between 50 and 75 degrees Fahrenheit out of direct sunlight. Twenty four hours before application, all materials (component A & B) should be stored at 75 to 85 degrees Fahrenheit.

Environmental Conditions:
Surface and air temperatures of 50 degrees F minimum and 95 degrees F maximum. Low temperature cure can be used for Temperatures as low as 40 degrees F. Air temperature should always be at least 5 degrees F greater than the current dew point.

Coating Thickness Inspections:
Coating Thickness Inspections and measurements shall be made during coating process by the use of Wet Mil Gauges. The coating film must be wet during testing.

Holiday Testing:
After application of the complete coating system and prior to access scaffolding being removed the coating system shall be Holiday Tested to find pinholes, imperfections and missed places. The areas identified shall be marked, repaired and retested. The use of a high Voltage holiday detector such as Elcometer 236 DC, Tinkor Rasor APW or equivalent shall be used to test at 100 volts per mil. The coating must be cured between 16 to 24 hours prior to testing.

FOR HOLIDAY TESTING OF REPAIRED AREAS REFER TO ATTACHMENT "A" FOR TESTING METHOD. KEW FOR C.MILES 6/26/10



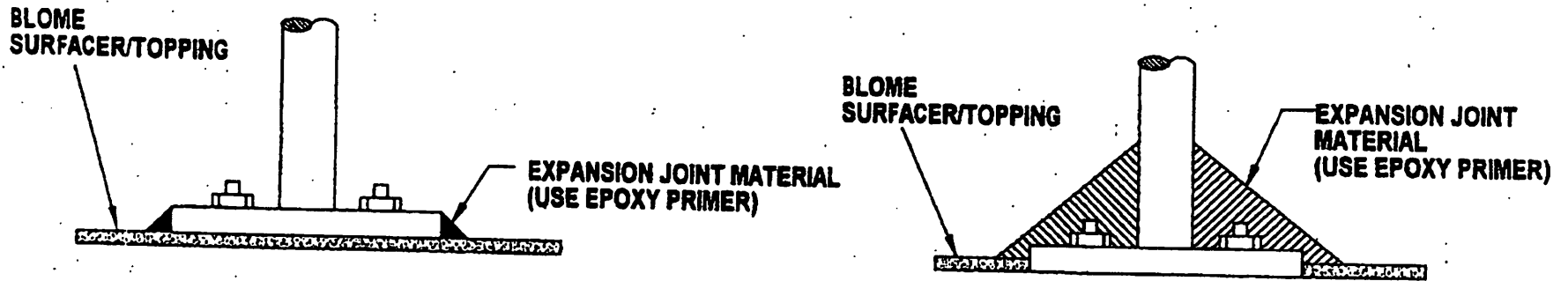
WALL PENETRATION THROUGH HIGH BUILD COATING

TLD-1004

BLOME
INTERNATIONAL

1450 Hoff Industrial Drive
O'Fallon, MO 63368
636-379-9119 fax 636-379-0368
www.blome.com e-mail info@blome.com

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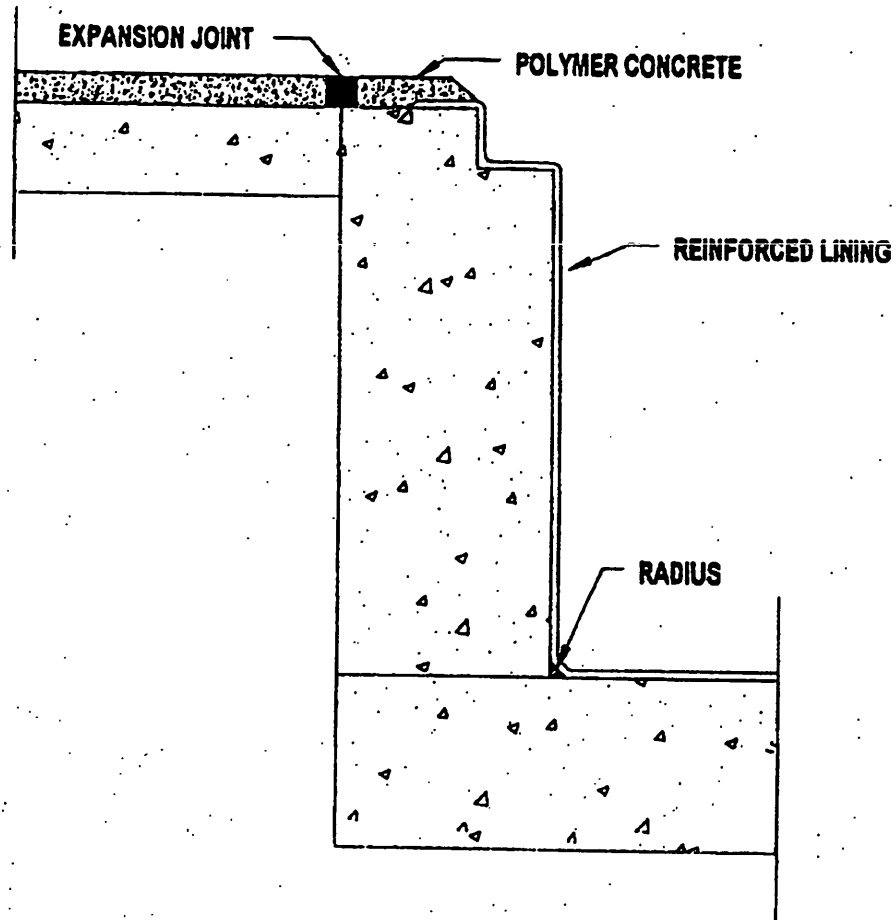
EQUIPMENT FOOTING DETAILS

ECD-1014

BLOME
INTERNATIONAL

1450 Hoff Industrial Drive
O'Fallon, MO 63368
636-379-9119 fax 636-379-0388
www.blome.com e-mail info@blome.com

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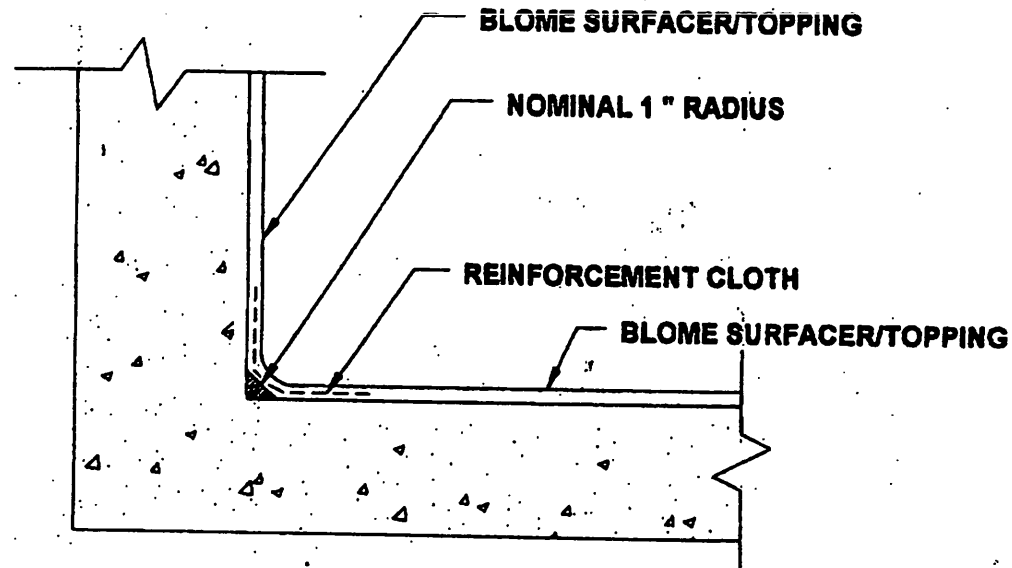


TRANSITION DETAIL: POLYMER CONCRETE FLOOR TO
REINFORCED TRENCH/SUMP LINING

APD-1013

BLOME
INTERNATIONAL

1450 Hoff Industrial Drive
O'Fallon, MO 63366
636-379-9119 fax 636-379-0388
www.blome.com e-mail info@blome.com



MONOLITHIC TOPPING FLOOR TO WALL DETAIL

ECD-1001

BLOME
INTERNATIONAL

1450 Hoff Industrial Drive
O'Fallon, MO 63366
636-379-9119 fax 636-379-0388
www.blome.com e-mail info@blome.com

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Blome Primer 75 Moisture Tolerant Epoxy Primer

PRODUCT DESCRIPTION

Blome Primer 75 is a two-component, moisture-tolerant epoxy primer for steel, concrete and other substrates as specified. It is used to prime concrete, steel and other substrates prior to application of other Blome International coatings, linings, membranes, sealants and polymer concretes. It achieves a tenacious bond to the substrate and tolerates substrate dampness but not wet surfaces.

GENERAL USES

Blome Primer 75 is used as a primer for other Blome International materials in a wide variety of applications. Typical applications include:

- Secondary containment linings
- Tank linings
- Monolithic floor toppings
- In-situ polymer concrete installations
- Trench linings

HANDLING CHARACTERISTICS

- Blome 75 is available in convenient 2-parts resin to 1-part hardener kits. It is easily applied by brush, roller, spray or squeegee. Its excellent wetting characteristics and low viscosity facilitate application.
- Blome 75 is normally applied at 100 square feet per gallon on concrete and other porous surfaces.
- Blome 75 is normally applied at 150 square feet per gallon on steel and other non-porous substrates.
- Consult the data sheet for the Blome International overcoat material for additional details and revised film thickness requirements.
- Blome 75 is also available in a Low Temperature Curing version, which allows installation at temperatures as low as 40°F.

TYPICAL PROPERTIES WET

Color: Milky White/Clear

Moisture Tolerance: Good

Solids (by weight): 100%

CURED

Water absorption: Very low, 0.16%

Adhesion to concrete: 500 psi (failure in concrete)

PACKAGING & STORAGE

Blome 75 is packaged in 1.5-gallon and 15-gallon kits. Each component is pre-measured and ready to use. Store unopened components in a dry place, out of direct sunlight and protected from the elements. Storage temperature should be 50-95°F. Properly stored, Blome 75 has a shelf life of 12 months. Refer to the date of manufacture printed on the label.

SPECIFICATION GUIDE

Prime all surfaces with a two-component, moisture-tolerant epoxy primer meeting the generic formulation and performance characteristics of Blome Primer 75 as manufactured by Blome International, O'Fallon, MO (800) 886-3455. Install in accordance with the latest data sheet for Blome Primer 75 and the corresponding Blome overcoat material as well as good industry practice.

**APPLICATION GUIDELINES
ENVIRONMENTAL CONDITIONS**

Blome 75 should be applied at surface and air temperatures of 50°F minimum and 95°F maximum. The ideal temperature range is 60-90°F. Air temperature should always be at least 5°F greater than the current dew point. For applications at 40-60°F, we recommend using Blome 75 Low Temperature Cure. Applications below 40°F are not recommended because of the potential for coating over ice or frost; consult Blome for these low temperature applications.

JOBSITE STORAGE OF MATERIALS

Proper storage of Blome International products is important to a successful application. Follow these general storage procedures:

1. Store components (Part A and Part B) unopened, at 50-85°F, out of direct sunlight and protected from the elements.
2. Keep away from heat and flame. For the 24 to 48 hours just prior to use, adjust the storage temperature to 70-85°F to facilitate handling.

**SURFACE PREPARATION-
STEEL**

The following recommendations generally apply to the proper surface preparation of steel for Blome 75 but consult the data sheet of the Blome overcoat material for any additional or superseding requirements for surface preparation.

1. Steel substrate must be free of all oil, grease, dirt, dust, mill scale, rust, existing coatings and other contamination.
2. All welds must be smooth and continuous. All weld splatter, buckshot, laminations, and slivers must be removed and ground smooth.
3. Undercuts and pinholes must be filled with weld metal and ground smooth.
4. *Atmospheric service:* Abrasive blast in accordance with SSPC-SP 10 Near White Blast Finish (NACE No. 2) and 2 to 4 mil dense, sharp anchor profile.
5. *Immersion service:* Abrasive blast in accordance with SSPC-SP 5 White Metal Blast Finish (NACE No. 1) and 2 to 4 mil dense, sharp anchor profile.

**SURFACE PREPARATION-
CONCRETE**

The following recommendations generally apply to the proper surface preparation of concrete for Blome 75 but consult the data sheet of the Blome overcoat material for any additional or superseding requirements for surface preparation.

1. Concrete should be adequately cured, possess adequate integrity and not be expelling excess water of hydration. A rule of thumb for cure of new concrete is 28 days cure at 70°F but that is not an assurance that the concrete has achieved adequate physical properties.
2. Concrete should exhibit a compressive strength of 3,000 psi minimum and tensile strength of 300 psi or higher.

3. Ground slabs and new concrete should be tested for excess moisture in accordance with ASTM D 4263 Plastic Sheet Test Method; any water on the backside of the sheet after overnight exposure is an unacceptable surface for coating.
4. We recommend utilization of a low water-cement ratio, preferably 0.38 and adequate superplasticizers for placement is recommended, particularly when cure time to coat is critical.
5. New concrete must also be free of curing compounds, form release agents and any other contamination that might inhibit adhesion.
6. Old concrete must be free of existing coatings or toppings and any loose or unsound concrete must be removed. All concrete must be cleaned, as necessary, in accordance with ASTM D 4258. The resultant surface should be free of all oil, grease, and other contamination. Consult Blome International for special procedures for oil contaminated surfaces.
7. Upon completion of cleaning, the concrete surface shall be prepared in accordance with ASTM D4259.
8. The resultant surface should be free of laitance and efflorescence and have a surface texture similar to medium (60-80 grit sandpaper).

SURFACE PREPARATION- MISCELLANEOUS SURFACES

Consult Blome International for use over substrates other than steel or concrete.

MASKING & PROTECTION

Mask or remove adjacent surfaces and equipment that are not to be lined and all termination points.

APPLICATION EQUIPMENT

Blome 75 may be applied by brush, roller, squeegee or spray. Since brush application is often for small areas or touchup, disposable china bristle brushes are recommended. Roller covers should be phenolic core roller suitable for epoxies and the nap thickness should reflect the texture of the substrate. Flat squeegees may be used and solvent resistant squeegee blades will facilitate cleanup and reuse. Blome 75 may also be applied by spray using airless spray equipment or plural component spray equipment. A 30 to 1 ratio pump, 3/8" ID material line and a spray gun such as a Graco Silver Gun is suggested.

MIXING TECHNIQUE

We recommend using Jiffy type mixers for all mixing and stirring. When operating the mixer, avoid plunging it up and down in the bucket. This can fold air into the resin, which may cause bubbles to form in the coating after it has been applied. Be especially careful not to allow water to enter the mix.

WORKING TIME

The working time for Blome 75 is 30-35 minutes at 75°F in 1-½ gallon kits. Working time will be longer for cooler temperatures and will be much shorter at higher temperatures. Larger kit sizes will also reduce working time.

MIXING & APPLICATION

1. Add the hardener to the resin and thoroughly mix for at least 1-2 minutes. Uniform mixing is critical to uniform curing of the applied film.

2. Apply Blome 75 at a uniform thickness using the application method of choice. If applying by spray or squeegee to concrete surfaces, backroll to ensure adequate wetting of the substrate and encapsulation of any fines on the surface.
3. Topcoats are best applied within 24 hours after primer is applied. Topcoats may be applied while primer is tacky or after initial cure, within 24 hours at 75°F.

TOUCH-UP & RECOATING

Blome 75 may be recoated with itself or topcoated without special surface preparation within 24 hours. Beyond 24 hours, light sanding to de-gloss is recommended before recoating or topcoating. If Primer has cured for longer than seven (7) days, light sanding to de-gloss and repriming are recommended.

CLEAN-UP

The following tips will be helpful in cleaning hand tools and equipment after use. Before Blome 75 gels, it can be cleaned from hand tools and equipment using hot, soapy water. Spray equipment should be flushed periodically and at days end with solvent to avoid gelling in the equipment and hoses. Follow the equipment manufacturer's recommendations for proper cleaning and care instructions. After Blome 75 gels, xylene or MEK will be required for cleaning. Chlorinated solvents may be used if flammable solvents are not allowed.

CAUTION

Blome 75 may cause skin irritation with prolonged or repeated contact. Avoid skin contact and follow the material safety data sheet, which is available for each product.

WARRANTY

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. Our material data sheets and other literature are to be considered accurate and reliable, but are used as guides only. **WE GIVE NO WARRANTY OR GUARANTEE, WHETHER OF MERCHANT ABILITY OR FITNESS OF PURPOSE OR OTHERWISE, AND WE ASSUME NO LIABILITY IN CONNECTION THEREWITH.** We are happy to give suggestions for applications; however, the user assumes all risks and liabilities in connection therewith regardless of any suggestion, we may give. We assume no liability for consequential or incidental damages. Our liability, in law and equity, shall be expressly limited to the replacement of non-conforming goods at our factory, or at our sole option, to repayment of the purchase price of the non-conforming goods.

MATERIAL SAFETY DATA SHEET

Product No.: B75H

SECTION I - XVI

SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME 75 PRIMER HARDENER

MANUFACTURER: BLOME INTERNATIONAL
1450 HOFF INDUSTRIAL DRIVE
O'FALLON, MO 63366

PHONE NO.: 636-379-9119

EMERGENCY PHONE NUMBER: (800)-424-9300

MSDS ISSUE DATE: 02/25/08

SECTION II - INGREDIENTS/HAZARD INFORMATION

TS POLYAMIDOAMINE MIXTURE

* CAS No.: TSECURE06 Percent By Weight: 85 To 90 LEL: NA UEL: NA
 OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
 LD50: >1250 MG/KG ORAL LC50: >700 PPM/1 HR V.P.(1) 7.5
 Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
 LD50 DERMAL >2000 MG/KG. Can cause skin and eye burns.

BENZYL ALCOHOL

* CAS No.: 100-51-6 Percent By Weight: 5 To 10 LEL: NA UEL: NA
 OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
 LD50: 1200 MG/KG LC50: NE V.P.(1) 0.1
 Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

DIETHYLANILINE

* CAS No.: 91-66-7 Percent By Weight: 1 To 5 LEL: NA UEL: NA
 OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
 LD50: NA LC50: NA V.P.(1)
 Listed On(2) a: N b: N c: Y d: Y e: N f: N g: N h: N
 CERCLA RQ1000LBS, NEW JERSEY AND PENN LABEL LAW

TRIETHYLENETETRAMINE

* CAS No.: 112-24-3 Percent By Weight: 1 To 5 LEL: NA UEL:
 OSHA PEL: NA ppm NA mg/M3 TWA ACGIH TLV: NA ppm NA mg/M3 TWA
 LD50: LC50: V.P.(1) <.001@68
 Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
 Can cause skin and eye burns.

* Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient

(1) Vapor Pressure In mm Hg

(2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
g = California Prop. 65 h = OSHA Carcinogen

NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

EFFECTS OF OVEREXPOSURE - ACUTE:

Breathing: Irritation of the respiratory tract; headache, nausea, dizziness.

Eye or Skin Contact: May cause eye and skin irritation.

Benzyl alcohol is a severe eye irritant

Swallowing: No effect anticipated from ingestion incidental to normal use. Larger quantities may cause distress of the digestive tract and nausea.

CHRONIC: Prolonged and repeated breathing of spray mist and/or sanding dust over a period of years may cause dust disease of the lungs.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and

MATERIAL SAFETY DATA SHEET
Product No.: B75H

SECTION I - XVI

SECTION III - HAZARD IDENTIFICATION Con't.

Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: Remove to fresh air.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: Remove with soap and water. Remove soiled clothing.

IF SWALLOWED: Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician immediately. Treat symptomatically. Never give anything by mouth to an unconscious person.

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: OSHA 29 CFR - 1910.106(a)
Parts 18-19

FLASH POINT: 201 °F Setflash

Combustible Liquid - Class III(B) Not Regulated (FHSA)

EXTINGUISHING MEDIA: In case of fire, use CO₂, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Due to pressure build-up, closed containers exposed to extreme heat may explode. 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: Summon professional firefighters. Use full protective equipment including self-contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable. If exposed to fire or extreme heat, water should be used to cool closed containers and prevent pressure build-up or possible auto-ignition.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Wash with water. Before attempting clean-up, refer to hazard caution information in other sections of this material safety data form. Contain spilled material and remove with inert absorbent. Store in closed container until properly disposed of.

SECTION VII - HANDLING AND STORAGE

Store below 110°F and keep from freezing. Keep container closed when not in use. Do not reuse empty containers. Keep out of reach of children.

SECTION VIII - PERSONAL PROTECTION

RESPIRATORY PROTECTION: All workers and bystanders must be protected from exposure above Section II limits. Avoid breathing vapors, spray mist or sanding dust. Application by brush, roller, squeegee, or trowel will result in the lowest release of hazardous materials. When spray applied in outdoor or open areas with unrestricted ventilation, and during sanding or grinding operations, use NIOSH/MSHA approved mechanical filter respirator to remove solid airborne particles of over spray or sanding dust. Follow the crystalline silica respiratory protection paragraph when silica is present. When used in confined areas, wear NIOSH/MSHA approved air supply respirators or hoods. Use NIOSH/MSHA approved respirators when flame cutting, welding, brazing and sanding material coated with this product. The fumes from these operations can be hazardous. Do not breath them. Always use adequate ventilation. Whenever using respirators refer to OSHA 1910.134 for proper

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SECTION I -XVI

SECTION VIII - PERSONAL PROTECTION Con't.

respirator use and safety program. The applicator determines the type of area in which the application is being made (unrestricted, restricted, or confined). The best determination of respirator type to use in a particular application is to monitor for the hazardous materials during actual application. The applicator should contact a qualified safety engineer for proper selection of safety equipment based on the application conditions.

VENTILATION: Use only with adequate ventilation. Provide general dilution or local exhaust ventilation in volume and pattern to keep air contaminant concentration below current applicable safety and health standards in the mixing, application and curing areas, and to remove sanding dusts of dried coating and decomposition product during welding and flame cutting on surfaces coated with this product. **BYSTANDERS:** Applicator should insure that fumes or spray mists do not drift into areas where bystanders are likely to be during the application period by keeping bystanders sufficiently away from the work area to insure no exposure and by using adequate ventilation when necessary. Caution should be used to insure that vapors do not collect in off hours. Anyone entering the work area should be properly protected and instructed. **EXPLOSION PROOF VENTILATION:** Only explosion proof ventilation equipment should be used to provide adequate ventilation unless the flash point of the mixed product is a minimum of 40 degrees F above the ambient temperature and the coated surface temperature. Do not apply to surfaces over 130 degrees F surface temperature.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended.

EYE PROTECTION: Do not get in eyes. Solvent resistant safety eyewear with splash guards or sideshields is recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Dilutable.

ODOR: Mild, characteristic of solvents listed in SECTION II.

WEIGHT PER GALLON: 8.05 Pounds

PERCENT VOLATILE BY VOLUME: 0.00

EVAPORATION RATE: ()Faster (X) Slower Than Ether

BOILING RANGE: NA

VAPOR DENSITY: (X)Heavier ()Lighter Than Air -

SECTION X - STABILITY AND REACTIVITY

STABILITY: ()UNSTABLE (X)STABLE

INCOMPATIBILITY: Avoid contact with materials that are incompatible with water.

HAZARDOUS DECOMPOSITION PRODUCTS: May cause hazardous fumes when heated to decomposition or from mixed material that is kept in 1/2 gallon or larger mass longer than the potlife. The following represents a partial list: (from burning, heating, or reaction with other materials). Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. nitrosamines. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic. An other unidentified phenolic and organic compounds and oxides of metals listed in Section II. Treat all of these fumes as hazardous and DO NOT BREATHE.

HAZARDOUS POLYMERIZATION: ()MAY OCCUR (X)WILL NOT OCCUR.

MIXED PRODUCT SHOULD NOT BE KEPT IN QUANTITIES GREATER THAN 3 LBS WEIGHT (approx. 1 QUART

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SECTION X - STABILITY AND REACTIVITY Con't.

VOLUME LONGER THAN 25 TO 35 MINUTES. The product reacts quickly when in large mixed masses and develops heat quickly. It is possible for the mass to reach decomposition temperatures and give off dangerous gasses. ALWAYS pour the material out in thin thickness (1/4 inch or less) to avoid the mass reaction.

SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: PAINT,8,UN3066,PGIII

SECTION XV - REGULATORY INFORMATION

This product contains 0.00 pounds per gallon (0 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.00 lbs./gal. (0 gms./L.)

This product may contain chemicals as contaminants which are known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS RATING: (H)ealth 3 (F)lammability 1 (R)eactivity 1

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.

MATERIAL SAFETY DATA SHEET

Product No.: B75R

SECTION I - XVI

SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME 75 PRIMER RESIN

MANUFACTURER: BLOME INTERNATIONAL
1450 HOFF INDUSTRIAL DRIVE
O'FALLON, MO 63366

PHONE NO.: 636-379-9119

EMERGENCY PHONE NUMBER: (800)-424-9300

MSDS ISSUE DATE: 02/25/08

SECTION II - INGREDIENTS/HAZARD INFORMATION

EPOXY RESIN LIQUID

* CAS No.: 25085-99-8 Percent By Weight: 90 To 95 LEL: NA UEL: NA
 OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
 LD50: Skin 20,000 mg/kg LC50: LD 50 ORAL >5000 mg/kg V.P.(1) NA
 Listed On(2) a: N b: N c: N d: Y e: N f: N g: Y h: N

Skin sensitizer.

BENZYL ALCOHOL

* CAS No.: 100-51-6 Percent By Weight: 5 To 10 LEL: NA UEL: NA
 OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
 LD50: 1200 MG/KG LC50: NE V.P.(1) 0.1
 Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

* Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient

(1) Vapor Pressure In mm Hg

(2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
g = California Prop. 65 h = OSHA Carcinogen

NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

EFFECTS OF OVEREXPOSURE - ACUTE:

Breathing: Irritation of the respiratory tract; may affect the brain or nervous system causing dizziness, headache, nausea, weakness and fatigue. Extreme exposure can result in unconsciousness and even respiratory arrest.

WARNING: Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Eye or Skin Contact: Causes eye and skin irritation.

Benzyl alcohol is a severe eye irritant

Swallowing: Can cause stomach and/or intestinal irritation, nausea, vomiting and diarrhea. Aspiration of vomitus can cause chemical pneumonitis, which can be fatal.

CHRONIC: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Prolonged and repeated breathing of spray mist and/or sanding dust over a period of years may cause dust disease of the lungs.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, summon medical assistance immediately. If breathing ceases, restore using approved CPR techniques and summon medical assistance immediately.

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SECTION IV - FIRST AID MEASURES Con't.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: In case of skin contact, wash area thoroughly with soap and water. Remove soiled clothing. Get medical assistance if irritation persists.

IF SWALLOWED: DO NOT INDUCE VOMITING. Consult physician immediately. Aspiration of vomitus can cause chemical pneumonitis which can be fatal.

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: FLASH POINT: 81 °F Setflash

OSHA 29 CFR - 1910.106(a)

Parts 18-19

Flammable Liquid - Class 1(C) Flammable (FHSA)

EXTINGUISHING MEDIA: In case of fire, use CO₂, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep containers tightly closed. Isolate from heat and flame. Due to pressure build-up, closed containers exposed to extreme heat may explode. Never use a welding or cutting torch on or near container (even empty) as product or its residue may ignite. 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: Summon professional firefighters. Use full protective equipment including self-contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable. If exposed to fire or extreme heat, water should be used to cool closed containers and prevent pressure build-up or possible auto-ignition.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Remove all sources of ignition (flames, hot surfaces, and electrical, static or frictional sparks). Do not smoke. Avoid breathing vapors. Before attempting clean-up refer to hazard caution information in other sections of this material safety data form. Ventilate area. Contain spilled material and remove with inert absorbent and non-sparking tools. Store in closed containers until properly disposed of.

SECTION VII - HANDLING AND STORAGE

Keep away from heat, sparks and flame. Do not smoke. Extinguish all pilot lights and turn off all sources of ignition including heaters, fans and other non-explosion-proof electrical equipment, during use and until all vapors are gone. Vapors may ignite explosively or cause flash fire. Vapors may spread long distances and beyond closed doors. Prevent build-up of vapors by maintaining continuous flow of fresh air.

DANGER: Flammable liquid and vapor.

Do not store for long periods of time above 100°F or near fire or open flame. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep container closed when not in use. Do not transfer contents to bottles or other unlabelled containers. Do not reuse empty containers.

Keep out of reach of children.

SECTION VIII - PERSONAL PROTECTION

RESPIRATORY PROTECTION: All workers and bystanders must be protected from exposure above Section II limits. Avoid breathing vapors, spray mist or sanding dust. Application by brush, roller, squeegee, or trowel will result in the lowest release of hazardous materials. When spray applied in outdoor or open areas with unrestricted ventilation, and during sanding or grinding operations, use NIOSH/MSHA approved mechanical filter respirator to remove solid airborne particles of over spray or sanding dust. Follow the crystalline silica respiratory protection paragraph when silica is present. When used in confined areas, wear NIOSH/MSHA approved air supply respirators or hoods. Use NIOSH/MSHA approved respirators when flame cutting, welding, brazing and sanding material coated with this product. The fumes from these operations can be hazardous. Do not breath them. Always use adequate ventilation. Whenever using respirators refer to OSHA 1910.134 for proper

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Product No.: B75R

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SECTION VIII - PERSONAL PROTECTION Con't.

respirator use and safety program. The applicator determines the type of area in which the application is being made (unrestricted, restricted, or confined). The best determination of respirator type to use in a particular application is to monitor for the hazardous materials during actual application. The applicator should contact a qualified safety engineer for proper selection of safety equipment based on the application conditions.

VENTILATION: Use only with adequate ventilation. Provide general dilution or local exhaust ventilation in volume and pattern to keep air contaminant concentration below current applicable safety and health standards in the mixing, application and curing areas, and to remove sanding dusts of dried coating and decomposition product during welding and flame cutting on surfaces coated with this product. Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources should be eliminated. **BYSTANDERS:** Applicator should insure that fumes or spray mists do not drift into areas where bystanders are likely to be during the application period by keeping bystanders sufficiently away from the work area to insure no exposure and by using adequate ventilation when necessary. Caution should be used to insure that vapors do not collect in off hours. Anyone entering the work area should be properly protected and instructed. **EXPLOSION PROOF VENTILATION:** Only explosion proof ventilation equipment should be used to provide adequate ventilation unless the flash point of the mixed product is a minimum of 40 degrees F above the ambient temperature and the coated surface temperature. Do not apply to surfaces over 130 degrees F surface temperature.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended.

EYE PROTECTION: Do not get in eyes. Solvent resistant safety eyewear with splash guards or shields is recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Negligible.

ODOR: Characteristic of solvents listed in SECTION II.

WEIGHT PER GALLON: 9.62 Pounds

PERCENT VOLATILE BY VOLUME: 0.00

EVAPORATION RATE: ()Faster (X) Slower Than Ether

BOILING RANGE: NA

VAPOR DENSITY: (X)Heavier ()Lighter Than Air -

SECTION X - STABILITY AND REACTIVITY

STABILITY: ()UNSTABLE (X)STABLE

INCOMPATIBILITY: Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: May cause hazardous fumes when heated to decomposition or from mixed material that is kept in 1/2 gallon or larger mass longer than the potlife. The following represents a partial list: (from burning, heating, or reaction with other materials). Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. nitrosamines. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic. An other unidentified phenolic and organic compounds and oxides of metals listed in Section II. Treat all of these fumes as hazardous and DO NOT BREATHE.

HAZARDOUS POLYMERIZATION: ()MAY OCCUR (X)WILL NOT OCCUR.

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SECTION X - STABILITY AND REACTIVITY Con't.

MIXED PRODUCT SHOULD NOT BE KEPT IN QUANTITIES GREATER THAN 3 LBS WEIGHT (approx. 1 QUART VOLUME LONGER THAN 25 TO 35 MINUTES. The product reacts quickly when in large mixed masses and develops heat quickly. It is possible for the mass to reach decomposition temperatures and give off dangerous gasses. ALWAYS pour the material out in thin thickness (1/4 inch or less) to avoid the mass reaction.

SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: RESIN SOLUTION,3,UN1866, PGIII

SECTION XV - REGULATORY INFORMATION

This product contains 0.00 pounds per gallon (0 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.00 lbs./gal. (0 gms./L.)

This product may contain chemicals as contaminants which are known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS RATING: (H)ealth 2 (F)lammability 3 (R)eactivity 0

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.



TL-45-S High-Build Novolac Epoxy Coating and Lining System

DESCRIPTIONS AND USES

Blome International's Novolac Epoxy tank lining systems are formulated to offer superior resistance to some of the most aggressive chemicals found in the process industries. Blome TL-45-S exhibits excellent resistance to a broad range of harsh chemicals, including high concentrations of sulfuric acid, hydrochloric acid, phosphoric acid, strong caustic solutions, as well as many organic chemicals and solvents.

TL-45-S is a high performance Novolac epoxy tank lining/coating system for immersion service. Typically spray applied, its high build properties allow thicknesses of up to 80 mils to be achieved on vertical surfaces.

TL-45-S is a two component product with a 4:1 volumetric mix ratio. TL-45-S possesses the following properties:

- Excellent chemical resistance;
- Thermal shock, impact and wear resistance;
- 100% solids;
- Long Pot Life for airless spray application;
- Excellent bond strength;
- Resistance to chipping and cracking due to torsional twisting;
- Superior edge coat properties;
- High cohesive strength;
- Low permeability;
- Low odor

Typical uses include:

- Tank Linings, External Tank Coatings, Coating
- Structural Steel in harsh chemical vapor environments.

PACKAGING/COVERAGE

TL-45-S is available in 1-gallon, 5-gallon, and 25-gallon units. Each unit consists of premeasured Part A and Part B components.

Application thickness will vary depending on expected service conditions. Consult Blome International's Tank Lining Systems Guide or contact our technical service group for specific lining recommendations.

Coverage rates will be affected by the condition of surface being coated (degraded vs. smooth, steel vs. concrete, etc.). To calculate theoretical coverage per gallon, divide desired mil thickness into 1,604. (For example, theoretical coverage for a 30 mil thickness is: 1,604 divided by 30 = 53.46 square feet per gallon.) For practical coverage, make necessary allowances for condition of the substrate, temperatures, jobsite conditions, waste, overspray, etc.

TYPICAL PROPERTIES -WET

Solids by Volume:	100%
Weight per Mixed Gallon:	10 lbs
Pot Life @ 75°F:	40 to 45 min*
Cure Times @ 75°F:	Dry to Touch: 16 hrs
Firm:	24 hrs
Chemical Service:	72 hrs
Primer:	Not required on properly prepared steel
Flammability:	Nonflammable

*Significantly less at elevated temperatures

TYPICAL PROPERTIES -CURED

Color:	Medium Grey or Red
Hardness- ASTM D-2240 Shore D:	74
Compressive Strength -ASTM C-579:	15,000 psi
Tensile Strength -ASTM D-638:	7,900 psi
Flexural Strength -ASTM D-790:	13,500 psi
Flexural Modulus of Elasticity -ASTM D-790:	7.7 psi x 10 ⁵
Bond Strength -ASTM D-4541:	Concrete: concrete failure
	Steel: 1,500 psi
Water Vapor Transmission -ASTM E-96:	0.0120 grain per hr ft ²
Permeability:	0.0036 perm. - in.

STORAGE AND SHELF LIFE

Keep TL-45-S components tightly sealed in their original containers until ready for use. Store at 50°F to 75°F out of direct sunlight.

APPLICATION GUIDELINES

For applications on vertical surfaces, use TL-45-S within four months of its date of manufacture. Otherwise, Blome TL-45-S has a shelf life of one year, when properly stored.

TEMPERATURE CONSIDERATIONS

The temperature of the surface to be coated, and the ambient air temperature should be at least 55°F while applying TL-45-S and while it cures. If you attempt to apply TL-45-S in cooler temperatures, tarp and heat the area to be coated to maintain the minimum 55°F conditions.

Stop application if the temperature falls within 5°F of the dew point.

Outgassing bubbles may appear in TL-45-S if it is applied over concrete, particularly in direct sunlight, or when air and substrate temperatures are rising. This is due to the expansion of air and/or moisture trapped in the concrete. It is especially true of air entrained concrete. For best results, shade the work area and apply TL-45-S when the temperature of the concrete substrate is falling. A surface thermometer must be used to frequently monitor substrate temperature.

Twenty-four hours before application, all materials (components A and B) should be stored at a 75°F to 85°F, to facilitate handling and spraying.

**SURFACE PREPARATION
-GENERAL**

Surfaces must be dry and free of dust, dirt, grease, oil, chemicals and contaminants immediately prior to applying each coat of either primer or TL-45-S.

**SURFACE PREPARATION
OF STEEL**

1. Abrasive blast steel surfaces to white metal finish with a 2 to 3 mil anchor profile. (Ref. SSPC-SP-5)
2. All welds should be continuous and should be ground to remove all sharp edges, laps, under cuts and other surface irregularities. Relatively smooth, ripple finished welds are acceptable. Stripecoat all welds just prior to applying coating.
3. Steel in Non -Immersion Service
Abrasive blast steel surfaces to a near white metal finish with 1 to 2 mil anchor profile. (Ref. SSPC-SP-10)

MASKING

Mask surfaces that are not to be coated. TL-45-S is difficult to remove, once cured.

PRIMING

Steel -priming not required.

**APPLICATION
EQUIPMENT**

TL-45-S may be applied using a spray rig, brush or notched trowel. Use Graco 45:1 King airless spray rig or Graco Hydro-Cat fixed at a 4:1 volumetric ratio.

CARE OF SPRAY RIG HOSES

Take care to prevent the mixed material from setting up in your hoses. For best results, keep hoses as short as possible, purge hoses immediately if work is interrupted. Keep hoses out of direct sunlight and insulated or away from hot surfaces.

MIXING AND APPLICATION

TL-45-S may be thinned for certain applications. Use up to 5% by weight of MEK. Refer to specifications for your project, or consult Blome International for alternate thinner recommendations. The mix ratio of Part A to Part B is 4:1 A to B by volume.

1. The components must be individually mixed immediately prior to use:
Part A: Blend Part A component to a uniform consistency in its individual container, using a Jiffy type mixer.
Part B: Blend Part B component to a uniform consistency in its individual container.
2. If you are using plural component equipment, skip this step. Otherwise:
Pour the entire contents of Part B into the container holding Part A and mix thoroughly for two minutes using a Jiffy type mixer. The temperature of the mixed material should be 75°F to 85°F for hot potting. The pot life of the mixture will be approximately 40 to 45 minutes at 75°F; significantly less time at elevated temperatures. The longer the material is in the bucket after mixing, the shorter its pot life will be. Therefore, use immediately once mixed.
3. Material should be applied in even coats.
If spraying, use multidirectional passes to ensure positive coverage and proper film build

4. Horizontal Surfaces
The entire thickness may be applied to horizontals in a single coat.
5. Vertical Surfaces
Minimum of 15 mils up to 80 mils may be applied to vertical surfaces.
6. Spark Testing Steel
Spark testing is recommended for coated steel in immersion service.
Test at 100 volts per mil.
7. Prepare surfaces for inter-coat adhesion as follows:
 - a. Allow TL-45-S to cure until firm before applying subsequent coats.
 - b. After the surface cures firm to the touch, but less than 24 hours, it must be washed with soap and water, rinsed and dried before re-coating.
 - c. Surfaces cured beyond 24 hours must be washed with soap and water, rinsed, dried and lightly sanded or abrasive blasted.
8. If work is interrupted, or at the end of the day, terminate the coating in a straight line.
9. As it cures, TL-45-S will sometimes develop a thin, oily film on its surface. This film may be easily removed by washing with soap and water.

CLEANUP

Before material gels, tools and equipment should be cleaned using hot, soapy water. After TL-45-S begins to cure, thinners will be required. Chlorinated solvents may be used if flammable solvents are prohibited.

**SAFETY PRECAUTIONS
FOR INDUSTRIAL
USE ONLY**

Avoid contact with skin and eyes; do not ingest material or inhale vapors. When working with TL-45-S, always wear chemical goggles, appropriate rubber gloves, and other appropriate safety clothing. When spraying in confined areas, wear a fresh air hood and make provisions for forced air ventilation. When spraying in open areas, a NIOSH approved respirator suitable for organic vapors can replace fresh air hood. Prolonged or repeated exposure to the Part A and Part B components of TL-45-S may cause skin irritation and/or allergic reactions. Refer to Blome Material Safety Data Sheets for individual components.

WARRANTY

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. Our material data sheets and other literature are to be considered accurate and reliable, but are used as guides only. WE GIVE NO WARRANTY OR GUARANTEE, WHETHER OF MERCHANT ABILITY OR FITNESS OF PURPOSE OR OTHERWISE, AND WE ASSUME NO LIABILITY IN CONNECTION THEREWITH. We are happy to give suggestions for applications; however, the user assumes all risks and liabilities in connection there with regardless of any suggestion, we may give. We assume no liability for consequential or incidental damages. Our liability, in law and equity, shall be expressly limited to the replacement of non-conforming goods at our factory, or at our sole option, to repayment of the purchase price of the non-conforming goods.

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SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME TL-45S HARDENER

MANUFACTURER: BLOME INTERNATIONAL
1450 HOFF INDUSTRIAL DRIVE
O'FALLON, MO 63366

PHONE NO.: 636-379-9119

EMERGENCY PHONE NUMBER: (800)-424-9300

MSDS ISSUE DATE: 10/24/06

SECTION II - INGREDIENTS/HAZARD INFORMATION

POLYAMIDOAMINE

* CAS No.: 68605-86-7 Percent By Weight: 65 To 70 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: >1250 MG/KG ORAL LC50: >700 PPM/1 HR V.P.(1) 7.5

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

LD50 DERMAL >2000 MG/KG CORROSIVE TO SKIN

DIETHYLENETRIAMINE

* CAS No.: 111-40-0 Percent By Weight: 10 To 15 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: 1000 mg/kg skin LC50: NA V.P.(1) .9

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

LD50 2330 mg/kg oral

BISPHENOL A

* CAS No.: 80-05-7 Percent By Weight: 5 To 10 LEL: NE UEL: NE
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: NE LC50: NE V.P.(1) .9

Listed On(2) a: N b: Y c: N d: Y e: N f: N g: Y h: N

TRIETHYLENETETRAMINE

* CAS No.: 112-24-3 Percent By Weight: 5 To 10 LEL: NA UEL:
OSHA PEL: NA ppm NA mg/M3 TWA ACGIH TLV: NA ppm NA mg/M3 TWA
LD50: LC50: V.P.(1) <.001@68

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

Can cause skin and eye burns.

AMORPHOUS SILICA

* CAS No.: 112926-00-8 Percent By Weight: 1 To 5 LEL: NA UEL: NA
OSHA PEL: NA ppm 6 mg/M3 TWA ACGIH TLV: NA ppm 10 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

Contains no crystalline silica.

* Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient

(1) Vapor Pressure In mm Hg

(2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
g = California Prop. 65 h = OSHA Carcinogen

NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

EFFECTS OF OVEREXPOSURE - ACUTE:

Breathing: Irritation of the respiratory tract; headache, nausea, dizziness.

Eye or Skin Contact: May cause eye and skin irritation.

Swallowing: No effect anticipated from ingestion incidental to normal use. Larger quantities may cause distress of the digestive tract and

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SECTION III - HAZARD IDENTIFICATION Con't.

nausea.

CHRONIC: Prolonged and repeated breathing of spray mist and/or sanding dust over a period of years may cause dust disease of the lungs.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: Remove to fresh air.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: Remove with soap and water. Remove soiled clothing.

IF SWALLOWED: Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician immediately. Treat symptomatically. Never give anything by mouth to an unconscious person.

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: FLASH POINT: 205 °F Setflash
OSHA 29 CFR - 1910.106(a)
Parts 18-19

Combustible Liquid - Class III(B) Not Regulated (FHSA)

EXTINGUISHING MEDIA: In case of fire, use CO₂, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Due to pressure build-up, closed containers exposed to extreme heat may explode. 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: Summon professional firefighters. Use full protective equipment including self-contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable. If exposed to fire or extreme heat, water should be used to cool closed containers and prevent pressure build-up or possible auto-ignition.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Wash with water. Before attempting clean-up, refer to hazard caution information in other sections of this material safety data form. Contain spilled material and remove with inert absorbent. Store in closed container until properly disposed of.

SECTION VII - HANDLING AND STORAGE

Store below 110°F and keep from freezing. Keep container closed when not in use. Do not reuse empty containers. Keep out of reach of children.

SECTION VIII - PERSONAL PROTECTION

RESPIRATORY PROTECTION: All workers and bystanders must be protected from exposure above Section II limits. Avoid breathing vapors, spray mist or sanding dust. Application by brush, roller, squeegee, or trowel will result in the lowest release

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Product No.: TL45SH

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SECTION VIII - PERSONAL PROTECTION Con't.

of hazardous materials. When spray applied in outdoor or open areas with unrestricted ventilation, and during sanding or grinding operations, use NIOSH/MSHA approved mechanical filter respirator to remove solid airborne particles of over spray or sanding dust. Follow the crystalline silica respiratory protection paragraph when silica is present. When used in confined areas, wear NIOSH/MSHA approved air supply respirators or hoods. Use NIOSH/MSHA approved respirators when flame cutting, welding, brazing and sanding material coated with this product. The fumes from these operations can be hazardous. Do not breath them. Always use adequate ventilation. Whenever using respirators refer to OSHA 1910.134 for proper respirator use and safety program. The applicator determines the type of area in which the application is being made (unrestricted, restricted, or confined). The best determination of respirator type to use in a particular application is to monitor for the hazardous materials during actual application. The applicator should contact a qualified safety engineer for proper selection of safety equipment based on the application conditions.

VENTILATION: Use only with adequate ventilation. Provide general dilution or local exhaust ventilation in volume and pattern to keep air contaminant concentration below current applicable safety and health standards in the mixing, application and curing areas, and to remove sanding dusts of dried coating and decomposition product during welding and flame cutting on surfaces coated with this product. **BYSTANDERS:** Applicator should insure that fumes or spray mists do not drift into areas where bystanders are likely to be during the application period by keeping bystanders sufficiently away from the work area to insure no exposure and by using adequate ventilation when necessary. Caution should be used to insure that vapors do not collect in off hours. Anyone entering the work area should be properly protected and instructed. **EXPLOSION PROOF VENTILATION:** Only explosion proof ventilation equipment should be used to provide adequate ventilation unless the flash point of the mixed product is a minimum of 40 degrees F above the ambient temperature and the coated surface temperature. Do not apply to surfaces over 130 degrees F surface temperature.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended.

EYE PROTECTION: Do not get in eyes. Solvent resistant safety eyewear with splash guards or shields is recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Dilutable.

ODOR: Mild, characteristic of solvents listed in SECTION II.

WEIGHT PER GALLON: 8.22 Pounds **PERCENT VOLATILE BY VOLUME:** 0.00

EVAPORATION RATE: ()Faster (X) Slower Than Ether **BOILING RANGE:** NA

VAPOR DENSITY: (X)Heavier ()Lighter Than Air -

SECTION X - STABILITY AND REACTIVITY

STABILITY: ()UNSTABLE (X)STABLE

INCOMPATIBILITY: Avoid contact with materials that are incompatible with water.

HAZARDOUS DECOMPOSITION PRODUCTS: May cause hazardous fumes when heated to decomposition or from mixed material that is kept in 1/2 gallon or larger mass longer than the potlife. The following represents a partial list: (from burning, heating, or reaction with other materials). Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and

MATERIAL SAFETY DATA SHEET

Product No.: TL45SH

SECTION I -XVI

SECTION X - STABILITY AND REACTIVITY Cont.

toxic fumes at elevated temperatures. Nitric acid in a fire. nitrosamines. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic. An other unidentified phenolic and organic compounds and oxides of metals listed in Section II. Treat all of these fumes as hazardous and DO NOT BREATHE.

HAZARDOUS POLYMERIZATION:()MAY OCCUR (X)WILL NOT OCCUR.

MIXED PRODUCT SHOULD NOT BE KEPT IN QUANTITIES GREATER THAN 3 LBS WEIGHT (approx. 1 QUART VOLUME LONGER THAN 25 TO 35 MINUTES. The product reacts quickly when in large mixed masses and develops heat quickly. It is possible for the mass to reach decomposition temperatures and give off dangerous gasses. ALWAYS pour the material out in thin thickness (1/4 inch or less) to avoid the mass reaction.

SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: PAINT,8,UN3066,PGIII

SECTION XV - REGULATORY INFORMATION

This product contains 0.00 pounds per gallon (0 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.00 lbs./gal. (0 gms./L.)

This product may contain chemicals as contaminants which are known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS RATING: (H)ealth 3 (F)lammability 1 (R)eactivity 1

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.

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Product No.: TL45SR

SECTION I - XVI

SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME TL-45S RESIN

MANUFACTURER: BLOME INTERNATIONAL
1450 HOFF INDUSTRIAL DRIVE
O'FALLON, MO 63366

PHONE NO.: 636-379-9119

EMERGENCY PHONE NUMBER: (800)-424-9300

MSDS ISSUE DATE: 10/24/06

SECTION II - INGREDIENTS/HAZARD INFORMATION

EPOXY NOVOLAC

* CAS No.: 28064-14-4 Percent By Weight: 65 To 70 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: >5000MG/KG LC50: NA V.P.(1) NONE

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
Skin Sensitizer.

CRYSTALLINE SILICA

* CAS No.: 14808-60-7 Percent By Weight: 10 To 15 LEL: NA UEL:
OSHA PEL: NA ppm 0.098 mg/M3 TWA ACGIH TLV: NA ppm 0.05 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA

Listed On(2) a: N b: N c: N d: Y e: Y f: Y g: Y h: N

RESPIRABLE DUST CAN CAUSE SILICOSIS, CANCER, AUTOIMMUNE DISEASES

CRESYL GLYCIDYL ETHER

* CAS No.: 2210-79-9 Percent By Weight: 10 To 15 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: 3500 mg/kg LC50: 6100 mg/l V.P.(1) 1.01

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

May cause an allergic reaction if inhaled.

MICA

* CAS No.: 12001-26-2 Percent By Weight: 1 To 5 LEL: NA UEL:
OSHA PEL: NA ppm 3 mg/M3 TWA ACGIH TLV: NA ppm 3 mg/M3 TWA
LD50: LC50: V.P.(1) NA

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

Respirable dust for TLV & PEL.

EPOXY RESIN LIQUID

* CAS No.: 25085-99-8 Percent By Weight: 1 To 5 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: Skin 20,000 mg/kg LC50: LD 50 ORAL >5000 mg/kg V.P.(1) NA

Listed On(2) a: N b: N c: N d: Y e: N f: N g: Y h: N

Skin sensitizer.

COLOR PIGMENT MIXTURE

* CAS No.: NA Percent By Weight: 1 To 5 LEL: NA UEL: NA
OSHA PEL: NE ppm 3.5 mg/M3 TWA ACGIH TLV: NE ppm 3.5 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

Mixture of prime pigments to make color. See formula for color pig.

AMORPHOUS SILICA

* CAS No.: 112926-00-8 Percent By Weight: 1 To 5 LEL: NA UEL: NA
OSHA PEL: NA ppm 6 mg/M3 TWA ACGIH TLV: NA ppm 10 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA

Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

Contains no crystalline silica.

* Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient

MATERIAL SAFETY DATA SHEET

Product No.: TL45SR

SECTION I - XVI

SECTION II - INGREDIENTS/HAZARD INFORMATION Con't.

(1) Vapor Pressure In mm Hg

(2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
g = California Prop. 65 h = OSHA Carcinogen

NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

EFFECTS OF OVEREXPOSURE - ACUTE:

Breathing: Irritation of the respiratory tract; headache, nausea, dizziness.

Eye or Skin Contact: May cause eye and skin irritation.

Swallowing: No effect anticipated from ingestion incidental to normal use. Larger quantities may cause distress of the digestive tract and nausea.

CHRONIC: Crystalline silica has been classified as carcinogenic for humans (2A) by IARC. The excessive inhalation of crystalline silica is also a known cause of silicosis. (Risk depends on duration and level of exposure.) Other possible chronic effects are silicosis, cancer, scleroderma and tuberculosis. The main route of entry is inhalation of crystalline silica. Dry silica powder should be handled with great care. When the silica is mixed and wetted by the other components the risk of inhalation is greatly reduced.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: Remove to fresh air.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: Remove with soap and water. Remove soiled clothing.

IF SWALLOWED: Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician immediately. Treat symptomatically. Never give anything by mouth to an unconscious person.

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: FLASH POINT: 205 °F Setofflash

OSHA 29 CFR - 1910.106(a)

Parts 18-19

Combustible Liquid - Class III(B) Not Regulated (FHSA)

EXTINGUISHING MEDIA: In case of fire, use CO2, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Due to pressure build-up, closed containers exposed to extreme heat may explode. 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: Summon professional firefighters. Use full protective equipment including self-contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable. If exposed to fire or extreme heat, water should be used to cool closed containers and prevent pressure build-up or possible auto-ignition.

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Product No.: TL45SR

SECTION I - XVI

SECTION VI - ACCIDENTAL RELEASE MEASURES

Wash with water. Before attempting clean-up, refer to hazard caution information in other sections of this material safety data form. Contain spilled material and remove with inert absorbent. Store in closed container until properly disposed of.

SECTION VII - HANDLING AND STORAGE

Store below 110°F and keep from freezing. Keep container closed when not in use. Do not reuse empty containers. Keep out of reach of children.

SECTION VIII - PERSONAL PROTECTION

RESPIRATORY PROTECTION: All workers and bystanders must be protected from exposure above Section II limits. Avoid breathing vapors, spray mist or sanding dust. Application by brush, roller, squeegee, or trowel will result in the lowest release of hazardous materials. When spray applied in outdoor or open areas with unrestricted ventilation, and during sanding or grinding operations, use NIOSH/MSHA approved mechanical filter respirator to remove solid airborne particles of over spray or sanding dust. Follow the crystalline silica respiratory protection paragraph when silica is present. When used in confined areas, wear NIOSH/MSHA approved air supply respirators or hoods. Use NIOSH/MSHA approved respirators when flame cutting, welding, brazing and sanding material coated with this product. The fumes from these operations can be hazardous. Do not breath them. Always use adequate ventilation. Whenever using respirators refer to OSHA 1910.134 for proper respirator use and safety program. The applicator determines the type of area in which the application is being made (unrestricted, restricted, or confined). The best determination of respirator type to use in a particular application is to monitor for the hazardous materials during actual application. The applicator should contact a qualified safety engineer for proper selection of safety equipment based on the application conditions.

CRYSTALLINE SILICA RESPIRATORY PROTECTION. This product contains SILICA. Use a NIOSH approved air purifying or supplied-air-respirator where airborne concentrations of crystalline silica (quartz) are expected to exceed exposure limits. (see table below). Appropriate respiratory protection for respirable crystalline silica is based on the airborne exposure concentration and duration of exposure for the particular use of the respirator. A respiratory protection program in accordance with OSHA standard 28CFR 1910.134 must be implemented whenever workplace conditions warrant use of a respirator ANSI Standard Z88.2 (recent revision) "American National Standard for Respiratory Protection" should also be considered. All tight-fitting respirators must be fit-tested either qualitatively or quantitatively for each respirator user. NIOSH recommends the use of respiratory protection when effective engineering controls are not feasible, or while they are being installed to control workplace exposures to crystalline silica.

Airborne Silica**Concentration Minimum Respiratory Protection**

Up to 0.5mg/m³ Any air-purifying respirator with a high efficiency (HEPA) filter.

Up to 1.25mg/m³ Any powered air-purifying full-face respirator with a HEPA filter

Or any supplied-air-respirator operated in continuous flow mode.

Up to 2.5mg/m³ Any powered air-purifying full-face respirator with a HEPA filter

Or any powered air-purifying-respirator with a tight fitting facepiece and a HEPA filter.

Up to 25mg/m³ Any supplied-air-respirator operated in a pressure-demand or other positive pressure mode.

Emergency Up to 500mg/m³ Any self contained breathing apparatus with a full-facepiece and is operated in pressure-demand mode or other positive pressure mode.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended.

EYE PROTECTION: Do not get in eyes. Solvent resistant safety eyewear with splash guards or sideshields is recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended.

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SECTION VIII - PERSONAL PROTECTION Con't.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Dilutable.
ODOR: Mild, characteristic of solvents listed in SECTION II.
WEIGHT PER GALLON: 11.22 Pounds **PERCENT VOLATILE BY VOLUME:** 0.03
EVAPORATION RATE: ()Faster (X) Slower Than Ether **BOILING RANGE:** NA
VAPOR DENSITY: (X)Heavier ()Lighter Than Air -

SECTION X - STABILITY AND REACTIVITY

STABILITY: ()UNSTABLE (X)STABLE
INCOMPATIBILITY: Avoid contact with materials that are incompatible with water.
HAZARDOUS DECOMPOSITION PRODUCTS: May cause hazardous fumes when heated to decomposition or from mixed material that is kept in 1/2 gallon or larger mass longer than the potlife. The following represents a partial list: (from burning, heating, or reaction with other materials). Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. nitrosamines. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic. An other unidentified phenolic and organic compounds and oxides of metals listed in Section II. Treat all of these fumes as hazardous and DO NOT BREATHE.
HAZARDOUS POLYMERIZATION: ()MAY OCCUR (X)WILL NOT OCCUR.
MIXED PRODUCT SHOULD NOT BE KEPT IN QUANTITIES GREATER THAN 3 LBS WEIGHT (approx. 1 QUART VOLUME LONGER THAN 25 TO 35 MINUTES. The product reacts quickly when in large mixed masses and develops heat quickly. It is possible for the mass to reach decomposition temperatures and give off dangerous gasses. ALWAYS pour the material out in thin thickness (1/4 inch or less) to avoid the mass reaction.

SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

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MATERIAL SAFETY DATA SHEET
Product No.: TL45SR

SECTION I -XVI

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: NOT REGULATED

SECTION XV - REGULATORY INFORMATION

This product contains 0.00 pounds per gallon (0 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.00 lbs./gal. (0 gms./L.)

This product may contain chemicals as contaminants which are known to the state of California to cause cancer, birth defects or other reproductive harm. This product contains a chemical known to the state of California to cause cancer.

SECTION XVI - OTHER INFORMATION

HMIS RATING: (H)ealth 3* (F)lammability 1 (R)eactivity 1

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.



Blome CP-83MP Epoxy Adhesive / Mortar

PRODUCT DESCRIPTION

Blome CP-83MP is a two-part, epoxy adhesive/mortar used for the installation of abrasion resistant brick and tile linings. CP-83MP is designed for bonding alumina ceramic and basalt tile in lining applications requiring resistance to abrasion and erosion, as well as acids, bleaches, alkalis, solvents and other corrosive chemicals. CP-83MP is especially suited for use in wear tile applications requiring high bond strength, physical properties and good chemical resistance. Blome CP-83MP is resistant to caustic solutions, most dilute acids, hypochlorite bleaches and other harsh chemicals. The material is also well suited for use as concrete repair putty for filling form voids, crack repair and other concrete applications requiring high physical properties.

TYPICAL USES

Blome CP-83MP is suitable for bonding brick, tile, concrete and steel surfaces in a variety of applications including:

- Chutes, Hoppers and Troughs
- Slurry Pipe Linings
- Pulverizers, Ball Mills and Classifier Cones
- Concrete Crack Repair and Form Void Filling

HANDLING CHARACTERISTICS

Blome CP-83MP offers excellent trowelling and handling characteristics, with sufficient body and thixotropy to butter brick in place and secure them from slipping or sliding while the mortar cures. CP-83MP cures rapidly and provides an excellent bond to brick, tile and steel. This unique formulation produces excellent results while installing brick in horizontal, vertical and even overhead areas.

TYPICAL PROPERTIES

WET

Components:	Two (2) - Resin & Hardener
Wet mortar density:	11-12 lbs. per gallon
Mixed consistency:	Creamy mortar
Pot life:	50°F 60 minutes 77°F 40 minutes
Initial set:	50°F 4 - 6 hours 77°F 2 - 3 hours
Final cure	50°F 7 days minimum 77°F 5 days minimum

CURED

Absorption (ASTM C-413)	0.24%
Bond Strength to red shale brick (ASTM C-321)	brick failure
Coefficient of Thermal Expansion (ASTM C-531)	12 - 14 x 10 ⁻⁶ in/in/°F
Color	Gray
Compressive Strength (ASTM C-579)	10,500 psi
Tensile Strength (ASTM C-307)	4,100 psi

PACKAGING & STORAGE

Blome CP-83MP is supplied as a two (2)-component product, with Resin and Hardener paste components. CP-83MP Resin (Part A) is packaged in one gallon cans; CP-83MP Hardener (Part B) is also packaged in one gallon cans.

Unit Size	Two (2) gallons
Resin	One (1) gallon can
Hardener	One (1) gallon can

Shelf life for CP-83MP components is one (1) year. Keep CP-83MP components tightly sealed in original containers until ready for use. Store components in a cool, dry place, out of direct sunlight and on pallets at temperatures between 50°F – 80°F.

ESTIMATED COVERAGE

One two-gallon unit of CP-83MP covers approximately 14 ft² of tile lining when used as a setting bed for tile with a nominal 1/16" joint thickness between the tile. This is an estimated coverage rate and does not allow for waste, bed or side joint variations, or other job site contingencies.

BID SPECIFICATION GUIDE

Use Blome CP-83MP Epoxy Adhesive/Mortar as manufactured by Blome International, O'Fallon, MO.

JOB SITE ENVIRONMENTAL CONDITIONS

Blome CP-83MP is best applied while ambient temperatures are between 50°F and 90°F. Blome CP-83MP components, brick, tile and substrate temperatures must also be maintained in this range. Installations of CP-83MP should be protected from water and weather during installation and curing.

SURFACE PREPARATION

Concrete must be adequately cured, structurally sound and dry. It must be free of dirt and contaminants and all defects should be repaired. All loose coatings must be removed. Concrete must be dry in accordance with ASTM D 4263 Plastic Sheet Test Method. Concrete surfaces must be free of all laitance, oil, curing compounds, and any dust or other loose materials prior to installation of materials. Concrete must be etched or roughened by abrasive blasting, shot blasting, grinding or in some instances, it may be acid etched. Check with Blome International for optional recommendations.

1. **Steel in Immersion Service**
 - a. Abrasive blast steel surfaces to white metal finish with a 2 to 3 mil anchor profile. (Ref. SSPC-SP-5)
 - b. All welds should be continuous and should be ground to remove sharp edges, laps, under cuts and other surface irregularities. Relatively smooth, ripple finished welds are acceptable.
2. **Steel in Non-Immersion Service**
 - a. Abrasive blast steel surfaces to a near white metal finish with 1 to 2 mil anchor profile. (Ref. SSPC-SP-10)

Brick and tile to be installed with Blome CP-83MP must be clean, dry and oil free. If brick or tile has been frozen, they must be thawed completely and allowed to dry prior to installation with Blome CP-83MP. Liquid or Sheet applied membrane surfaces should be clean and dry prior to installation of Blome CP-83MP bed joint. These surfaces should be swept clean and be free of dirt, dust, water or other jobsite contaminants.

SAFETY PRECAUTIONS

Blome CP-83MP Resin, Hardener, and mixes of them present various health hazards if handled improperly. CP-83MP Resin will cause eye injury and irritate skin and CP-83MP Hardener is a corrosive. Wear safety glasses with side shields, gloves and long sleeve shirts to prevent all contact with skin and eyes. After working with Blome CP-83MP, wash thoroughly before eating, drinking, smoking or other activities.

APPLICATION EQUIPMENT

Blome CP-83MP is best mixed with a trowel or mixing stick. It may also be mixed with a KOL, pail type mixer or in a pail using a drill motor driven paddle blade. This mixing equipment must be clean, dry and free of any contaminants including Portland Cement, other mortars or resins. When mixed, CP-83MP is applied to brick and substrate with a pointing or margin trowel.

MIXING AND APPLICATION

CP-83MP is mixed at a 1:1 ratio by volume. Mix together equal volumes of Resin (Part A) and Hardener (Part B) and blend thoroughly for 1-2 minutes. The components have contrasting colors; mix these two parts until a uniform color is achieved. Mix components for a minimum of 1-2 minutes, making sure there are no stripes or inconsistencies.

Place brick or tile in wet adhesive mortar in accordance with project specification. When laying brick, use a clean, dry pointing or margin trowel, butter brick or tile evenly on 4 or 5 sides. Slide buttered brick or tile into place, squeezing excess mortar from joints. Strike off excess mortar & remove. Joint thickness should be nominally 1/16".

CLEANUP

All tools, mixing equipment, gloves and application equipment should be cleaned up immediately using a citrus or biodegradable cleanser, with hot water, while material is still wet. If material begins to cure, solvent-based cleaners will be required for removal.

WARRANTY

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. Our material data sheets and other literature are to be considered accurate and reliable, but are used as guides only. WE GIVE NO WARRANTY OR GUARANTEE, WHETHER OF MERCHANT ABILITY OR FITNESS OF PURPOSE OR OTHERWISE, AND WE ASSUME NO LIABILITY IN CONNECTION THEREWITH. We are happy to give suggestions for applications; however, the user assumes all risks and liabilities in connection therewith regardless of any suggestion, we may give. We assume no liability for consequential or incidental damages. Our liability, in law and equity, shall be expressly limited to the replacement of non-conforming goods at our factory, or at our sole option, to repayment of the purchase price of the non-conforming goods.

MATERIAL SAFETY DATA SHEET

Product No.: CP83MPH

SECTION I - XVI

SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME CP-83MP HARDENER

MANUFACTURER: BLOME INTERNATIONAL
1450 HOFF INDUSTRIAL DRIVE
O'FALLON, MO 63366

PHONE NO.: 636-379-9119

EMERGENCY PHONE NUMBER: (800)-424-9300

MSDS ISSUE DATE: 08/13/08

SECTION II - INGREDIENTS/HAZARD INFORMATION

CRYSTALLINE SILICA

* CAS No.: 14808-60-7 Percent By Weight: 45 To 50 LEL: NA UEL:
OSHA PEL: NA ppm 0.098 mg/M3 TWA ACGIH TLV: NA ppm 0.05 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA
Listed On(2) a: N b: N c: N d: Y e: Y f: Y g: Y h: N
RESPIRABLE DUST CAN CAUSE SILICOSIS, CANCER, AUTOIMMUNE DISEASES
POLYAMIDOAMINE

* CAS No.: 68605-86-7 Percent By Weight: 20 To 25 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: >1250 MG/KG ORAL LC50: >700 PPM/1 HR V.P.(1) 7.5
Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
LD50 DERMAL >2000 MG/KG CORROSIVE TO SKIN

CALCIUM METASILICATE

* CAS No.: 13983-17-0 Percent By Weight: 10 To 15 LEL: NA UEL: NA
OSHA PEL: ppm 5 mg/M3 TWA ACGIH TLV: ppm 3 mg/M3 TWA
LD50: NA LC50: NA V.P.(1)
Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

DIETHYLANILINE

* CAS No.: 91-66-7 Percent By Weight: 1 To 5 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: NA LC50: NA V.P.(1)
Listed On(2) a: N b: N c: Y d: Y e: N f: N g: N h: N
CERCLA RQ1000LBS, NEW JERSEY AND PENN LABEL LAW

AMORPHOUS SILICA

* CAS No.: 112926-00-8 Percent By Weight: 1 To 5 LEL: NA UEL: NA
OSHA PEL: NA ppm 6 mg/M3 TWA ACGIH TLV: NA ppm 10 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA
Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
Contains no crystalline silica.

TRIETHYLENETETRAMINE

* CAS No.: 112-24-3 Percent By Weight: 1 To 5 LEL: NA UEL:
OSHA PEL: NA ppm NA mg/M3 TWA ACGIH TLV: NA ppm NA mg/M3 TWA
LD50: LC50: V.P.(1) <.001@68
Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
Can cause skin and eye burns.

DIETHYLENETRIAMINE

* CAS No.: 111-40-0 Percent By Weight: 1 To 5 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: 1000 mg/kg skin LC50: NA V.P.(1) .9
Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
LD50 2330 mg/kg oral

BISPHENOL A

MATERIAL SAFETY DATA SHEET

Product No.: CP83MPH

SECTION I - XVI

SECTION II - INGREDIENTS/HAZARD INFORMATION Con't.

* CAS No.: 80-05-7 Percent By Weight: 1 To 5 LEL: NE UEL: NE
 OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
 LD50: NE LC50: NE V.P.(1) .9
 Listed On(2) a: N b: Y c: N d: Y e: N f: N g: Y h: N

* Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient

(1) Vapor Pressure In mm Hg

(2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
 g = California Prop. 65 h = OSHA Carcinogen

NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

EFFECTS OF OVEREXPOSURE - ACUTE:

Breathing: Irritation of the respiratory tract; headache, nausea, dizziness.

Eye or Skin Contact: May cause eye and skin irritation.

Swallowing: No effects anticipated from ingestion incidental to normal use. Larger quantities may cause distress of the digestive tract and nausea.

CHRONIC: Crystalline silica has been classified as carcinogenic for humans (2A) by IARC. The excessive inhalation of crystalline silica is also a known cause of silicosis. (Risk depends on duration and level of exposure.) Other possible chronic effects are silicosis, cancer, scleroderma and tuberculosis. The main route of entry is inhalation of crystalline silica. Dry silica powder should be handled with great care. When the silica is mixed and wetted by the other components the risk of inhalation is greatly reduced.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: Remove to fresh air.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: Remove with soap and water. Use a good quality hand lotion to add back natural protective oils to the skin. Remove soiled clothing and laundry before reuse. Get medical assistance.

IF SWALLOWED: Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician immediately. Treat symptomatically. Never give anything by mouth to an unconscious person.

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: FLASH POINT: NONE

EXTINGUISHING MEDIA: In case of fire, use CO2, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Due to pressure build-up, closed containers exposed to extreme heat may explode. EXOTHERMIC REACTION: When mixed with a second reactive component and kept in a mass (larger than 1/2

MATERIAL SAFETY DATA SHEET

Product No.: CP83MPH

SECTION I - XVI

SECTION V - FIRE FIGHTING MEASURES Con't.

gallon or larger of mixed material) for longer than the potlife the material can exotherm to a very high temperature and decompose from the heat of the reaction. **DO NOT BREATHE ANY OF THE FUMES!**. See section on HAZARDOUS DECOMPOSITION: 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: Summon professional firefighters. Use full protective equipment including self-contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable. If exposed to fire or extreme heat, water should be used to cool closed containers and prevent pressure build-up or possible auto-ignition.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Wash with water. Before attempting clean-up, refer to hazard caution information in other sections of this material safety data form. Contain spilled material and remove with inert absorbent. Store in closed container until properly disposed of.

SECTION VII - HANDLING AND STORAGE

Do not store for long periods of time above 100°F or near fire or open flame. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep container closed when not in use. Do not transfer contents to bottles or other unlabelled containers. Do not reuse empty containers.
Keep out of reach of children.

SECTION VIII - PERSONAL PROTECTION

RESPIRATORY PROTECTION: All workers and bystanders must be protected from exposure above Section II limits. Avoid breathing vapors, spray mist or sanding dust. Application by brush, roller, squeegee, or trowel will result in the lowest release of hazardous materials. When spray applied in outdoor or open areas with unrestricted ventilation, and during sanding or grinding operations, use NIOSH/MSHA approved mechanical filter respirator to remove solid airborne particles of over spray or sanding dust. Follow the crystalline silica respiratory protection paragraph when silica is present. When used in confined areas, wear NIOSH/MSHA approved air supply respirators or hoods. Use NIOSH/MSHA approved respirators when flame cutting, welding, brazing and sanding material coated with this product. The fumes from these operations can be hazardous. Do not breathe them. Always use adequate ventilation. Whenever using respirators refer to OSHA 1910.134 for proper respirator use and safety program. The applicator determines the type of area in which the application is being made (unrestricted, restricted, or confined). The best determination of respirator type to use in a particular application is to monitor for the hazardous materials during actual application. The applicator should contact a qualified safety engineer for proper selection of safety equipment based on the application conditions.

CRYSTALLINE SILICA RESPIRATORY PROTECTION. This product contains SILICA. Use a NIOSH approved air purifying or supplied-air-respirator where airborne concentrations of crystalline silica (quartz) are expected to exceed exposure limits. (see table below). Appropriate respiratory protection for respirable crystalline silica is based on the airborne exposure concentration and duration of exposure for the particular use of the respirator. A respiratory protection program in accordance with OSHA standard 28CFR 1910.134 must be implemented whenever workplace conditions warrant use of a respirator ANSI Standard Z88.2 (recent revision) "American National Standard for Respiratory Protection" should also be considered. All tight-fitting respirators must be fit-tested either qualitatively or quantitatively for each respirator user. NIOSH recommends the use of respiratory protection when effective engineering controls are not feasible, or while they are being installed to control workplace exposures to crystalline silica.

Airborne Silica

Concentration Minimum Respiratory Protection

Up to 0.5mg/m³ Any air-purifying respirator with a high efficiency (HEPA) filter.

Up to 1.25mg/m³ Any powered air-purifying full-face respirator with a HEPA filter

Or any supplied-air-respirator operated in continuous flow mode.

Up to 2.5mg/m³ Any powered air-purifying full-face respirator with a HEPA filter

Or any powered air-purifying-respirator with a tight fitting facepiece and a HEPA filter.

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SECTION VIII - PERSONAL PROTECTION Con't.

Up to 25mg/m³ Any supplied-air-respirator operated in a pressure-demand or other positive pressure mode.
Emergency Up to 500mg/m³ Any self contained breathing apparatus with a full-facepiece and is operated in pressure-demand mode or other positive pressure mode.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended. Discard the gloves when they are penetrated by the liquid. Wash with soap and water and use a protective cream. Use new gloves.

EYE PROTECTION: Do not get in eyes. Safety eyewear with splash guards or side shields are recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended. If the clothing is penetrated by the liquid remove the clothing and launder before reuse. Wash the effected area with soap and water and use a protective cream. If shoes or boots are penetrated DO NOT REUSE. (Feet tend to sweat and leach out chemicals from the saturated leather). Wash the effected area with soap and water and apply protective cream. Use new shoes and or boots. Depending on the severity and extent of the skin contact medical assistance maybe required. If this is a repeated contact seek medical advice before continuing to work with the products.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Generally not miscible and lighter than water.

ODOR: Mild, characteristic of solvents listed in SECTION II.

WEIGHT PER GALLON: 13.76 Pounds

PERCENT VOLATILE BY VOLUME: 3.02

EVAPORATION RATE: ()Faster (X) Slower Than Ether

BOILING RANGE: NA

VAPOR DENSITY: (X)Heavier ()Lighter Than Air -

SECTION X - STABILITY AND REACTIVITY

STABILITY: ()UNSTABLE (X)STABLE

INCOMPATIBILITY: Avoid contact with: mineral acids, amines, and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: May cause hazardous fumes when heated to decomposition or from mixed material that is kept in 1/2 gallon or larger mass longer than the potlife. The following represents a partial list: (from burning, heating, or reaction with other materials). Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. nitrosamines. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic. An other unidentified phenolic and organic compounds and oxides of metals listed in Section II. Treat all of these fumes as hazardous and DO NOT BREATHE.

HAZARDOUS POLYMERIZATION: ()MAY OCCUR (X)WILL NOT OCCUR.

MIXED PRODUCT SHOULD NOT BE KEPT IN QUANTITIES GREATER THAN 3 LBS WEIGHT (approx. 1 QUART VOLUME LONGER THAN 25 TO 35 MINUTES. The product reacts quickly when in large mixed masses and develops heat quickly. It is possible for the mass to reach decomposition temperatures and give off dangerous gasses. ALWAYS pour the material out in thin thickness (1/4 inch or less) to avoid the mass reaction.

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Product No.: CP83MPH

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SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: PAINT,8,UN3066,PGIII

SECTION XV - REGULATORY INFORMATION

This product contains 0.21 pounds per gallon (26 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.21 lbs./gal. (26 gms./L.)

This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm. This product contains a chemical known to the state of California to cause cancer.

SECTION XVI - OTHER INFORMATION

HMS RATING: (H)ealth 3* (F)lammability 0 (R)eactivity 1

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.

MATERIAL SAFETY DATA SHEET
Product No.: CP83MPR

SECTION I - XVI

SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME CP-83MP RESIN

MANUFACTURER: BLOME INTERNATIONAL PHONE NO.: 636-379-9119
1450 HOFF INDUSTRIAL DRIVE
O'FALLON, MO 63366
EMERGENCY PHONE NUMBER: (800)-424-9300 MSDS ISSUE DATE: 10/24/06

SECTION II - INGREDIENTS/HAZARD INFORMATION

EPOXY RESIN LIQUID

* CAS No.: 25085-99-8 Percent By Weight: 50 To 55 LEL: NA UEL: NA
OSHA PEL: NE ppm NE mg/M3 TWA ACGIH TLV: NE ppm NE mg/M3 TWA
LD50: Skin 20,000 mg/kg LC50: LD 50 ORAL >5000 mg/kg V.P.(1) NA
Listed On(2) a: N b: N c: N d: Y e: N f: N g: Y h: N
Skin sensitizer.

CRYSTALLINE SILICA

* CAS No.: 14808-60-7 Percent By Weight: 25 To 30 LEL: NA UEL:
OSHA PEL: NA ppm 0.098 mg/M3 TWA ACGIH TLV: NA ppm 0.05 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA
Listed On(2) a: N b: N c: N d: Y e: Y f: Y g: Y h: N
RESPIRABLE DUST CAN CAUSE SILICOSIS, CANCER, AUTOIMMUNE DISEASES

AMORPHOUS SILICA

* CAS No.: 112926-00-8 Percent By Weight: 20 To 25 LEL: NA UEL: NA
OSHA PEL: NA ppm 6 mg/M3 TWA ACGIH TLV: NA ppm 10 mg/M3 TWA
LD50: NA LC50: NA V.P.(1) NA
Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
Contains no crystalline silica.

TITANIUM DIOXIDE

* CAS No.: 13463-67-7 Percent By Weight: 1 To 5 LEL: NA UEL:
OSHA PEL: NA ppm 10 mg/M3 TWA ACGIH TLV: NA ppm 10 mg/M3 TWA
LD50: LC50: V.P.(1) NA
Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N

* Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient

(1) Vapor Pressure In mm Hg

(2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
g = California Prop. 65 h = OSHA Carcinogen

NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

EFFECTS OF OVEREXPOSURE - ACUTE:

Breathing: Irritation of the respiratory tract; headache, nausea, dizziness.

Eye or Skin Contact: May cause eye and skin irritation.

Swallowing: No effects anticipated from ingestion incidental to normal use. Larger quantities may cause distress of the digestive tract and nausea.

CHRONIC: Crystalline silica has been classified as carcinogenic for humans (2A) by IARC. The excessive inhalation of crystalline silica is also a known cause of silicosis. (Risk depends on duration and level of exposure.) Other possible chronic effects are silicosis, cancer, scleroderma and tuberculosis. The main route of entry is inhalation of crystalline silica. Dry silica powder should be handled with great care. When the silica is mixed and wetted by the other components the risk of inhalation is greatly reduced.

MATERIAL SAFETY DATA SHEET

Product No.: CP83MPR

SECTION I - XVI

SECTION III - HAZARD IDENTIFICATION Con't.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: Remove to fresh air.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: Remove with soap and water. Use a good quality hand lotion to add back natural protective oils to the skin. Remove soiled clothing and laundry before reuse. Get medical assistance.

IF SWALLOWED: Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician immediately. Treat symptomatically. Never give anything by mouth to an unconscious person.

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: FLASH POINT: NONE

EXTINGUISHING MEDIA: In case of fire, use CO₂, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Due to pressure build-up, closed containers exposed to extreme heat may explode. **EXOTHERMIC REACTION:** When mixed with a second reactive component and kept in a mass (larger than 1/2 gallon or larger of mixed material) for longer than the potlife the material can exotherm to a very high temperature and decompose from the heat of the reaction. **DO NOT BREATHE ANY OF THE FUMES!** See section on **HAZARDOUS DECOMPOSITION:** 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: Summon professional firefighters. Use full protective equipment including self-contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable. If exposed to fire or extreme heat, water should be used to cool closed containers and prevent pressure build-up or possible auto-ignition.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Wash with water. Before attempting clean-up, refer to hazard caution information in other sections of this material safety data form. Contain spilled material and remove with inert absorbent. Store in closed container until properly disposed of.

SECTION VII - HANDLING AND STORAGE

Do not store for long periods of time above 100°F or near fire or open flame. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep container closed when not in use. Do not transfer contents to bottles or other unlabelled containers. Do not reuse empty containers. Keep out of reach of children.

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SECTION VIII - PERSONAL PROTECTION

RESPIRATORY PROTECTION: All workers and bystanders must be protected from exposure above Section II limits. Avoid breathing vapors, spray mist or sanding dust. Application by brush, roller, squeegee, or trowel will result in the lowest release of hazardous materials. When spray applied in outdoor or open areas with unrestricted ventilation, and during sanding or grinding operations, use NIOSH/MSHA approved mechanical filter respirator to remove solid airborne particles of over spray or sanding dust. Follow the crystalline silica respiratory protection paragraph when silica is present. When used in confined areas, wear NIOSH/MSHA approved air supply respirators or hoods. Use NIOSH/MSHA approved respirators when flame cutting, welding, brazing and sanding material coated with this product. The fumes from these operations can be hazardous. Do not breathe them. Always use adequate ventilation. Whenever using respirators refer to OSHA 1910.134 for proper respirator use and safety program. The applicator determines the type of area in which the application is being made (unrestricted, restricted, or confined). The best determination of respirator type to use in a particular application is to monitor for the hazardous materials during actual application. The applicator should contact a qualified safety engineer for proper selection of safety equipment based on the application conditions.

CRYSTALLINE SILICA RESPIRATORY PROTECTION. This product contains SILICA. Use a NIOSH approved air purifying or supplied-air-respirator where airborne concentrations of crystalline silica (quartz) are expected to exceed exposure limits. (see table below). Appropriate respiratory protection for respirable crystalline silica is based on the airborne exposure concentration and duration of exposure for the particular use of the respirator. A respiratory protection program in accordance with OSHA standard 28CFR 1910.134 must be implemented whenever workplace conditions warrant use of a respirator ANSI Standard Z88.2 (recent revision) "American National Standard for Respiratory Protection" should also be considered. All tight-fitting respirators must be fit-tested either qualitatively or quantitatively for each respirator user. NIOSH recommends the use of respiratory protection when effective engineering controls are not feasible, or while they are being installed to control workplace exposures to crystalline silica.

Airborne Silica**Concentration Minimum Respiratory Protection**

Up to 0.5mg/m³ Any air-purifying respirator with a high efficiency (HEPA) filter.

Up to 1.25mg/m³ Any powered air-purifying full-face respirator with a HEPA filter

Or any supplied-air-respirator operated in continuous flow mode.

Up to 2.5mg/m³ Any powered air-purifying full-face respirator with a HEPA filter

Or any powered air-purifying-respirator with a tight fitting facepiece and a HEPA filter.

Up to 25mg/m³ Any supplied-air-respirator operated in a pressure-demand or other positive pressure mode.

Emergency Up to 500mg/m³ Any self contained breathing apparatus with a full-facepiece and is operated in pressure-demand mode or other positive pressure mode.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended. Discard the gloves when they are penetrated by the liquid. Wash with soap and water and use a protective cream. Use new gloves.

EYE PROTECTION: Do not get in eyes. Safety eyewear with splash guards or side shields are recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended. If the clothing is penetrated by the liquid remove the clothing and launder before reuse. Wash the effected area with soap and water and use a protective cream. If shoes or boots are penetrated DO NOT REUSE. (Feet tend to sweat and leach out chemicals from the saturated leather). Wash the effected area with soap and water and apply protective cream. Use new shoes and or boots. Depending on the severity and extent of the skin contact medical assistance maybe required. If this is a repeated contact seek medical advice before continuing to work with the products.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

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Product No.: CP83MPR

SECTION I - XVI

SECTION VIII - PERSONAL PROTECTION Con't.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Generally not miscible and lighter than water.

ODOR: Mild, characteristic of solvents listed in SECTION II.

WEIGHT PER GALLON: 12.93 Pounds

PERCENT VOLATILE BY VOLUME: 0.00

EVAPORATION RATE: ()Faster (X) Slower Than Ether

BOILING RANGE: NA

VAPOR DENSITY: (X)Heavier ()Lighter Than Air -

SECTION X - STABILITY AND REACTIVITY

STABILITY: ()UNSTABLE (X)STABLE

INCOMPATIBILITY: Avoid contact with: mineral acids, amines, and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: May cause hazardous fumes when heated to decomposition or from mixed material that is kept in 1/2 gallon or larger mass longer than the potlife. The following represents a partial list: (from burning, heating, or reaction with other materials). Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. nitrosamines. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic. An other unidentified phenolic and organic compounds and oxides of metals listed in Section II. Treat all of these fumes as hazardous and DO NOT BREATHE.

HAZARDOUS POLYMERIZATION: ()MAY OCCUR (X)WILL NOT OCCUR.

MIXED PRODUCT SHOULD NOT BE KEPT IN QUANTITIES GREATER THAN 3 LBS WEIGHT (approx. 1 QUART VOLUME LONGER THAN 25 TO 35 MINUTES. The product reacts quickly when in large mixed masses and develops heat quickly. It is possible for the mass to reach decomposition temperatures and give off dangerous gasses. ALWAYS pour the material out in thin thickness (1/4 inch or less) to avoid the mass reaction.

SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: NOT REGULATED

SECTION XV - REGULATORY INFORMATION

This product contains 0.00 pounds per gallon (0 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.00 lbs./gal. (0 gms./L.)

10/31/06

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Product No.: CP83MPR

SECTION I -XVI

SECTION XV - REGULATORY INFORMATION Con't.

This product may contain chemicals as contaminants which are known to the state of California to cause cancer, birth defects or other reproductive harm. This product contains a chemical known to the state of California to cause cancer.

SECTION XVI - OTHER INFORMATION

HMIS RATING: (H)ealth 1* (F)lammability 0 (R)eactivity 0

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.

BLOME 410C POWDER

Carbon Filler Powder – Part C

MIXING AND APPLICATION DATA: Add appropriate amount of filler powder to proper resin system. Mix components for 2 – 3 minutes, making sure material is thoroughly blended. This will yield a mortar consistency, ideal for trowel or squeegee application. Do not add sand, cement, water, thinners or other adulterants to the material. For further installation details, refer to product data sheet and BLOME specifications.

CONTAINS: CARBON POWDER No.: MEXTPIG110

NET WEIGHT: 50 lbs.

LOT: XXXXXXXXXX1XXXXXXXXX2

WARNING: May cause eye irritations and/or burns. Contact with skin may cause allergic dermatitis, or sensitization may occur after prolonged or repeated exposure. The breathing of vapors may cause allergic respiratory reactions. Powdered material is harmful if inhaled, and may cause lung injury after extended exposure time. Avoid breathing dust by wearing respirators. Refer to material safety data sheet before use.

FIRST AID: In case of eye or skin contact, flush with water for at least 15 minutes and get medical attention. Also, wash skin with soap and water. If ingested, do not induce vomiting – give large amounts of water and consult physician. If inhaled, remove to fresh air and consult a physician.

Waste material must be disposed of in accordance with federal, state and local environmental control regulations. Empty containers must be handled with care due to product residue.



1450 HOFF INDUSTRIAL DRIVE, O'FALLON, MO 63366 (636) 379-9119 FAX (636) 379-0388

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MATERIAL SAFETY DATA SHEET

Product No.: B410CP

SECTION I - XVI

SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME 410C POWDER

MANUFACTURER: BLOME INTERNATIONAL
1450 HOFF INDUSTRIAL DRIVE
O'FALLON, MO 63366

PHONE NO.: 636-379-9119

EMERGENCY PHONE NUMBER: (800)-424-9300

MSDS ISSUE DATE: 01/20/09

SECTION II - INGREDIENTS/HAZARD INFORMATION

CARBON BLACK

* CAS No.: 1333-86-4 Percent By Weight: 100 LEL: NA UEL:
OSHA PEL: NA ppm 3.5 mg/M3 TWA ACGIH TLV: NA ppm 3.5 mg/M3 TWA
LD50: LC50: V.P.(1) NA
Listed On(2) a: N b: N c: N d: Y e: N f: N g: Y h: N

* Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient

(1) Vapor Pressure In mm Hg

(2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
g = California Prop. 65 h = OSHA Carcinogen

NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

Breathing: Irritation of the respiratory tract.

Breathing: Irritation of the respiratory tract; headache, nausea, dizziness.

Eye or Skin Contact: May cause eye and skin irritation.

Swallowing: No effects anticipated from ingestion incidental to normal use. Larger quantities may cause distress of the digestive tract and nausea.

CHRONIC: Prolonged and repeated breathing of spray mist and/or sanding dust over a period of years may cause dust disease of the lungs.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: Remove to fresh air.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: Remove with soap and water. Use a good quality hand lotion to add back natural protective oils to the skin. Remove soiled clothing and laundry before reuse. Get medical assistance.

IF SWALLOWED: Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician immediately. Treat symptomatically. Never give anything by mouth to an unconscious person.

MATERIAL SAFETY DATA SHEET

Product No.: B410CP

SECTION I - XVI

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: FLASH POINT: NONE**EXTINGUISHING MEDIA:** In case of fire, use CO2, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** NONE**SPECIAL FIRE FIGHTING PROCEDURES:** NONE

SECTION VI - ACCIDENTAL RELEASE MEASURES

Wash with water. Before attempting clean-up, refer to hazard caution information in other sections of this material safety data form. Contain spilled material and remove with inert absorbent. Store in closed container until properly disposed of. Use dustless methods to pick up dry material. Store in closed container until properly disposed.

SECTION VII - HANDLING AND STORAGE

Do not store for long periods of time above 100°F or near fire or open flame. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep container closed when not in use. Do not transfer contents to bottles or other unlabelled containers. Do not reuse empty containers.

Keep out of reach of children.

SECTION VIII - PERSONAL PROTECTION

RESPIRATORY PROTECTION: Use only with adequate ventilation. Only NIOSH/MSHA approved respirators should be used. Select the respirator by evaluation of the type of application being used and the nature of the area of application and the expected concentration of particles that could be breathed by the operator and by the lowest PEL for the dust encounter in the application. When ever using respirators refer to OSHA 1910.134 for proper respirator use and follow manufacture's directions. The best determination of respirator type to use in a particular application is to monitor for the hazardous materials during actual application. The applicator should contact a qualified safety engineer for proper selection of safety equipment based on the application conditions.

VENTILATION: Use only with adequate ventilation. Provide general dilution or local exhaust ventilation in volume and pattern to keep air contaminant concentration below current applicable safety and health standards in the mixing, application and curing areas, and to remove sanding dusts of dried coating and decomposition product during welding and flame cutting on surfaces coated with this product. **BYSTANDERS:** Applicator should insure that fumes or spray mists do not drift into areas where bystanders are likely to be during the application period by keeping bystanders sufficiently away from the work area to insure no exposure and by using adequate ventilation when necessary. Caution should be used to insure that vapors do not collect in off hours. Anyone entering the work area should be properly protected and instructed. **EXPLOSION PROOF VENTILATION:** Only explosion proof ventilation equipment should be used to provide adequate ventilation unless the flash point of the mixed product is a minimum of 40 degrees F above the ambient temperature and the coated surface temperature. Do not apply to surfaces over 130 degrees F surface temperature.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended. Discard the gloves wWhen they are penetrated by the liquid. Wash with soap and water and use a protective cream. Use new gloves.

EYE PROTECTION: Do not get in eyes. Safety eyewear with splash guards or side shields are recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended. If the clothing is penetrated by the liquid remove the clothing and launder before reuse. Wash the effected area with soap and water and use a protective cream. If shoes or boots are penetrated DO NOT REUSE. (Feet tend to sweat and leach out chemicals from the saturated leather). Wash the effected area with soap and water and apply protective cream. Use new shoes and or boots. Depending on the severity and extent of the skin contact medical assistance maybe required. If this is a repeated contact seek medical advice before continuing to work with the products.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas

MATERIAL SAFETY DATA SHEET

Product No.: B410CP

SECTION I - XVI

SECTION VIII - PERSONAL PROTECTION Con't.

where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Insoluble

ODOR: No odor.

WEIGHT PER GALLON: 14.99 Pounds

PERCENT VOLATILE BY VOLUME: 0.00

EVAPORATION RATE: Not applicable.

VAPOR DENSITY: Not applicable.

SECTION X - STABILITY AND REACTIVITY

STABILITY: () UNSTABLE (X) STABLE

INCOMPATIBILITY: None

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: () MAY OCCUR (X) WILL NOT OCCUR

SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: NOT REGULATED

SECTION XV - REGULATORY INFORMATION

This product contains 0.00 pounds per gallon (0 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.00 lbs./gal. (0 gms./L.)

This product may contain chemicals as contaminants which are known to the state of California to cause cancer, birth defects or other reproductive harm.

MATERIAL SAFETY DATA SHEET

Product No.: B410CP

SECTION I - XVI

SECTION XVI - OTHER INFORMATION

HMIS RATING: (H)ealth 1 (F)lammability 0 (R)eactivity 0

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.

BLOME 441 MAT

STANDARD 1-OZ. CHOPPED STRAND MAT

APPLICATION DATA: For further installation details, refer to product data sheet and BLOME specifications.

CONTENTS: _____ WX _____ L

LOT: XXXXXXXXX1XXXXXXXXX2

WARNING: Contact with continuous filament fibrous glass may cause temporary irritation to the skin, eyes and respiratory tract. Wear long sleeved, loose fitting clothing, gloves and eye protection when handling and applying material. Wash with soap and warm water after handling. Wash clothes separately and wipe out washer afterwards. Use a properly fitted NIOSH/MSHA approved disposable dust respirator when high dust levels are encountered, the level of glass fibers in the air exceed the OSHA permissible exposure limits or if irritation occurs. Refer to Material Safety Data Sheet before use.

FIRST AID: If eye irritation occurs, flush with water for at least 15 minutes. If skin irritation occurs, wash with soap and warm running water.

Waste material must be disposed of in accordance with federal, state and local environmental control regulations. Empty containers must be handled with care due to product residue.

IN CASE OF EMERGENCY, CALL CHEMTEC AT 1-800-424-9009



1450 HOFF INDUSTRIAL DRIVE, O'FALLON, MO 63366 (636) 379-9119 FAX (636) 379-0388

53/58

MATERIAL SAFETY DATA SHEET

Product No.: BMATE

SECTION I - XVI

SECTION I - PRODUCT & COMPANY IDENTIFICATION

BLOME;450FABRIC,440, 441, GLASS MAT, 442 GLASS VEIL, EC-SCRIM
 MANUFACTURER: BLOME INTERNATIONAL PHONE NO.: 636-379-9119
 1450 HOFF INDUSTRIAL DRIVE
 O'FALLON, MO 63366
 EMERGENCY PHONE NUMBER: (800)-424-9300 MSDS ISSUE DATE: 01/22/09

SECTION II - INGREDIENTS/HAZARD INFORMATION

FIBERGLASS FILAMENT

* CAS No.: 65997173 Percent By Weight: 100 LEL: NA UEL: NA
 OSHA PEL: NA ppm 15 mg/M3 TWA ACGIH TLV: NA ppm 5 mg/M3 TWA
 LD50: NA LC50: NA V.P.(1) None
 Listed On(2) a: N b: N c: N d: Y e: N f: N g: N h: N
 NO CRYSTALLINE SILICA, <0.002% RESPIRABLE ACGIH TLV 1 Fiber/cc
 * Defined as hazardous per 29 CFR 1910.1200 ** Indicates Active Ingredient
 (1) Vapor Pressure In mm Hg
 (2) a = SARA 302/304 b = SARA 313 c = CERCLA 103(a) d = TSCA e = NTP Carcinogen f = IARC Carcinogen
 g = California Prop. 65 h = OSHA Carcinogen
 NOTE: Multi-component products when mixed will have the cumulative hazards of all components.

SECTION III - HAZARD IDENTIFICATION

Breathing: Irritation of the respiratory tract.

Eye or Skin Contact: May cause eye and skin irritation.

Swallowing: No effects anticipated from ingestion incidental to normal use. Larger quantities may cause distress of the digestive tract and nausea.

CHRONIC: Prolonged and repeated breathing of spray mist and/or sanding dust over a period of years may cause dust disease of the lungs.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: If you are allergic or have been sensitized to: epoxies, amines, isocyanates, detergents, or other chemicals see a physician prior to use. Some individuals may require protective creams if they are sensitive to chemicals. If none of these conditions exist and you use the product in accordance with the Safe Handling and Use Information (Sections VII and VIII) you should expect no mild medical conditions to be aggravated. However if the worker is exposed for an extended period the repeated washing of skin areas with soap and water or other cleaning solutions can remove a large part of the natural protective oils in the skin and require the worker to use a protective cream after each washing to replace the oils removed by washing.

ROUTE(S) OF ENTRY: (X)SKIN (X)BREATHING (X)SWALLOWING

SECTION IV - FIRST AID MEASURES

IF BREATHED: Remove to fresh air.

IF IN EYES: In case of eye contact, flush with large amounts of water for at least 15 minutes. Get medical assistance.

IF ON SKIN: Remove with soap and water. Use a good quality hand lotion to add back natural protective oils to the skin. Remove soiled clothing and laundry before reuse. Get medical assistance.

IF SWALLOWED: Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician immediately. Treat symptomatically. Never give anything by mouth to an unconscious person.

MATERIAL SAFETY DATA SHEET

Product No.: BMATE

SECTION I - XVI

SECTION V - FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: FLASH POINT: NONE

EXTINGUISHING MEDIA: In case of fire, use CO2, Dry Chemical, Foam or other National Fire Protection Association (NFPA) approved method for treating a Class B Fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION VI - ACCIDENTAL RELEASE MEASURES

Material can be cleaned up and disposed as non-hazardous waste.

SECTION VII - HANDLING AND STORAGE

Should be stored in a clean dry facility in normal ambient temperatures.

Keep out of reach of children.

SECTION VIII - PERSONAL PROTECTION

Fiberglass mat is a solid with very little respiratable dust and a very low amount of material that can be classed as fibrous. Less than 0.002%. If the material is used in a very dusty area or when being sanded or if the level of glass fibers exceeds 1 fiber per cc then a properly fitted NIOSH/MSHA disposable dust respirator must be used. (like 3M Model 8210). This product is normally used with other products/compounds and these generally require additional hazards check the MSDS for each of these products before use.

PROTECTIVE GLOVES: Do not get on skin. Solvent impermeable gloves to prevent contact are recommended. Discard the gloves when they are penetrated by the liquid. Wash with soap and water and use a protective cream. Use new gloves.

EYE PROTECTION: Do not get in eyes. Safety eyewear with splash guards or side shields are recommended to prevent contact.

OTHER PROTECTIVE EQUIPMENT: Do not get on skin. Solvent impermeable clothing and boots to prevent contact are recommended. If the clothing is penetrated by the liquid remove the clothing and launder before reuse. Wash the effected area with soap and water and use a protective cream. If shoes or boots are penetrated DO NOT REUSE. (Feet tend to sweat and leach out chemicals from the saturated leather). Wash the effected area with soap and water and apply protective cream. Use new shoes and or boots. Depending on the severity and extent of the skin contact medical assistance maybe required. If this is a repeated contact seek medical advice before continuing to work with the products.

HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. It is very important to use clean clothing in areas where chaffing can occur. Like the neck and collar area and the wrist area. Wash hands before eating, smoking or using the washroom. Remove any contaminated clothing and clean before reuse. Shoes and boots if contaminated must be replaced. Note that the washing of exposed areas on a regular and frequent basis can cause that area to become sensitive. The daily and frequent use of a protective cream in sensitive areas is recommended.

MATERIAL SAFETY DATA SHEET

Product No.: BMATE

SECTION I - XVI

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

WATER SOLUBILITY: Insoluble

ODOR: No odor.

WEIGHT PER GALLON: 21.51 Pounds

PERCENT VOLATILE BY VOLUME: 0.00

EVAPORATION RATE: Not applicable.

VAPOR DENSITY: Not applicable.

SECTION X - STABILITY AND REACTIVITY

STABILITY: () UNSTABLE (X) STABLE

INCOMPATIBILITY: None

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: () MAY OCCUR (X) WILL NOT OCCUR

SECTION XI - TOXICOLOGICAL INFORMATION

No information available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in approved facility. Do not incinerate closed containers.

SECTION XIV - TRANSPORTATION INFORMATION

DOT CLASS: NOT REGULATED

SECTION XV - REGULATORY INFORMATION

This product contains 0.00 pounds per gallon (0 grams/liter) volatile organic compounds. The VOC less water and exempt solvents is 0.00 lbs./gal. (0 gms./L.)

This product may contain chemicals as contaminants which are known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS RATING: (H)ealth 1 (F)lammability 0 (R)eactivity 0

The information contained herein is based on data believed by BLOME INTERNATIONAL to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones which exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards.



1450 Hoff Industrial Drive
O'Fallon, MO 63366
636-379-9119 Fax 636-379-0388
www.blome.com e-mail: info@blome.com

June 25, 2010

Martin Lunn
MDM
227 Gateway Drive
Aiken, South Carolina 29803

Subject: Spark Testing Repaired Areas "Revised"

Martin,

Based on the conference call earlier today along with the input of the participants, procedure WB00001K-032-B-MDM should be revised for testing of the repaired areas inside the vaults. Per this letter, the voltage setting guidelines for initial Holiday Testing of installed coatings (100 volts/mil) should be adjusted for subsequent repaired areas to prevent inadvertent damage to areas surrounding the repairs. For repaired areas only, the test instrument will be set at 4000-5000 volts maximum. Dwell time of the instrument across the surface should be kept to a minimum.

Andy Bernard
Blome International
314-560-7777