

WrapMax Data Sheet

Company Name : Demo Pipeline Company
 Location : MP 2.2 County Rd 36
 Date : 1-17-2003
 Outside diameter of pipe (D) inches..... : 12.75
 Pipe wall thickness (T) inch(es)..... : 0.3
 Strength of steel (SMYS) Lbs/Sq. inch..... : 52000
 Maximum allowable pressure (MAOP) #/Sq.In.. : 609
 (MAOP) Limited by : Design
 Class (Design Factor)..... : 0.72
 Max. long. length of defect area (L) Inches : 9.5
 Maximum defect depth (D) Inch..... : 0.176
 Defect geometry factor(B)..... : 1.0

- - EVALUATION OF MAOP IN DEFECT AREAS - -

Intermediate Factor (A): 4.337
 Design Pressure (P) : 1762.00 Psi Maximum Depth : 0.206 A = 4.337
 Safe Pressure (p') : 801.00 Psi Maximum Length : Infinity A = 5.000

- - B31G COMMENTS BEFORE REINFORCEMENT - -

Pipe may be operated safely at MAOP 609 PSI.

- - WRAPMAX ANALYSIS RESULTS - -

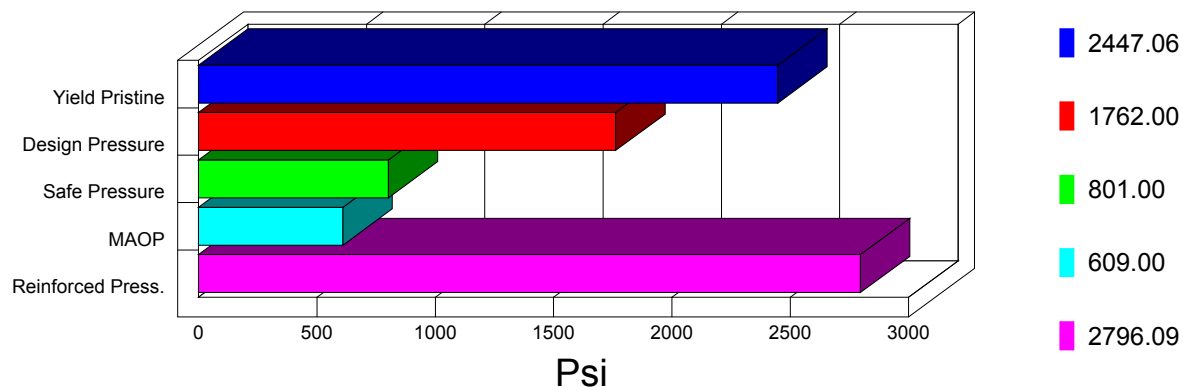
Design pressure of reinforced pipe.. : 2796.09
 Yield pressure of pristine pipe..... : 2447.06
 Design pressure / Yield pressure.... : 1.14
 Circumferential Extent of Defect.... : 40.06

STANDARD PERMAWRAP REPAIR IS ACCEPTABLE

A repair is considered to be safe if the design pressure for reinforced pipe is greater than the the yield pressure for pristine pipe, unless the defect depth is greater than 80% of the pipe wall thickness.

Circumferential extend Pipe/Circumference : 1.0
 Scale Factor yield strength (m)..... : 1.0
 Stain hardening..... : 1.0
 Reinforcement wrap thickness..... : 0.52 Inch
 Reinforcement wrap design strength..... : 20000 Psi
 Reinforcement wrap modulus..... : 5500000 Psi
 Elastic modulus of pipe : 300000000 Psi

Pressure Chart



Incident Report

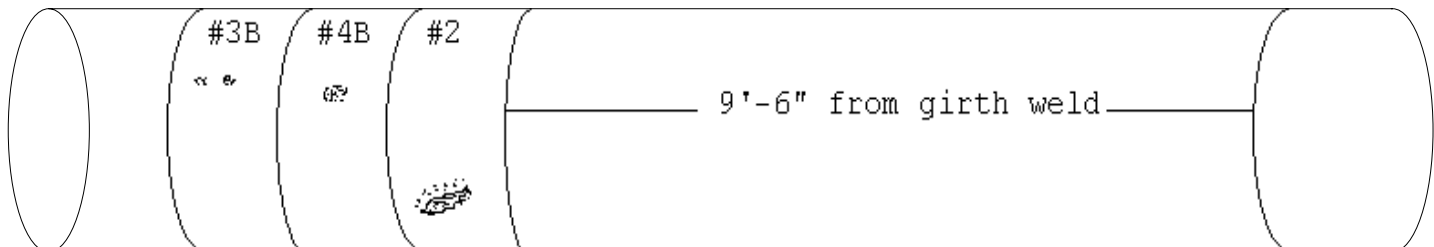
Company Name -----: Demo Pipeline Company
 Location -----: MP 2.2 County Rd 36
 Date -----: 1-17-2003
 P.O. # -----: PO 123456
 Type of Incident --: General Corrosion
 Line Damage -----: Corrosion
 Details -----: Anomalie noted by Smart Pig
 Pipe size -----: 12.750 Inches
 Wall Thickness ----: .300 Inches
 Grade -----: 52000 Lbs/Sq. Inch
 Coating -----: Tar & Felt
 # Wraps -----: 3
 Size(s) -----: P24-12
 M.A.O.P. -----: 609 Lbs/Sq. Inch
 Total Mileage -----: 956
 # Personel -----: 1
 Per diem -----: Yes
 Hours worked from -:
 Hours worked to ---:
 Total Regular Hours: 8
 Overtime Hours ----: 0
 Days to complete --: 1

Defect I.D.	Location On Pipe	Distance From Weld	Size Length/Width	Depth Of Defect	Date Of Repair	Type Of Repair
MP 22 CR36	5 O'Clock	9'-6"	9.500x1.000	0.176	1-17-2003	P010503 #2
	2 O'Clock	10'-6"	1.375x1.125	0.125	1-17-2003	P010503 #4B
	2 O'Clock	11'-7"	.750x.500	0.110	1-17-2003	P011003 #3B

Filler No./Date -----: 2EV1104A 6-6-03
 Filler Actvtr No./Date ---: 2EV1106B 6-6-03
 Batch # -----: N/A

Adhesive No./Date -----: 2AV1100K 2-1-03
 Adhesive Actvtr No./Date -: 2AV1105K 2-1-03
 Batch # -----: N/A

Remarks :



Direction of Flow :



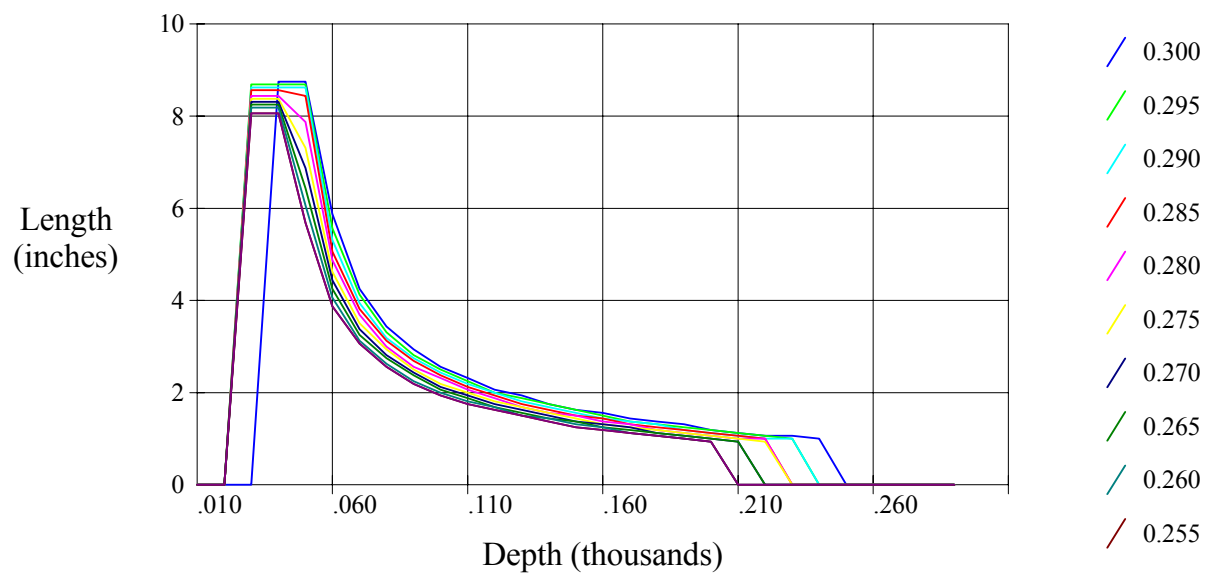
Customer: _____

Installer Signature: _____

WrapMax Length Analysis

VALUES OF LENGTH(L) FOR PIPE WITH O.D. OF 12.75 INCHES										
Pit Depth d(inch)	0.300	0.295	0.290	0.285	Wall thickness (t), Inches 0.280	0.275	0.270	0.265	0.260	0.255
0.760
0.770
0.780
0.790
0.800
0.810
0.820
0.830
0.840
0.850
0.860
0.870
0.880
0.890
0.900
0.910
0.920
0.930
0.940
0.950
0.960
0.970
0.980
0.990
1.000

ALLOWED LENGTHS AND GIVEN DEPTHS OF DEFECT FOR A 12.750" DIAMETER.





Defect area upon arrival.



Marking defect area.



Solvent wipe prior to PermaWrap installation.



Measuring defect area.



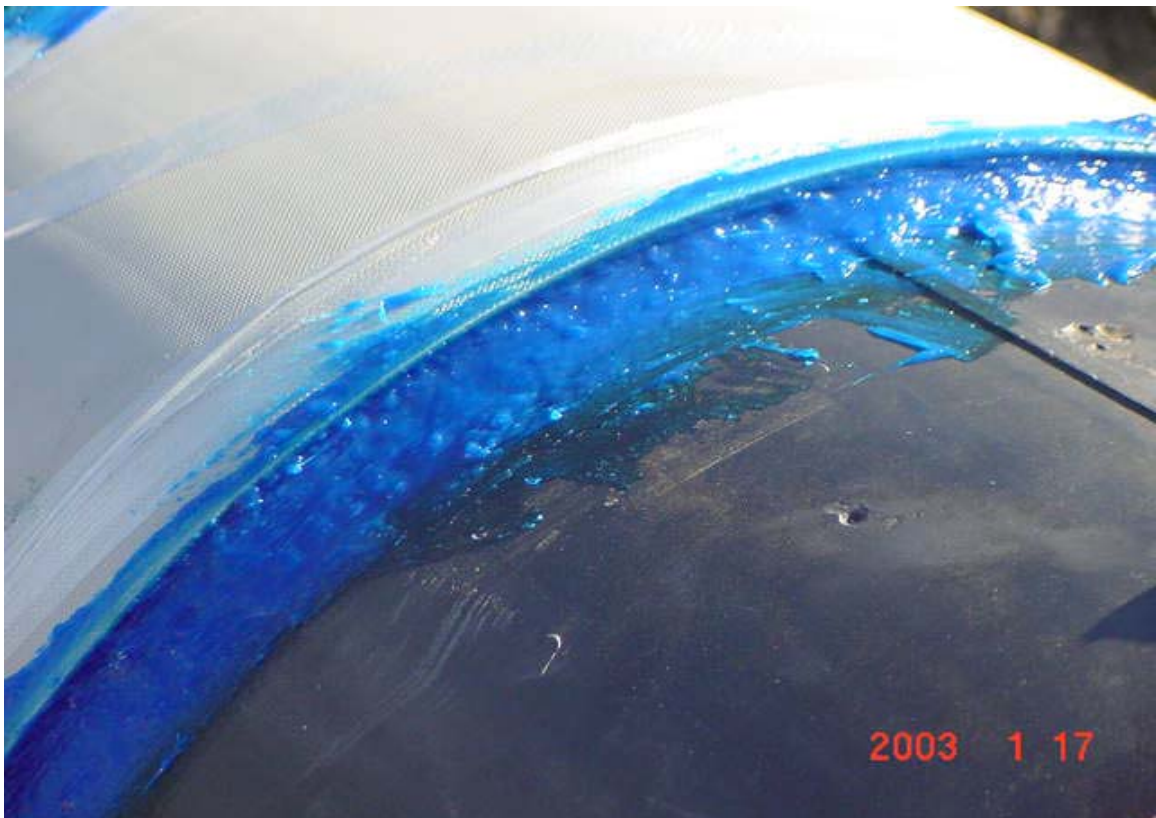
Marking PermaWrap Location



Applying Adhesive



Application of PermaWrap Sleeve.



Completed repair. Close up of sealed edges.



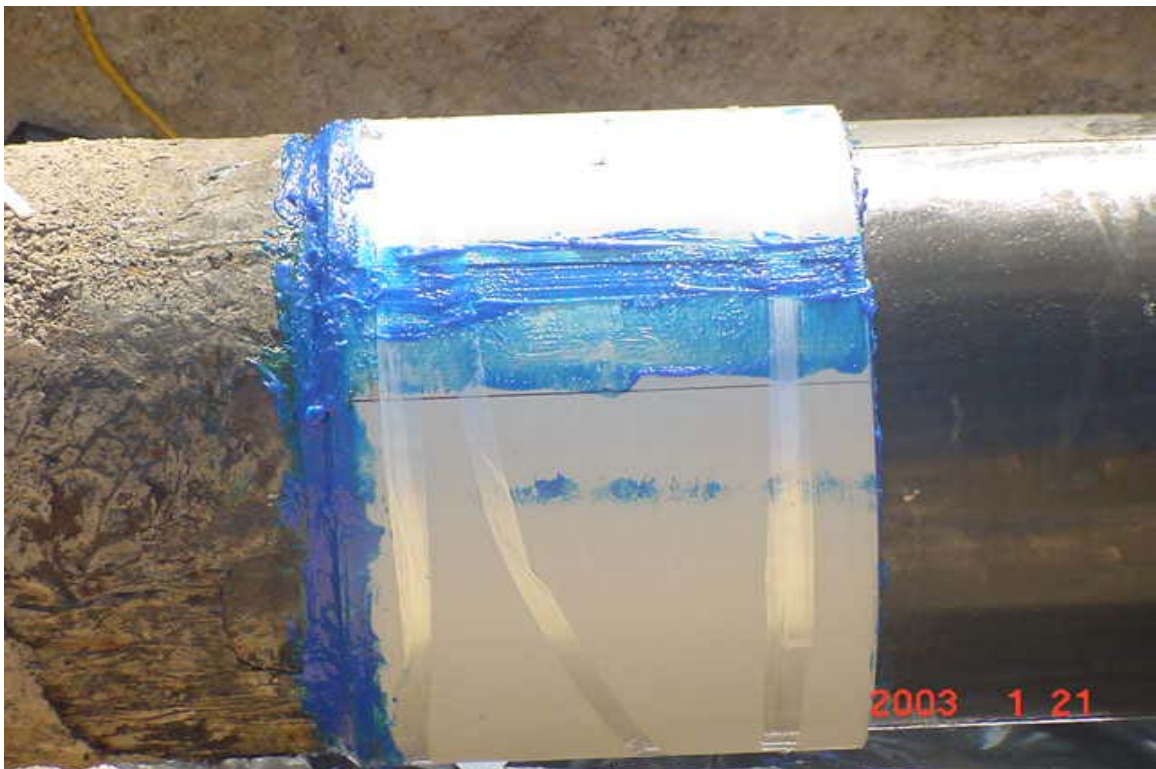
Corrosion Defect



Solvent cleaning



Begin repair. Load transfer putty applied



First repair completed



Second repair completed



Third repair completed.



WrapMaster
Corporation

Certificate of Achievement

Level II - Installer

This certificate is presented to

Elvin "Dit" Loyd

*In recognition of successfully completing Certified
Installer Level II PermaWrap™ Installation Course.*

Elvin Loyd
Signature

6-7-02
Date

WM2000A ADHESIVE**Material Safety Data Sheet**

Part Nos.: WM2000A-A400 thru WM2000A-A3900
(Subcomponents of AKC-400 thru AKC-3900)

1 Of 4

Last Revised: 09/22/00

Printed: 03/01/01

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade name: PermaGrip Adhesive, Part A

General Use: Adhesive

Chemical family: Acrylic Monomer, Inhibited

SHIPPER

WrapMaster, Inc.
2701 State Highway 322
Longview, TX 75603

EMERGENCY INFORMATION

Emergency Telephone Numbers
Chemtrec: (800) 424-9300
Other Calls: (877) 486-1122

2. COMPOSITION INFORMATION ON INGREDIENTS**Hazard Codes (HAZD)**

C = Carcinogen (OSHA, NTP, IARC)
H= Hazardous (OSHA)
P=California Prop 65 Carcinogen
A=(SARA) Superfund Amendments and
Reauthorization Act

HAZARDOUS CONTITUENTS

Constituent	Hazard Code	Case No.	% By Weight	ACGIH TLV	OSHA PEL
Methyl methacrylate	H,A	80-62-6	30-60	100ppm	100ppm
Methacrylic acid	H	79-41-4	<10	20ppm (Skin)	20ppm (Skin)
Organic Peroxide		614-45-9	1-5	N/E	N/E

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "N/E" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

If a hazardous ingredient is identified as being a toxic chemical via hazard code "A", that chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372.

3. Physical Data

Boiling Pt. (Deg. F)	>212	Specific Gravity	1.06
(Deg. C)	>100		
Vapor Pressure (MM HG)	N.T.	PCT. Volatile By Vol.	60-70
PCT Volatile By Weight	579 g/l	Evaporation Rate	>1
Per SCAQMD rule 1124		(H2O=1)	
Solubility in water	Slight	Vapor density (AIR=1)	>1
Appearance and Odor	Blue paste with varied fragrant odor		

WM2000A ADHESIVE

Material Safety Data Sheet

Part Nos.: WM2000A-A400 thru WM2000A-A3900
(Subcomponents of AKC-400 thru AKC-3900)

2 Of 4

Potential Health Effects

Primary routes of exposure: ☒ Skin Contact ☒ Skin Absorption ☒ Eye contact ☒ Inhalation ☒ Ingestion

Symptoms of acute overexposure:

Skin: May cause irritation and sensitization.

Eyes: Moderate irritation – redness, swelling, tearing

Inhalation: High concentrations are irritating to upper respiratory tract.

Ingestion: Drink plenty of water. Get medical attention immediately. Do not induce vomiting.

Aggravated medical symptoms: Pre-existing eye and skin disorders may be aggravated by exposure of this product. Pre-existing skin or lung allergies may increase the change of developing increased allergic symptoms from exposure to this product.

Carcinogenicity: OSHA Regulated – No, ACGIH – No, National Toxicology Program – No, International Agency for Research on Cancer – No.

4. First Aid Measures

First aid for eyes: Flush with water for 15 minutes while holding the eyelids open. Consult a physician if irritation persists. If contact with hot product occurs, immediately flush with cool water for 15 minutes. Get medical attention.

First aid for skin: Remove contaminated clothing/shoes and wipe off excess from skin. Flush with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. If contact with hot product occurs immediately flush with cool water for at least 15 minutes. Carefully remove clothing. If clothing is stuck to burn area, do not pull off. But cut around it cover burn area with clean material. Get medical attention.

First aid for inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

First aid for ingestion: DO NOT induce vomiting. Call a physician.

5. Fire Fighting Measures

General fire and explosion characteristics: May liberate large quantities of dense foul-smelling smoke, which may contain unidentified toxic gases.

Extinguishing Media:

☒ Water Fog ☒ Carbon Dioxide ☒ Dry Chemical ☒ Foam ☐ Alcohol Foam ☐ Water

Special Fire Fighting Procedures – Wear self-contained breathing apparatus and full protective clothing, such as turnout gear. Cartridge respirators Do Not provide adequate protection for fire fighters or exotherm mitigation. Cool fire exposed containers with water.

Flash Point (°F): 58

Method Used: Seta Flash Closed

Explosive limits in air (percent) – Lower 2.1 (MMA)

Upper - 12.5 (MMA)

6. Reactivity Data

Stability

Conditions To Avoid – Avoid temperatures in excess of 100°F. Avoid mixing more than ¼ pound with adhesive base in a single mass. Considerable heat with the release of toxic gases and the possibility of fire may result. Strong acids, metallic salts, amines.

Incompatibility (Materials to avoid) – Can react vigorously with strong reducing agents such as amines and metallic salts and exposure to unprotected metals where salts may have formed.

Hazardous Decomposition Products – Carbon monoxide, aldehydes, carbon tetrachloride and organic acids may result from combustion.

Hazardous Polymerization – May occur.

7. Spill or Leak Procedures

Steps to be taken in case material is released or spilled – Cleanup and disposal should be in accordance with Federal, state and local environmental control regulations.

Waste Disposal Method – This material, as a waste, is considered a RACA hazardous waste with Hazardous Waste Number D001/D002.

8. Special Protection Information

Respiratory Protection Information (specify type) – Use NIOSH approved respirators for organic vapors

Ventilation – Local exhaust preferred, mechanical exhaust acceptable

Protective Gloves – Solvent-resistant

Eye Protection – Chemical goggles, face splash shield, or safety glasses

Other Protective Equipment – Safety shower and eye wash

9. Special Precautions

Precautions to be taken in storage and handling – Store at temperatures between 50 and 77 deg. F. Avoid open flames and sparks. Keep container closed tightly to avoid hydrolysis or degradation of product by moisture. Storage should be in compliance with NFPA and OSHA 29 CFR 1910.106 and 107.

Other precautions – Avoid contact with skin and breathing of vapors.

WM2000A ADHESIVE**Material Safety Data Sheet**

Part Nos.: WM2000A-A400 thru WM2000A-A3900
(Subcomponents of AKC-400 thru AKC-3900)

4 Of 4

10. Transportation Information

Proper Shipping Name: Adhesives

Technical Name:

Hazard Class: 3

UN Number: 1133

Packing Group: III

Emergency Response Guide No.: 3L

IMDG Page Number:

Other:

11. Other Information

Hazardous Materials Information System
(HMIS) Rating

Health

Flammability

Reactivity

3

2

2

TSCA: All the components contained in this product comply with applicable requirements pertaining to the US EPA TSCA inventory and under 40CFR Part 710 and 720. The information and recommendations contained herein are based upon data believed to be correct. However, since much of the information has been received from sources outside our company, we cannot guarantee its accuracy or completeness. Health and safety precautions contained within this data sheet may not be adequate to evaluate and use this data in order to comply with all applicable laws and regulations. Additionally, no guarantee or warranty of any kind, expressed or implied is made with respect to the information contained herein.

WM2000A ACTIVATOR**Material Safety Data Sheet**

Part No.: WM2000A-B; WM2000A-B400 thru WM2000A-B3900
(Subcomponents of AKC-400 thru AKC-3900)

1 OF 4

Last Revised: 09/22/00

Printed: 01/22/01

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade name: Perma Grip Adhesive, Part B

General Use: Adhesive

Chemical family: Acrylic Monomer, Inhibited

SHIPPER

WrapMaster, Inc.
2701 State Highway 322
Longview, TX 75603

EMERGENCY INFORMATION

Emergency Telephone Numbers
Chemtrec: (800) 424-9300
Other Calls: (877) 486-1122

**2. COMPOSITION/INFORMATION ON INGREDIENTS
HAZARDOUS CONTITUENTS****Hazard Codes**

C = Carcinogen H= Hazardous
P=California Prop 65 Carcinogen
A=(SARA) Superficial Amendments and
Reauthorization Act

Constituent	Hazard Code	Case No.	%By Weight	ACGIH TLV	OSHA PEL
Methyl methacrylate	H, A	80-62-6	30-60	100ppm	100ppm
Aniline Oligomer	H	9003-37-6	1-10	N.A.	N.A.

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "N/E" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

If a hazardous ingredient is identified as being a toxic chemical via hazard code "A", that chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372.

3. Physical Data

Boiling Pt. (Deg. F) >212 Specific Gravity 0.96
(Deg. C) >100
Vapor Pressure (MM HG) N.T. PCT. Volatile By Vol. 60-70
PCT Volatile By Weight <2.5g/l Evaporation Rate >1
Per SCAQMD rule 1124 (H2O=1)
Solubility in water Slight Vapor density (AIR=1) >1
Appearance and Odor – Opaque paste with varied fragrant odor.

WM2000A ACTIVATOR

Material Safety Data Sheet

Part No.: WM2000A-B; WM2000A-B400 thru WM2000A-B3900

(Subcomponents of AKC-400 thru AKC-3900)

2 OF 4

Potential Health Effects

Primary routes of exposure: ☒ Skin Contact ☒ Skin Absorption ☒ Eye contact ☒ Inhalation ☒ Ingestion

Symptoms of acute overexposure:

Skin: May cause skin irritation. Can cause skin sensitization.

Eyes: Will cause eye irritation.

Inhalation: Irritating to upper respiratory tract.

Ingestion: Drink plenty of water. Get medical attention immediately. Do not induce vomiting.

Aggravated medical symptoms: Pre-existing eye and skin disorders may be aggravated by exposure of this product. Pre-existing skin or lung allergies may increase the chance of developing increased allergic symptoms from exposure to this product.

Carcinogenicity: OSHA Regulated – No, ACGIH – No, National Toxicology Program – No, International Agency for Research on Cancer – No.

4. First Aid Measures

First aid for eyes: Flush with water for 15 minutes while holding the eyelids open. Consult a physician if irritation persists. If contact with hot product occurs, immediately flush with cool water for 15 minutes. Get medical attention.

First aid for skin: Remove contaminated clothing/shoes and wipe off excess from skin. Flush with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. If skin irritation persists, get medical attention.

First aid for inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

First aid for ingestion: DO NOT induce vomiting. Drink plenty of water. Get medical attention immediately.

5. Fire Fighting Measures

General fire and explosion characteristics: May liberate large quantities of dense foul-smelling smoke, which may contain unidentified toxic gasses.

Extinguishing Media:

☒ Water Fog ☒ Carbon Dioxide ☒ Dry Chemical ☒ Foam ☐ Alcohol Foam ☐ Water

Special Fire Fighting Procedures – Wear self-contained breathing apparatus and full protective clothing, such as turnout gear. Cartridge respirators Do Not provide adequate protection for fire fighters or exotherm mitigation. Cool fire exposed containers with water.

Flash Point (°F): 58

Method Used: Seta Flash Closed

Explosive limits in air (percent) – Lower 2.1 (MMA)

Upper - 12.5 (MMA)

6. Reactivity Data

Stability - Stable

Conditions To Avoid – Avoid temperatures in excess of 100°F. Avoid mixing more than ¼ pound with adhesive base in a single mass. Considerable heat with the release of toxic gasses and the possibility of fire may result. Strong acids, metallic salts, amines.

Incompatibility (Materials to avoid) – Heat, sunlight, UV light, contaminations or an oxygen free environment. Oxidizing and reducing agents.

Hazardous Decomposition Products – Carbon monoxide, aldehydes, and organic acids may result from combustion.

Hazardous Polymerization – May occur.

7. Spill or Leak Procedures

Steps to be taken in case material is released or spilled – Cleanup and disposal should be in accordance with Federal, state and local environmental control regulations.

Waste Disposal Method – This material, as a waste, is considered a RACA hazardous waste with Hazardous Waste Number D001/D002.

8. Special Protection Information

Respiratory Protection Information (specify type) – Use NIOSH approved respirators for organic vapors

Ventilation – Local exhaust preferred, mechanical exhaust acceptable

Protective Gloves – Butyl rubber

Eye Protection – Chemical goggles, face splash shield, or safety glasses

Other Protective Equipment – Safety shower and eye wash

9. Special Precautions

Precautions to be taken in storage and handling – Store at temperatures between 50 and 77 deg. F. Avoid open flames and sparks. Keep container closed tightly to avoid hydrolysis or degradation of product by moisture. Storage should be in compliance with NFPA and OSHA 29 CFR 1910.106 and 107.

Other precautions – Avoid contact with skin and breathing of vapors. Photo reactive

WM2000A ACTIVATOR**Material Safety Data Sheet**

Part No.: WM2000A-B; WM2000A-B400 thru WM2000A-B3900

(Subcomponents of AKC-400 thru AKC-3900)

4 OF 4

10. Transportation Information

Proper Shipping Name: Adhesives

Technical Name:

Hazard Class: 3

UN Number: 1133

Packing Group: III

Emergency Response Guide No.: 3L

IMDG Page Number:

Other:

11. Other InformationHazardous Materials Information System
(HMIS) Rating

Health

Flammability

Reactivity

2

3

2

TSCA: All the components contained in this product comply with applicable requirements pertaining to the US EPA TSCA inventory and under 40CFR Part 710 and 720. The information and recommendations contained herein are based upon data believed to be correct. However, since much of the information has been received from sources outside our company, we cannot guarantee its accuracy or completeness. Health and safety precautions contained within this data sheet may not be adequate to evaluate and use this data in order to comply with all applicable laws and regulations. Additionally, no guarantee or warranty of any kind, expressed or implied is made with respect to the information contained herein.

WM2000F-A ADHESIVE**Material Safety Data Sheet**

Part No.: WM2000F-A
(Subcomponent of FKC-500)

1 of 4

Last Revised: 09/22/00

Printed: 01/23/01

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade name: Perma-Putty, Part A

General Use: Epoxy

Chemical family: Epoxy

SHIPPER

WrapMaster, Inc.
2701 State Highway 322
Longview, TX 75603

EMERGENCY INFORMATION

Emergency Telephone Numbers
CHEMTREC: (800) 424-9300
Other Calls: (877) 486-1122

**2. COMPOSITION/INFORMATION ON INGREDIENTS
HAZARDOUS CONTITUENTS****Hazard Codes**

C = Carcinogen H= Hazardous
P=California Prop 65 Carcinogen
A=(SARA) Superficial Amendments and
Reauthorization Act

Constituent	Hazard Code	Case No.	% By Weight	ACGIH TLV	OSHA PEL
Epoxy Resin Item 01		25068-38-6	30-60	N.E.	N.E.
Crystalline Silica Item 02	H, C, P	14808-60-7	.581	.01mG/m3	10mG/m3 % SiO2=2

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "N/E" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

If a hazardous ingredient is identified as being a toxic chemical via hazard code "A", that chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372.

3. Physical Data

Boiling Pt. (deg. F)	>500	Specific Gravity	1.57
Vapor Pressure (MM HG)	Nil	Pct. Volatile by Vol.	0
Pct. Volatile by Weight	<10gm/1	Evaporation Rate	NA
Solubility in Water	None	Vapor Density	(air=1) NA
Appearance and Odor – White, high viscosity liquid, mild odor			

Potential Health Effects**ITEM 01**

Primary routes of exposure: X Skin Contact X Skin Absorption X Eye contact X Inhalation X Ingestion

Symptoms of acute overexposure:

Skin: Based on similar product testing, product may cause skin sensitization. Contact with product at elevated temperatures can result in thermal burns.

Eyes: Based on similar product testing, product may be moderately irritating to the eyes. Contact with product at elevated temperatures can result in thermal burns.

Inhalation: Because of its low volatility, this product is not likely to be an inhalation hazard.

Ingestion: Based on similar product testing, product is presumed to have a low order of acute oral toxicity.

Signs of Overexposure: Irritation as noted. Skin sensitization (allergy) may be evidenced by rashes, especially hives.

Aggravated Medical Symptoms: Preexisting skin and eye disorders may be aggravated by exposure to this product. Preexisting skin or lung allergies may increase the chance of developing increased allergy symptoms from exposure to this product.

ITEM 02

Symptoms of acute overexposure:

Skin: Crystalline Silica has been classified as a probable carcinogen, in powder form, by the IARC. The NPT has included Crystalline Silica on the NTP list of carcinogens. HOWEVER, ONCE IT IS PART OF AN ADHESIVE, THE CRYSTALLINE SILICA IS ENCAPSULATED. Therefore no exposure should occur unless the cured adhesive is dry sanded or otherwise cut without proper local exhaust and /or the use of a NIOSH/MSHA approved respirator for dust. Skin irritant.

Eyes: Crystalline Silica is an eye irritant when dry sanded or otherwise cut. See above.

Inhalation: Irritating to upper respiratory tract when dry sanded or otherwise cut.

4. First Aid Measures

First aid for eyes: Flush with water for 15 minutes while holding the eyelids open. Consult a physician if irritation persists. If contact with hot product occurs, immediately flush with cool water for 15 minutes. Get medical attention.

First aid for skin: Remove contaminated clothing/shoes and wipe off excess from skin. Flush with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. If contact with hot product occurs immediately flush with cool water for at least 15 minutes. Carefully remove clothing. If clothing is stuck to burn area, do not pull off. But cut around it cover burn area with clean material. Get medical attention.

WM2000F-A ADHESIVE**Material Safety Data Sheet**

Part No.: WM2000F-A

(Subcomponent of FKC-500)

3 of 4

First aid for inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

First aid for ingestion: DO NOT induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.*

Note to Physician: *In general, emesis induction is unnecessary in high viscosity, low volatility products, e.g., neat epoxy resins.

5. Fire Fighting Measures

Extinguishing Media:

<input checked="" type="checkbox"/> Water Fog	<input checked="" type="checkbox"/> Carbon Dioxide	<input checked="" type="checkbox"/> Dry Chemical	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> Alcohol Foam	<input type="checkbox"/> Water
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Special Fire Fighting Procedures – Material will not burn unless preheated. Do not enter confined fires space without full Bunker gear (helmet with face shield, Bunker coats, gloves, and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

Unusual Fire and Explosion Hazards: None

Flash Point (°F): 480

Method Used: PMCC

Explosive limits in air (percent) – Lower Unknown

Upper - Unknown

6. Reactivity Data

Stability – Stable

Conditions to Avoid – Can React vigorously with strong oxidizing agents and strong Lewis or mineral acids. In reactions with man curing agents, considerable heat is released.

Incompatibility (Materials to Avoid)- See conditions to avoid.

Hazardous Decomposition Products – Carbon monoxide, aldehydes and acid may be formed during combustion. Reaction with some curing agents may produce considerable heat.

Hazardous Polymerization - Will not occur.

Conditions to Avoid – Strong acids, amines, mercaptans, bases

7. Spill or Leak Procedures

Steps to be taken in case material is released or spilled- Scrape up and transfer to metal container. Wipe up remaining residue with solvents, observing solvent flammability cautions, or use detergent.

Waste Disposal Method – Cleanup and disposal should be in accordance with Federal, State and local environmental control regulations.

WM2000F-A ADHESIVE**Material Safety Data Sheet**

Part No.: WM2000F-A

(Subcomponent of FKC-500)

4 of 4

8. Special Protection Information

Respiratory Protection (specify type) – Not ordinarily required. If resin is warmed or heated, vapors or mists may be produced. In such cases, use NIOSH approved respirator for organic vapors.

Ventilation – Local exhaust recommended, mechanical acceptable.

Protective Gloves – Impervious plastic or rubber

Eye Protection – Safety glasses or goggles

Other Protective Equipment – Safety shower and eye wash

9. Special Precautions

Precautions to be taken in storage and handling – Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures. Handle in accordance with the hazard potential of curing agent(s) used.

Other Precautions – May cause irritation. Avoid eye and skin contact.

10. Transportation Information

Proper Shipping Name: Adhesives

Technical Name:

Hazard Class: 3

UN Number: 1133

Packing Group: III

Emergency Response Guide No.: 3L

IMDG Page Number:

Other:

11. Other Information

Hazardous Materials Information System

Health

Flammability

Reactivity

(HMIS) Rating

2

3

2

TSCA: All components contained in this produce comply with applicable requirements pertaining to the US EPA TSCA inventory under 40CFR Part 710 and 720.

The information and recommendations contained herein are based upon data believed to be correct. However, since much of the information has been received from sources outside our company, we cannot guarantee its accuracy or completeness. Health and safety precautions contained within this data sheet may not be adequate for all individual and /or situations. It is the user's obligation to evaluate and use this data in order to comply with all applicable laws and regulations. Additionally, no guarantee or warranty of any kind, expressed or implies is made with respect to the information contained herein.

WM2000F-B ACTIVATOR**Material Safety Data Sheet**

Part No.: WM2000F-B

(Subcomponent of FKC-500)

1 of 5

Last Revised: 09/23/00

Printed: 01/22/01

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade name: Perma-Putty, Part B

General Use: Epoxy Hardener

Chemical family: Amine

SHIPPERWrapMaster, Inc.
2701 State Highway 322
Longview, TX 75603**EMERGENCY INFORMATION**Emergency Telephone Numbers
CHEMTREC: (800) 424-9300
Other Calls: (877) 486-1122**2. COMPOSITION/INFORMATION ON INGREDIENTS**
HAZARDOUS CONTITUENTS**Hazard Codes**C = Carcinogen H= Hazardous
P=California Prop 65 Carcinogen
A=(SARA) Superficial Amendments and
Reauthorization Act

Constituent	Hazard Code	Case No.	% By Weight	ACGIH TLV	OSHA PEL
Epoxy Resin Item 01	H	25068-38-6	10-30	N.E.	N.E.
Crystalline Silica Item 02	H, C, P	14808-60-7	15.602	0.3mg/m3	10mg/m3 %SiO2+2
Diethylenetriamine Item 03	H	111-40-0	10-30	1ppm	

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "N/E" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

If a hazardous ingredient is identified as being a toxic chemical via hazard code "A", that chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372.

3. Physical Data

Boiling Pt. (deg. F)	404	Specific Gravity	1.65
Vapor Pressure (MM HG)	<1	Pct. Volatile by Vol.	NIL
Pct. Volatile by Weight	<10gm/1	Evaporation Rate	NA
Solubility in Water	Partial	Vapor Density (air=1)	3.5
Appearance and Odor – Black, high viscosity liquid with an ammonia-like odor			

Potential Health Effects

ITEM 01

Symptoms of acute overexposure:

Skin: Based on similar product testing, product may cause skin sensitization. Contact with product at elevated temperatures can result in thermal burns.

Eyes: Based on similar product testing, product may be moderately irritating to the eyes. Contact with product at elevated temperatures can result in thermal burns.

Inhalation: Because of its low volatility, this product is not likely to be an inhalation hazard.

Ingestion: Based on similar product testing, product is presumed to have a low order of acute oral toxicity.

Signs of Overexposure: Irritation as noted. Skin sensitization (allergy) may be evidenced by rashes, especially hives.

Aggravated Medical Symptoms: Preexisting skin and eye disorders may be aggravated by exposure to this product. Preexisting skin or lung allergies may increase the chance of developing increased allergy symptoms from exposure to this product.

ITEM 02

Primary routes of exposure: X Skin Contact X Skin Absorption X Eye contact X Inhalation X Ingestion

Symptoms of acute overexposure:

Skin: Crystalline Silica has been classified as a probable carcinogen, in a wet state, by the IARC. The NPT has included Crystalline Silica on the NTP list of carcinogens. HOWEVER, ONCE IT IS PAR OF AN ADHESIVE, THE CRYSTALLINE SILICA IS ENCAPSULATED. Therefore no exposure should occur unless the cured adhesive is dry sanded or otherwise cut without proper local exhaust and /or the use of a NIOSH/MSHA approved respirator for dust. Eye and skin irritant.

Eyes: Crystalline Silica is an eye irritant when dry sanded or otherwise cut. See above.

Inhalation: Irritating to upper respiratory tract when dry sanded or otherwise cut.

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

ITEM 03

Symptoms of acute overexposure:

Skin: Short single exposure may cause sever skin burns. Has caused allergic skin reactions in humans. A single prolonged exposure may result in the material being absorbed in harmful amounts. The LD 50 for skin absorption in rabbits is 1000 mg/kg.

Eyes: May cause severe irritation with corneal injury, which may result in permanent impairment of vision, even blindness. Vapors may irritate eyes.

Inhalation: May cause respiratory sensitization or asthma in susceptible individuals. Excessive exposure may cause irritation to upper respiratory tract.

Ingestion: Single dose oral toxicity is low. The oral LD for rats is between 1800 –2330 mg/kg. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of the mouth and throat.

Systemic and Other Effects: Does not cause cancer in long-term animal studies. Results of vitro (test tube) mutagenicity tests have been negative.

4. First Aid Measures

First aid for eyes: Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative. Prompt medical consultation is essential.

First aid for skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing, preferably under safety shower. Seek medical attention immediately. Avoid prolonged or repeated exposure to skin. Wash thoroughly after handling. Remove contaminated clothing/shoes and wipe off excess from skin. Flush with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. If contact with hot product occurs immediately flush with cool water for at least 15 minutes. Carefully remove clothing. If clothing is stuck to burn area, do not pull off. But cut around it cover burn area with clean material. Get medical attention.

First aid for inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

First aid for ingestion: DO NOT induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

Note to Physician: *In general, emesis induction is unnecessary in high viscosity, low volatility products, e.g., neat epoxy resins. Hardener is Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and/or esophagoscopic control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reaction of the patient.

5. Fire Fighting Measures

Extinguishing Media:

<input checked="" type="checkbox"/> Water Fog	<input checked="" type="checkbox"/> Carbon Dioxide	<input checked="" type="checkbox"/> Dry Chemical	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> Alcohol Foam	<input type="checkbox"/> Water
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Special Fire Fighting Procedures – Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposure and to dilute spills to non-flammable mixtures.

Unusual Fire and Explosion Hazards: Care must be taken to prevent ignition when processing or handling at temperatures above flash point.

Flash Point (°F): 215

Method Used: OC

Explosive limits in air (percent) – Lower Unknown

Upper - Unknown

6. Reactivity Data

Stability – Stable

Conditions to Avoid - none

Incompatibility (Materials to Avoid)- avoid contamination with strong acids

Hazardous Decomposition Products – Thermal decomposition may produce cyanide, nitrogen oxides, carbon monoxide and carbon dioxide.

Hazardous Polymerization - Will not occur.

Conditions to Avoid – Do not mix large batches of epoxy resin and DTA without recognition of development of exothermic heat.

7. Spill or Leak Procedures

Steps to be taken in case material is released or spilled- Cleanup and disposal should be in accordance with Federal, State and local environmental control regulations.

Waste Disposal Method – Not applicable

8. Special Protection Information

Respiratory Protection (specify type) – Where comparatively small amounts are being used, ventilation should move air over the work and away from the worker. Do not re-circulate unless scrubbed with acid. In some instances, a NOISH approved respirator may be needed. Evaluation by a qualified Industrial Hygienist is recommended.

Ventilation – Ventilation should move air over the work and away from the worker.

Protective Gloves – Impervious plastic or rubber

Eye Protection – Safety glasses or goggles

Other Protective Equipment – Use of protective skin cream is recommended

9. Special Precautions

Precautions to be taken in storage and handling – Protect from physical damage. Store in a cool, dry area, well ventilated away from any area where fire hazard may be acute.

Other Precautions – May cause irritation. Avoid eye and skin contact.

10. Transportation Information

Proper Shipping Name: Amines, Solid, Corrosive, N.O.S.
Technical Name: Diethylenetriamine
Hazard Class: 8
UN Number: 3259
Packing Group: III
Emergency Response Guide No.: 8L
IMDG Page Number:
Other:

11. Other Information

Hazardous Materials Information System
(HMIS) Rating

Health Flammability Reactivity

3	2	2
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TSCA: All components contained in this produce comply with applicable requirements pertaining to the US EPA TSCA inventory under 40CFR Part 710 and 720.

The information and recommendations contained herein are based upon data believed to be correct. However, since much of the information has been received from sources outside our company, we cannot guarantee its accuracy or completeness. Health and safety precautions contained within this data sheet may not be adequate for all individual and /or situations. It is the user's obligation to evaluate and use this data in order to comply with all applicable laws and regulations. Additionally, no guarantee or warranty of any kind, expressed or implied is made with respect to the information contained herein.

Last Revised: 09/22/00

Printed: 01/23/01

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Gas name: Acetone Gas Registry No: 67-64-1

General Use: Acetone

Chemical family: Organic

SHIPPER

WrapMaster, Inc.
2701 State Highway 322
Longview, TX 75603

EMERGENCY INFORMATION

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Other Calls: (877) 486-1122

**2. COMPOSITION/INFORMATION ON INGREDIENTS
HAZARDOUS CONTITUENTS****Hazard Codes**

C = Carcinogen H= Hazardous
P=California Prop 65 Carcinogen
A=(SARA) Superficial Amendments and
Reauthorization Act

Constituent	Hazard Code	Case No.	% By Weight	ACGIH TLV	OSHA PEL
No Components for this product	PPM	67-64-1			

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "N/E" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

If a hazardous ingredient is identified as being a toxic chemical via hazard code "A", that chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372.

3. Physical Data

Boiling Pt. (deg. F)	>500	Specific Gravity	1.57
Vapor Pressure (MM HG)	Nil	Pct. Volatile by Vol.	0
Pct. Volatile by Weight	<10gm/1	Evaporation Rate	NA
Solubility in Water	None	Vapor Density	(air=1) NA
Appearance and Odor – White, high viscosity liquid, mild odor			

Potential Health Effects

ITEM 01

Primary routes of exposure: X Skin Contact X Skin Absorption X Eye contact X Inhalation X Ingestion

Symptoms of acute overexposure:

Skin: Based on similar product testing, product may cause skin sensitization. Contact with product at elevated temperatures can result in thermal burns.

Eyes: Based on similar product testing, product may be moderately irritating to the eyes. Contact with product at elevated temperatures can result in thermal burns.

Inhalation: Because of its low volatility, this product is not likely to be an inhalation hazard.

Ingestion: Based on similar product testing, product is presumed to have a low order of acute oral toxicity.

Signs of Overexposure: Irritation as noted. Skin sensitization (allergy) may be evidenced by rashes, especially hives.

Aggravated Medical Symptoms: Preexisting skin and eye disorders may be aggravated by exposure to this product. Preexisting skin or lung allergies may increase the chance of developing increased allergy symptoms from exposure to this product.

ITEM 02

Symptoms of acute overexposure:

Skin: Crystalline Silica has been classified as a probable carcinogen, in powder form, by the IARC. The NPT has included Crystalline Silica on the NTP list of carcinogens. HOWEVER, ONCE IT IS PART OF AN ADHESIVE, THE CRYSTALLINE SILICA IS ENCAPSULATED. Therefore no exposure should occur unless the cured adhesive is dry sanded or otherwise cut without proper local exhaust and /or the use of a NIOSH/MSHA approved respirator for dust. Skin irritant.

Eyes: Crystalline Silica is an eye irritant when dry sanded or otherwise cut. See above.

Inhalation: Irritating to upper respiratory tract when dry sanded or otherwise cut.

4. First Aid Measures

First aid for eyes: Flush with water for 15 minutes while holding the eyelids open. Consult a physician if irritation persists. If contact with hot product occurs, immediately flush with cool water for 15 minutes. Get medical attention.

First aid for skin: Remove contaminated clothing/shoes and wipe off excess from skin. Flush with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. If contact with hot product occurs immediately flush with cool water for at least 15 minutes. Carefully remove clothing. If clothing is stuck to burn area, do not pull off. But cut around it cover burn area with clean material. Get medical attention.

First aid for inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

First aid for ingestion: DO NOT induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.*

Note to Physician: *In general, emesis induction is unnecessary in high viscosity, low volatility products, e.g., neat epoxy resins.

5. Fire Fighting Measures

Extinguishing Media:

☒ Water Fog ☒ Carbon Dioxide ☒ Dry Chemical ☒ Foam ☐ Alcohol Foam ☐ Water

Special Fire Fighting Procedures – Material will not burn unless preheated. Do not enter confined fires space without full Bunker gear (helmet with face shield, Bunker coats, gloves, and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

Unusual Fire and Explosion Hazards: None

Flash Point (°F): 480

Method Used: PMCC

Explosive limits in air (percent) – Lower Unknown

Upper - Unknown

6. Reactivity Data

Stability – Stable

Conditions to Avoid – Can React vigorously with strong oxidizing agents and strong Lewis or mineral acids. In reactions with man curing agents, considerable heat is released.

Incompatibility (Materials to Avoid)- See conditions to avoid.

Hazardous Decomposition Products – Carbon monoxide, aldehydes and acid may be formed during combustion. Reaction with some curing agents may produce considerable heat.

Hazardous Polymerization - Will not occur.

Conditions to Avoid – Strong acids, amines, mercaptans, bases

7. Spill or Leak Procedures

Steps to be taken in case material is released or spilled- Scrape up and transfer to metal container. Wipe up remaining residue with solvents, observing solvent flammability cautions, or use detergent.

Waste Disposal Method – Cleanup and disposal should be in accordance with Federal, State and local environmental control regulations.

8. Special Protection Information

Respiratory Protection (specify type) – Not ordinarily required. If resin is warmed or heated, vapors or mists may be produced. In such cases, use NIOSH approved respirator for organic vapors.

Ventilation – Local exhaust recommended, mechanical acceptable.

Protective Gloves – Impervious plastic or rubber

Eye Protection – Safety glasses or goggles

Other Protective Equipment – Safety shower and eye wash

9. Special Precautions

Precautions to be taken in storage and handling – Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures. Handle in accordance with the hazard potential of curing agent(s) used.

Other Precautions – May cause irritation. Avoid eye and skin contact.

10. Transportation Information

Proper Shipping Name: Adhesives

Technical Name:

Hazard Class: 3

UN Number: 1133

Packing Group: III

Emergency Response Guide No.: 3L

IMDG Page Number:

Other:

11. Other Information

Hazardous Materials Information System
(HMIS) Rating

Health

Flammability

Reactivity

2

3

2

TSCA: All components contained in this produce comply with applicable requirements pertaining to the US EPA TSCA inventory under 40CFR Part 710 and 720.

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