PICOTE

LIFE FOR PIPES

PICOTE SOLUTIONS RESIN FAMILY

Dual Color 100% Solids Epoxy
Fiber Bonded Epoxy Mastic

Technical Data Sheets, Chemical Resistance Information, ASTM Testing Results, WRc Approval, SDS Sheets, NSF 61.5 Certification

www.picotegroup.com

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Picote Dual Color Epoxy Coating

Picote Fiber Bonded Epoxy Mastic

Please contact your reseller or Picote at:

Picote Solutions Inc., 777 W Pinnacle Peak Rd, Ste B-108
Phoenix, AZ 85027 - USA Tel: +1 864 940 0088

PICOTE DUAL COLOR COATING RESIN TECHNICAL SPECS

PRODUCT FACTS

This product has been created to renovate drains, sewers, water pipes, electrical conduits, heat and a/c ducts and more by brush casting a coating. The specially formulated coating resin forms a semi-structural corrosion resistant barrier inside the original pipe that is a tested, safe and environmentally friendly product.

The new pipe is corrosion resistant, wear-resistant and non-corrosive. Thanks to a high breaking stretch, it also withstands shocks and bending. The new pipe becomes elastic and antistatic.

USES

1. Extend the life span of the original pipe: The resin can be used to prolong the life of an existing pipe. Clean the pipe well. Apply single (0.5-1mm/coat) or dual coats of the resin. The new slick inner surface will increase the flow inside the pipe minimizing the risk of blockages.

2. Create a new semi-structural pipe: Apply several coats of the resin forming a seamless new pipe with a 2-4mm wall thickness depending on the diameter. Estimated 30-50 year design life when using Semi-Structural Design Specifications based on pipe diameter.

BENEFITS FOR CONTRACTORS

Extend the service life of a pipe, stop corrosion, create a new pipe, "patch" on top of CIPP liner and fortify connections*. Apply to small areas or all drains in multi-story buildings. The Picote Coating™ System is affordable, practical and easily fits in tight places. *Ensure that materials are compatible and the surface is properly prepared.

BENEFITS FOR PROPERTY OWNERS

Customers can stay at home or keep business open during drain renovation.

The Greener Alternative: Eliminating the need to destroy existing walls, gardens or sidewalks, the no-dig solution reduces waste produced at job sites. Interruptions to traffic are also minimized. All materials used are non-toxic.

PICOTE DUAL COLOR COATING RESIN TECHNICAL SPECS

BASE MATERIALS/ PIPE DIAMETER	Size range 1¼" through 12" (DN32-DN300) pipes
WORKING METHOD	Coating with brush
HARDNESS	Adjustable Shore is 65+ (flexibility goes up when hardness goes down)
TENSILE STRENGTH	2970 PSI
ADHESION STRENGTH: METAL	803 PSI with static mixing tip
ADHESION STRENGTH: CONCRETE	100% concrete breakage when pulled away
PORTIONING	Not applicable
POT LIFE	Mixed resin about 25 min @ 70°F/21°C
HARDENING	Recoat: 3hrs @ 70°F/21°C Restore flow: 4hrs (24hrs for potable water projects) Final Cure: 24hrs Can be recoated within 12hrs with no prep, side grinding panels must be used after 12hrs
LEVELING	Product is self leveling.
GAS EMISSIONS	No harmful VOCs released during mixing or after hardening (VOC free)
DRY CONTENT	100% solids
TEMPERATURES	Installation: 50°F/10°C - 140°F/60°C Storage: Room Temp 60°F/15.5°C - 85°F/29°C Finished product: up to 180°F/82°C Most commercial hot water OK up to 180°F/82°C
GLOSS	Semi-gloss
THINNER	Not used
COVERAGE	See Picote Resin Calculator
SHRINKAGE	100% Solids - does not shrink
HUMIDITY	Hydrophobic repels water
UV RESISTANCE	Direct sunlight can alter color of coating
FLEXIBILITY	6,080 PSI
ELECTRICAL CONDUCTIVITY	Electrical insulating material, does not conduct electricity & is antistatic

PACKAGE SIZES:
6x 900ml: 2-part cartridge with 6 cartridges in each case

SHELF LIFE:
2 years from packaging when kept in accordance with storage instructions included in MSDS and Technical Data Sheet.

MIXING RATION: 2:1
2:1 mix ration by volume. No mixing required with prepackaged cartridges and supplied static mixing tip.

PICOTE DUAL COLOR COATING RESIN TECHNICAL SPECS

STATIC PROPERTIES	Antistatic
TESTS DC1000E	NSF/ANSI tested for standard 61-5
MECHANICAL TESTING	ASTM Tested - please see results below:

Tensile Strength	ASTM D638-14	2979 psi
Compression Strength	ASTM D695-15	9570 psi
Flexural modulus Flexural strength	ASTM D790-15e2 ASTM D790-14e2	430 ksi 6080 psi
Adhesive strength	ASTM D4541	Substrate failure

CERTIFICATIONS	Product certified to NSF/ANSI 372 conforms to the requirements for "Lead Free" plumbing products as defined by California, Vermont, Maryland and Louisiana. Standard: NSF/ANSI 61 Section 5 - 2016 Models: DC1000E Color: White Picote's 100% Solids Epoxy Resin, DC1000E, is certified for potable water pipes DN100 (4'') and above. The final coat must be in White.
INDUSTRIAL SAFETY	Ready-measured product must not be in contact with skin (it adheres)
SAFETY DATA SHEET	Delivered with resin
3RD PARTY APPROVALS	WRc: Picote Brush Coating™ System is WRc approved for all non-potable & wastewater applications for pipe diameters between DN50-300 (2-12") diameter for clay, concrete and cast iron pipes and DN32-300 (1¼-12") for copper, steel and PVC pipes
SHIPPING	The two part resin is packaged in sealed tubes and ships from USA. Suggested storage at room temperature and in accordance with the guidelines in Technical Data Sheet.

TECHNICAL ENQUIRIES
For further technical information, please contact:

Ryan Boldan, Global Learning Solutions Director
+1 864 940-0088 / ryan@picotesolutions.com
or
Richard Swan, Director of Client Technical Services
+44 (0) 7827 223237 / richard@picotesolutions.com

Picote Brush Coating™ System

How long will the pipe be out of service?
Dry to touch in 3 hrs with ambient cure. Light wear 4 hours. Final hardness 24 hours.
Full service can be restored 4 hours after last coat has been applied (24hrs for potable).

Type of pipe:
Suitable for **cast iron, PVC, concrete, clay, copper, and stainless steel**.
Preparation of the coating surface is dependent on the material of the pipe.

Other application:
if used to coat outside during cold weather, use appropriate heat.

The Picote Brush Coating™ System is powered by the Picote Millers

The Mini or Maxi Coating Pump is conveniently set on the top of the Miller. The system is practical and easy to keep clean. Picote Millers can also be used for drain cleaning and reinstatements on lateral connections.

2110001001 PICOTE DUAL COLOR EPOXY DC1000E TECH DATA SHEET

DESCRIPTON

GENERAL DESCRIPTION	100% SOLIDS EPOXY
COLOR	Contrasting colors (White & Gray or White & Blue) between coats.
USAGE	Plural component epoxy used to rehabilitate concrete, PVC, fiberglass, clay, cast iron and ductile iron pipes. Creating a monolythic semi-structural repair of decayed and damaged pipelines. Designed exclusively for the Picote Brush Coating™ System.

SURFACE PREPARATION

CONCRETE	Concrete must be jetted and cleaned removing any loose concrete. Must be free of grease and oil.
STEEL/DUCTILE IRON	Near-White SSPC-SP10/NACE 2. Acceptable methods: sand blast, chain flail, or sanding side grinding panel. Remove debris.
STAINLESS STEEL	Nace No. 1/SSPC SP-5 White Metal Blast. Special preparation in addition to Picote's cleaning tools may be needed.

ALL SURFACES MUST BE DRY, CLEAN AND FREE FROM OIL, GREASE, DEBRIS AND OTHER CONTAMINANTS!

TECHNICAL DATA

SOLIDS	100% (no solvents)
VOLATILE ORGANIC COMPOUNDS	None
COVERAGE	20 mils per coat

CURE TIME AT 70° F 21° C

Recoat	Water Contact	Final Cure
3 hours	4 hours	24 hours

RECOAT	Can be recoated within 12 hours. After 12 hours must be abraided with side grinding panels
NUMBER OF COMPONENTS	2

DESCRIPTION

NET WEIGHT	11.7 lbs/Gallon (1.2kg/Litre)
STORAGE TEMP	60°F/15.5°C - 85°F/29°C
SHELF LIFE	Unopened: 24 months from date of manufacture when stored according to recommended conditions. Opened: up to 6 weeks
FLASH POINT	392°F (200°C)

2110001001 PICOTE DUAL COLOR EPOXY DC1000E TECH DATA SHEET

APPLICATION

RATE OF COVERAGE	Minimum	10 mils (0.3mm)	160 ft^2/gal (4m^2/litre)
	Maximum	20-40 mils (0.5-1mm)	80 ft^2/gal (2m^2/litre)
POT LIFE	20 minutes at 70°F (21°C)		
MIXING RATIO	2 to 1 in prepackaged cartridge		
APPLICATION EQUIPMENT	Picote Brush Coating™ System		

ASTM

Tensile Strength	ASTM D638-14	2979 psi
Compression Strength	ASTM D695-15	9570 psi
Flexural Modulus Flexural Strength	ASTM D790-15e2 ASTM D790-14e2	430 ksi 6080 psi
Adhesive Strength	ASTM D4541	substrate failure

WRc APPROVAL

Picote Brush Coating™ System is WRc approved for all non-potable and wastewater applications for pipe diameters between DN50mm (2") and DN300mm (12") diameter for clay, concrete and cast iron pipes and DN32mm (1¼") and DN300mm (12") for copper, steel and PVC pipes.

NSF 61.5 CERTIFICATION

Product certified to NSF/ANSI 372 conforms to the requirements or "Lead Free" plumbing products as defined by California, Vermont, Maryland and Louisiana.

Standard: NSF/ANSI 61 Section 5 - 2016
Models: DC1000E Color: White

Picote's 100% Solids Epoxy Resin, DC1000E, is certified for potable water pipes (DN100) 4" and above. The final coat must be in White.

CLEAN UP

Clean brush and pump hose fittings using acetone. Dispose of feed and pump hose.

REFER TO SAFETY DATA SHEET FOR SAFETY AND HEALTH INFORMATION

Please contact your reseller or Picote at coating@picotesolutions.com

Picote Solutions Inc., 777 W Pinnacle Peak Rd, Ste B-108
Phoenix, AZ 85027 - USA Tel: +1 864 940 0088

ALS Group USA, Corp.
3337 Michelson Drive, Suite CN750, Irvine, CA 92612

Certified Product Listing

For:
Drinking Water System Components – Health Effects

Company:
Picote Solutions, Inc.
20810 SE 18th Place
Sammamish, WA 98075, United States

Plant Location:
Sandy, UT, United States

Standards:
NSF/ANSI/CAN 61 - 2020

Certificate:
Issued Date: 03/29/2017

Material/Product:
Coatings

Contact Temperature:
23 ± 2°C

Models:
DC1000E

Product certified to NSF/ANSI/CAN 372 conforms to the requirements for "Lead Free" plumbing products as defined by California, Vermont, Maryland and Louisiana state laws and by section 1417 of the US SDWA.

ALS Group's Product Certification Listing directory contains the most current certified product(s) and supersedes all printed copies of the listings.

Material Characteristics:

Minimum pipe diameter (inches): 4

Maximum pipe surface area/volume ratio (sq in/L): 61

Minimum tank size (gallons): 50

Maximum tank surface area/volume ratio (sq in/L): 16.8

Maximum dry film thickness per coat (mils): 125

Number of coats: 1

Is additional coating required (e.g. top coat, primer, intermediate coat)? (Y/N): No

Total cure time and temperature: 4 days @ 70°F

Shortest cure time between coats or layers: 2 hours

Final cure time: 4 days @ 70°F

Mix ratio: 2:1

Colors: White

Is this paint/coating system intended to be applied to a pipe? (Y/N): Yes
(1) Certified for use on a new pipe? (Y/N): Yes
(2) Certified for use on a pipe intended for immediate return to service? (Y/N): No

Additional comments:

Flushing or preparation instruction prior to use:
a) Flushing Time: General Flush at 15 minutes
b) Temperature of Flush: 23 ± 2 °C

Product Certificate

This is to certify that the following product has met the requirements detailed below

Picote Brush Coating™ System

Picote Brush Coating™ System as manufactured by Picote Solutions Inc. Applicable to non-potable and wastewater applications for pipe diameters 32mm (1¼") to 300mm (12").

Picote Solutions Ltd
20810 SE 18th Place
Sammamish
WA 98075
USA

This product meets the requirements set out in WRc Assessment Schedule PT/431/0918-AS.

Assessor	A Russell
Director	
Issue Date	18th September 2018
Expiry Date	31st December 2021
Certificate Number	PT/431/0918

wrc approved™

1. SCOPE

This schedule specifies requirements for the Picote Brush Coating™ System as manufactured by Picote Solutions Inc.. It is applicable to all non-potable and wastewater applications for pipe diameters between DN50mm (2") and DN300mm (12") diameter for clay, concrete and cast iron pipes and DN32mm (1 ¼") and DN300mm (12") for copper, steel and PVC pipes.

2. PRODUCT DESCRIPTION

2.1 Introduction

The system comprises of a two part 100% solids epoxy resin (Dual Coat 1000E) that is applied to the inside wall of deteriorated pipes. The resin is transported into the pipe using the Picote range of coating pumps and then applied to the pipe wall by the Picote Miller which powers the Picote brushes. The two part resin is supplied in cartridges to the correct component mix ratio. Wall thicknesses up to 7mm (9/32") can be achieved by multiple passes of the system.

2.2 Relevant standards

Performance: There are no standards applicable to this renovation technique.

2.3 Approval History

This is the first WRc Approved certification for the Picote Brush Coating™ System.

3. TESTING AND REQUIREMENTS

3.1 Type Testing

The Picote Brush Coating™ System shall comply with the following test requirements:

Appearance: The internal surface of the coating shall be smooth, clean and free from scoring, cavities and other surface defects that would prevent the Picote Brush Coating™ System from meeting the general fitness for purpose requirement.

Mechanical Characteristics Testing: The mechanical testing requirements are listed below:

Characteristic	Standard Test method	Declared value
Short-term flexural modulus	ASTM D790(1)	2800 MPa (406 ksi)
Long-term flexural modulus	BS EN ISO 11296-4(2) Annex C	Due March 2020
Temperature of deflection under load	ASTM D648(3) Method B	44°C (111°F)

Resistance to high pressure water jetting

When tested in accordance with the test method and requirements of WIS 4-35-01(4) Issue 2, October 2008, Appendix B the Picote Brush Coating™ System shall resist a jetting pressure of 180 bar (2610 psi).

Resistance to Abrasion

When tested in accordance with EN 295-3(5) section 15 the Picote Brush Coating™ System shall have a maximum depth of abrasion of 0.5mm (0.02").

3.2 Product design

The Picote Brush Coating™ System shall be designed in accordance with the WRc Sewerage Rehabilitation Manual(6) Type II structural design procedure.

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Contact: WRc, Frankland Rd, Blagrove, Swindon SN5 8YF
Tel: 01793 865000 Web: www.wrcapproved.com, E-Mail: wrcapproved@wrcplc.co.uk

3.3 Manufacture

To ensure the quality and performance of Picote Brush Coating™ System the manufacturing process shall include appropriate systems for:

- Verification that component materials received are to specification.
- Handling and storage of all component materials and finished items.
- All records for the Picote Brush Coating™ System.
- Inspection and maintenance of the Picote Brush Coating™ System manufacturing equipment.
- Quality of workmanship.

The production of the Picote Brush Coating™ System and related Quality Control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

3.4 Installation

When installed in accordance with the installation documentation(7), the installation shall be practicable and suitable for conditions that could reasonably be expected on site.

4. APPROVAL

The Picote Brush Coating™ System has been audited and successfully met all the requirements stated within this assessment schedule.
Signed:

K A Adams

Valid until 31st March 2020

Extended through 12-21 Please see new certificate preceding this section

5. REFERENCES

1. ASTM D790-15e2, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

2. BS EN ISO 11296-4-2018, Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks -- Part 4: Lining with cured-in-place pipes.

3. ASTM D648 – 18, Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

4. WIS 4-35-01 Issue 2, Specification for thermoplastics structured wall pipe - supplementary test requirements, October 2008, Appendix B.

5. EN 295-3:2012, Vitrified clay pipe systems for drains and sewers. Test methods.

6. WRc Sewerage Rehabilitation Manual.

7. Picote installation documentation.

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Contact: WRc, Frankland Rd, Blagrove, Swindon SN5 8YF
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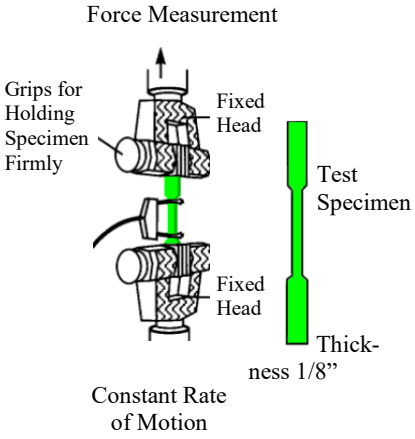
ASTM Testing on Picote's Epoxy Coating System

TESTED PRODUCT: Picote Dual Color Epoxy — TEST 1

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 1: ASTM D638-14 "Tensile Strength"



A piece of finished product, with a maximum thickness of .125-inches, is machined into a dog-bone shape. Each end of the test specimen is placed in opposite facing clamps which then attempt to pull it apart.

The PSI that it takes to break the specimen is calculated as "**Tensile Strength at the Break**". The "**Tensile Elongation at the Break**" is an additional measurement that shows how much the product stretches during this test.The "**Tensile Modulus**" is a measure taken to test rigidity. All of these measurements make up the "Tensile Strength" test. The D638-14 test would simulate separating pipe joints and the effect that would have on the product in question.

TEST 1 RESULTS: Picote Epoxy Coating Tensile Test

Test Method:	ASTM D638-14
Test Conditions:	23±2°C, 50±10% R.H.
Conditioning:	40+ hours, 23±2°C, 50±10% R.H.
Preparation:	Machined from sample sent by client
Specimen:	Type I tensile bars (2-inch gage length)
Cross Head Speed:	0.2-inches per minute

Sample	Replicate	Width (inches)	Thickness (inches)	Tensile Strength at Break (psi)	Tensile Elongation at Break (%)	Tensile Modulus at Young's (ksi)
P/N Picote Dual Coat 1000E*						
		0.5117	0.2209	2970	0.62	586
Requirement				n/a	n/a	n/a

*Picote Dual Color Epoxy 2110001001

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ASTM Testing on Picote's Epoxy Coating System

TESTED PRODUCT: Picote Dual Color Epoxy TEST 2

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 2: D695-15 "Compression Strength"

A sample of the product at approximately .25-inches is laid flat and a machine pushes down on the specimen until it begins to compress. The PSI it requires to sheer the sample is its **"Compression Strength"**. The amount it swells when the pressure is applied is also measured.

This test will show how well the product can sustain loads. **Please note:** This test does not measure the Compression Strength of the cylinder that is created by the product inside the pipe.

TEST 2 RESULTS: Picote's Epoxy Coating Compressive Test

Test Method:	ASTM D695-15
Test Conditions:	23±2°C, 50±10% R.H.
Conditioning:	40+ hours, 23±2°C, 50±10% R.H.
Preparation:	Machined from sample sent by client
Specimen:	Prism (1.0-inch length)
Cross Head Speed:	0.05 inches per minute

Sample	Replicate	Width (inches)	Thickness (inches)	Compressive Strength at Yield (PSI)
P/N Picote Dual Coat 1000E*				
		0.5260	0.2302	9570
Requirement				n/a

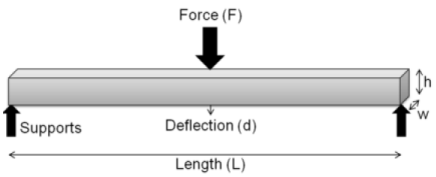
*Picote Dual Color Epoxy 2110001001

ASTM Testing on Picote's Epoxy Coating System

TESTED PRODUCT: Picote Dual Color Epoxy TEST 3

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 3: D790-15e2 "Flexural Modulus"



This test is used to measure the horizontal strength of the material. Supports are placed under the sample at each end, and then a piston drives down at the center. The force to drive down and the amount of deflection are measured to come up with the specimen's **"Flexural Modulus".**

This test would simulate areas in a coated pipe that are being subjected to uneven stress.

TEST 3 RESULTS: Picote's Epoxy Coating Flexural Test

Test Method:	ASTM D790-15e2, Procedure A
Test Conditions:	23±2°C, 50±10% R.H.
Conditioning:	40+ hours, 23±2°C, 50±10% R.H.
Preparation:	Machined from sample sent by client
Support Span:	3.641 inches
Cross Head Speed:	0.090 inches per minute

Sample	Replicate	Width (inches)	Depth	Flexural Strength at Break (PSI)	Flexural Modulus (KSI)
P/N Picote Dual Coat 1000E*					
	2	0.5117	0.2142	6080	418
Requirement					

*Picote Dual Color Epoxy 2110001001

ASTM Testing on Picote's Epoxy Coating System

TESTED PRODUCT: Picote Dual Color Epoxy TEST 4

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 4: D4541-09 "Coating Pull Off Strength"

In this test, a dolly is glued to the epoxy and allowed to cure. The sample is then cored using a hole saw. A device with a piston is attached that pulls away from the substrate until it breaks.

This test can look for two different outcomes depending upon the substrate used. When a brick or concrete substrate is used in a real-world application, it is testing whether or not that substrate breaks before the coating (product) does. If steel were to be used, however, the coating will always break before the substrate, so the PSI is also measured at the time of the break.

The D4541-09 test simulates a pipe (that has been coated with the product) breaking, failing, or becoming compromised in any way and how well the material would hold up and stay adhered under those circumstances.

TEST 4 RESULTS: Picote's Epoxy Coating Pull-off Strength Test

Test Method:	ASTM D4541-09
Test Conditions:	23±5°C, 50±35% R.H.
Conditioning:	As sent by client
Preparation:	Coating as sent by client.
Specimen:	Loading fixture glued to coating
Instrument:	Fixed alignment test modified to use a tensile tester
Cross Head Speed:	0.2 inches per minute

TEST 4 RESULTS: Picote's Epoxy Coating Pull-off Strength Test continued

Sample	Replicate	Loading Fixure Diameter (inches)	Pull-Off Strength (psi)	Failure Mode
P/N Picote Dual Coat 1000E – Brick Substrate				
		0.500	>700	1-10% Coating Failure
P/N Picote Dual Coat 1000E – Metal Substrate				
		0.500	>803	1-10% Coating Failure
P/N Picote Dual Coat 1000E – Concrete Substrate				
		0.500	>798	0.1-1% Coating Failure
Requirement			n/a	

*Picote Dual Color Epoxy 2110001001

For more information on ASTM testing of Picote products, please contact:

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CHEMICAL RESISTANCE DC1000E

Acetic Acid (20%)	Excellent
Acetone	Not Recommended
Acetylene	Excellent
Alcohol - Ethyl	Excellent (temperature < 120oF, 50oC)
Alcohol - Isopropyl	Excellent
Alcohol - Methyl	Good (temperature < 72oF, 22oC)
Aluminum Chloride	Excellent (temperature < 72oF, 22oC)
Aluminum Fluoride	Good (temperature < 72oF, 22oC)
Aluminum Hydroxide	Good (temperature < 72oF, 22oC)
Aluminum Sulfate	Excellent (temperature < 72oF, 22oC)
Amines	Excellent (temperature < 72oF, 22oC)
Ammonia - Liquid	Excellent (temperature < 72oF, 22oC)
Ammonia 10%	Excellent (temperature < 72oF, 22oC)
Ammonium Carbonate	Excellent (temperature < 72oF, 22oC)
Ammonium Chloride	Excellent (temperature < 72oF, 22oC)
Ammonium Hydroxide	Excellent (temperature < 72oF, 22oC)
Ammonium Nitrate	Excellent (temperature < 72oF, 22oC)
Ammonium Phosphate	Excellent (temperature < 72oF, 22oC)
Ammonium Sulfate	Excellent (temperature < 72oF, 22oC)
Amyl acetate	Excellent (temperature < 72oF, 22oC)
Aniline	Fair (temperature < 72oF, 22oC)
Barium Carbonate	Excellent (temperature < 72oF, 22oC)
Barium Chloride	Excellent (temperature < 72oF, 22oC)
Barium Hydroxide	Excellent (temperature < 72oF, 22oC)
Barium Sulfate	Fair (temperature < 72oF, 22oC)
Barium Sulfide	Good (temperature < 72oF, 22oC)
Beer	Excellent (temperature < 72oF, 22oC)
Benzol	Excellent (temperature < 72oF, 22oC)
Borax	Excellent (temperature < 72oF, 22oC)
Boric acid	Excellent (temperature < 72oF, 22oC)
Bromine	Excellent (100 ppm)
Butadiene gas	Excellent (temperature < 72oF, 22oC)
Butane gas	Excellent (temperature < 72oF, 22oC)
Butyl acetate	Good (temperature < 72oF, 22oC)
Butaric Acid	Fair (temperature < 72oF, 22oC)
Calcium Bisulfite	Excellent (temperature < 72oF, 22oC)
Calcium Carbonate	Excellent (temperature < 72oF, 22oC)
Calcium Chloride	Excellent (temperature < 72oF, 22oC)
Calcium Hydroxide	Excellent (temperature < 72oF, 22oC)
Calcium Hypochlorite	Excellent (temperature < 72oF, 22oC)
Calcium Sulfate	Excellent (temperature < 72oF, 22oC)
Carbon dioxide gas	Excellent (temperature < 72oF, 22oC)
Carbon Tetrachloride	Excellent (temperature < 72oF, 22oC)
Carbonic Acid	Good (temperature < 72oF, 22oC)
Citric Acid	Excellent (temperature < 72oF, 22oC)
Copper Chloride	Excellent
Copper Nitrate	Excellent (temperature < 72oF, 22oC)
Dichloroethane	Good (temperature < 120oF, 50oC)
Diesel Fuel	Excellent (temperature < 72oF, 22oC)
Ethyl acetate	Fair (temperature < 72oF, 22oC)
Ethyl chloride	Excellent (temperature < 72oF, 22oC)
Ethylene glycol	Fair (temperature < 72oF, 22oC)
Fatty Acids	Excellent (temperature < 72oF, 22oC)
Ferric Chloride	Excellent (temperature < 72oF, 22oC)
Ferric Sulfate	Excellent (temperature < 72oF, 22oC)
Ferrous Chloride	Excellent (temperature < 72oF, 22oC)
Ferrous Sulfate	Excellent (temperature < 72oF, 22oC)
Fluorine gas	Note Recommended
Fluosilicic acid	Fair
Formaldehyde, 40%	Excellent (temperature < 72oF, 22oC)
Formic Acid	Fair (temperature < 72oF, 22oC)
Freon	Excellent
Gasoline	Excellent
Glucose	Good
Glycerine	Excellent
Heptane	Excellent
Hexane	Good
Hydraulic Fluid	Excellent
Hydrobromic Acid, 100%	Not Recommended
Hydrochloric acid, 20%	Good (temperature < 72oF, 22oC)
Hydrocyanic Acid	Excellent
Hydrofluoric Acid, 75%	Good (temperature < 72oF, 22oC)
Hydrogen Peroxide, 10%	Fair (temperature < 72oF, 22oC)
Hydrogen Sulfide	Excellent
Jet Fuel	Excellent
Kerosene	Excellent
Lactic Acid	Good (temperature < 72oF, 22oC)
Lead acetate	Excellent
Magnesium Carbonate	Excellent
Magnesium Chloride	Excellent
Magnesium Hydroxide	Excellent
Magnesium Nitrate	Excellent
Magnesium Sulfate	Excellent
Maleic Acid	Excellent
Mercury	Excellent
Methyl Ethyl Ketone	Fair (temperature < 72oF, 22oC)
Naphtha	Excellent
Naphthalene	Excellent
Nickel Chloride	Excellent
Nickel Sulfate	Excellent
Nitric Acid 5%	Good
Oil - Castor	Excellent
Oleic acid	Excellent
Oxalic Acid	Excellent
Phenol	Good
Phosphoric Acid	Good
Picric Acid	Excellent
Potassium Bicarbonate	Excellent
Potassium Bromide	Excellent
Potassium Carbonate	Excellent
Potassium Chloride	Excellent
Potassium Dichromate	Fair
Potassium Hydroxide	Excellent
Potassium Nitrate	Excellent
Potassium Sulfate	Excellent
Propane, liquid	Excellent

PICOTE
LIFE FOR PIPES

CHEMICAL RESISTANCE DC1000E

Propane, liquid	Excellent
Silver Nitrate	Excellent
Soaps/DETERGENT	Excellent
Sodium Acetate	Excellent
Sodium Bicarbonate	Excellent
Sodium Bisulfate	Excellent
Sodium Carbonate	Fair (temperature < 72oF, 22oC)
Sodium Chlorate	Excellent
Sodium Chloride	Excellent
Sodium Cyanide	Excellent
Sodium Fluoride	Excellent
Sodium Hydroxide, 10%	Excellent
Sodium Hydroxide, 50%	Good (temperature < 120oF, 50oC)
Sodium Hypochlorite, 100%	Not Recommended
Sodium Nitrate	Excellent
Sodium Silicate	Excellent
Sodium Sulfate	Excellent
Sodium Sulfite	Excellent
Sodium Thiosulfate	Excellent
Stannic Chloride	Excellent
Stearic Acid	Good
Sulfuric Acid, 20%	Excellent
Sulfuric Acid, 75-100%	Fair (temperature < 72oF, 22oC)
Sulfur Dioxide	Excellent (temperature < 72oF, 22oC)
Tannic Acid	Excellent
Tartaric Acid	Excellent
Toluene	Good (temperature < 72oF, 22oC)
Turpentine	Good
Urine	Excellent
Vinegar	Excellent
Water - Distilled	Excellent
Water - Fresh	Excellent
Water - Sea, Salt	Excellent
Xylene	Excellent
Zinc Chloride	Excellent

SAFETY DATA SHEET

PICOTE BRUSH COATING™ EPOXY RESIN
DC1000E BASE (COLOR: WHITE, GRAY, OR BLUE)

Revision date: 04-2021

SECTION 1 IDENTIFICATION

1.1. Product identifier
Picote Brush Coating™ Epoxy Resin: DC1000E Base (Color: White, Gray, or Blue)

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
@0102.B010286

1.3. Details of the supplier of the safety data sheet

Company name:	Picote Solutions
Street:	20810 SE 18th PL
Place:	Sammamish, WA 98075
Telephone:	480-622-8314
e-mail:	ryan@picotesolutions.com
Contact person:	Ryan Boldan
Internet:	www.picotesolutions.com
Emergency telephone:	800-535-5053 - INFOTRAC

SECTION 2 HAZARD(S) IDENTIFICATION

2.1. Classification of the substance or mixture
Regulation (EC) No. 1272/2008
Hazard categories:
Skin corrosion/irritation: Skin Corr. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory or skin sensitisation: Skin Sens. 1
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

2.2. Label elements
Regulation (EC) No. 1272/2008
Hazard components for labelling
bis-[4-(2,3-epoxipropoxi)phenyl]propane
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Signal word: Warning

Hazard statements:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

2.3. Other hazards
No information available.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures
Hazardous components

CAS No	EC No	Chemical Name	GHS Classification	Index No	REACH No	Quantity
1675-54-3	216-823-5	bis-[4-(2,3-epoxipropoxi)phenyl] propane	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317	603-073-00-2	01-2119456619-26	20 - < 50 %
9003-36-5	500-006-8	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411	— — —	01-2119454392-40	5 - < 20 %
68609-97-2	271-846-8	oxirane, mono[(C12-14-alkyloxy) methyl] derivs.	Skin Irrit. 2, Skin Sens. 1; H315 H317	603-103-00-4	01-2119485289-22	5 - < 20 %

Full text of H and EUH statements: see section 16.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures
After inhalation:
Provide fresh air.
After contact with skin:
Wash with plenty of water. Take off contaminated clothing and wash it before reuse.
After contact with eyes:
Rinse immediately carefully and thoroughly with eye-bath or water.
After ingestion:
Rinse mouth immediately and drink plenty of water.

4.2 Most important symptoms and effects, both acute and delayed
No information available.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media:
Co-ordinate fire-fighting measures to the fire surroundings.

5.2 Special hazards arising from the substance or mixture
Non-flammable.

5.3 Advice for firefighters
In case of fire: Wear self-contained breathing apparatus.

Additional information
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protection equipment.

6.2 Environmental precautions
Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4 Reference to other sections

Safe handling:	see section 7
Personal protection equipment:	see section 8
Disposal:	see section 13

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling

No special measures are necessary.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

7.2 Conditions for safe storage, including any incompatibilities:

Requirements for storage rooms and vessels

Keep container tightly closed.

Hints on joint storage

No special measures are necessary.

7.3 Specific end use(s)

@0102.B010286

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.2 Exposure controls

Protective and hygiene measures

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

Eye/face protection

Wear eye protection/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	white, grey
Odour:	characteristic
pH-Value:	not determined

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	130°C

Flammability

Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined

Oxidizing properties
Not oxidising.

Vapour pressure:	not determined
Density (at 20 °C):	1,6 g/cm³
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents
Not determined

Partition coefficient:	not determined
Vapour density:	not determined
Evaporation rate:	not determined

9.2 Other information

Solid content:	not determined

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity
No hazardous reaction when handled and stored according to provisions.

10.2 Chemical stability
Danger of polymerisation.

10.3 Possibility of hazardous reactions
Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

10.4 Conditions to avoid
none

10.5 Incompatible materials
Keep away from: Radical former, Peroxides, Reducing agent.

10.6 Hazardous decomposition products
No known hazardous decomposition products.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity

CAS No	Chemical Name	Exposure Route	Dose	Species	Source	Method
9003-36-5	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	oral: dermal:	LD50 >2000 mg/kg LD50 >400 mg/kg	Rat Rat		

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity
The product is not: Ecotoxic.

12.2 Persistence and degradability
The product has not been tested.

12.3 Bioaccumulative potential
The product has not been tested.

12.4 Mobility in soil
The product has not been tested.

12.5 Results of PBT and vPvB assessment
The product has not been tested.

12.6 Other adverse effects
No information available.

Further information
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Advice on disposal
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.
Contaminated packaging
Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14 TRANSPORT INFORMATION

Land transport (ADR/RID)

14.1 UN number: **UN 3082**

14.2 UN proper shipping name: **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. bis-[4-(2,3-epoxipropoxi)phenyl]propane**

14.3 Transport hazard class(es): **9**

14.4 Packing group: **III**
Hazard label: 9

Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Inland waterways transport (ADN)

14.1 UN number: **UN 3082**

14.2 UN proper shipping name: **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. bis-[4-(2,3-epoxipropoxi)phenyl]propane**

14.3 Transport hazard class(es): **9**

14.4 Packing group: **III**
Hazard label: 9

Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1 UN number: **UN 3082**

14.2 UN proper shipping name: **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. bis-[4-(2,3-epoxipropoxi)phenyl]propane**

14.3 Transport hazard class(es): **9**

14.4 Packing group: **III**
Hazard label: 9

Special Provisions: 274, 335, 969
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1 UN number: **UN 3082**

14.2 UN proper shipping name: **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. bis-[4-(2,3-epoxipropoxi)phenyl]propane**

14.3 Transport hazard class(es): **9**

14.4 Packing group: **III**
Hazard label: 9

Special Provisions: A97 A158 A197
Limited quantity Passenger: 30 kg G
Passenger LQ: Y964
Excepted quantity: E1
IATA-packing instructions - Passenger: 964
IATA-max. quantity - Passenger: 450 L
IATA-packing instructions - Cargo: 964
IATA-max. quantity - Cargo: 450 L

14.6 Special precautions for user
Warning: strongly corrosive.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
not applicable

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulatory information:
Water contaminating class (D): 2 - clearly water contaminating

15.2 Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16 OTHER INFORMATION

Abbreviations and acronyms

ADR:	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG:	International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
EINECS:	European Inventory of Existing Commercial Chemical Substances
ELINCS:	European List of Notified Chemical Substances
CAS:	Chemical Abstracts Service
LC50:	Lethal concentration, 50%
LD50:	Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

@N16.P0000001 @N16.P0000002

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

SAFETY DATA SHEET

PICOTE BRUSH COATING™ EPOXY RESIN
DC1000E CATALYST (COLOR: CLEAR)

Revision date: 04-2021

SECTION 1 IDENTIFICATION

1.1. Product identifier

Picote Brush Coating™ Epoxy Resin: Picote DC1000E Catalyst (Color: CLEAR)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture
@0102.B010286

1.3. Details of the supplier of the safety data sheet

Company name:	Picote Solutions
Street:	20810 SE 18th PL
Place:	Sammamish, WA 98075
Telephone:	480-622-8314
e-mail:	ryan@picotesolutions.com
Contact person:	Ryan Boldan
Internet:	www.picotesolutions.com
Emergency telephone:	800-535-5053 - INFOTRAC

SECTION 2 HAZARD(S) IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Skin corrosion/irritation: Skin Corr. 1
Serious eye damage/eye irritation: Eye Dam. 1
Respiratory or skin sensitisation: Skin Sens. 1
Reproductive toxicity: Repr. 2
Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility.
Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

4-tert-butylphenol
m-phenylenebis(methylamine)
Trimethylhexan-1,6-diamin
Reaction products of C18 (unsaturated) fatty acids with tetraethylenediamine
Tetraethylenepentamine

Signal word: Danger

Hazard statements:

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Collect spillage.

2.3. Other hazards

No information available.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous components

CAS No	EC No	Chemical Name	GHS Classification	Index No	REACH No	Quantity
1477-55-0	216-032-5	m-phenylenebis(methylamine)	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 3; H332 H302 H314 H318 H317 H412 EUH071	———	01-2119480150-50	5 - < 20 %
98-54-4	202-679-0	4-tert-butylphenol	Repr. 2, Skin Irrit. 2, Eye Dam. 1, STOT SE 3, Aquatic Chronic 1; H361f H315 H318 H335 H410	604-090-00-8	01-2119489419-21	5 - < 20 %
25620-58-0	247-134-8	Trimethylhexan-1,6-diamin	Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 3; H302 H314 H318 H317 H412	———	01-2119560598-25	5 - < 20 %
100-51-6	202-859-9	benzyl alcohol	Acute Tox. 4, Acute Tox. 4; H332 H302	603-057-00-5	01-2119492630-38	1 - < 5 %
1226892-45-0	629-725-6	Reaction products of C18 (unsaturated) fatty acids with tetraethylenediamine	Skin Corr. 1, Skin Sens. 1, Aquatic Chronic 1; H314 H317 H410	———	01-2119487006-38	1 - < 5 %
90640-66-7	292-587-7	Tetraethylenepentamine	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1, Skin Sens. 1; H312 H302 H314 H317	———	01-2119487290-3	1 - < 5 %

Full text of H and EUH statements: see section 16.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

After inhalation:

Provide fresh air.

After contact with skin:

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

After contact with eyes:

Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion:

Rinse mouth immediately and drink plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media:
Co-ordinate fire-fighting measures to the fire surroundings.

5.2 Special hazards arising from the substance or mixture
Non-flammable.

5.3 Advice for firefighters
In case of fire: Wear self-contained breathing apparatus.

Additional information
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protection equipment.

6.2 Environmental precautions
Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4 Reference to other sections

Safe handling:	see section 7
Personal protection equipment:	see section 8
Disposal:	see section 13

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:
Advice on safe handling
No special measures are necessary.
Advice on protection against fire and explosion
No special fire protection measures are necessary.

7.2 Conditions for safe storage, including any incompatibilities:
Requirements for storage rooms and vessels
Keep container tightly closed.
Hints on joint storage
No special measures are necessary.

7.3 Specific end use(s)
@0102.B010286

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.2 Exposure controls

Protective and hygiene measures
Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.
Eye/face protection
Wear eye protection/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	brown
Odour:	Amines
pH-Value:	alkaline

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	not determined

Flammability

Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidising.

Vapour pressure:	not determined
Density (at 20 °C):	1,3 g/cm³ ISO 1183
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

Not determined

Partition coefficient:	not determined
Vapour density:	not determined
Evaporation rate:	not determined

9.2 Other information

Solid content: not determined

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2 Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

none

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity

CAS No	Chemical Name	Exposure Route	Dose	Species	Source	Method
1477-55-0	m-phenylenebis(methylamine)	oral: dermal: inhalation vapour: inhalation aerosol:	LD50 930 mg/kg LD50 >3100 mg/kg ATE 11 mg/l ATE 1,5 mg/l	Rat Rabbit —— ——		
98-54-4	4-tert-butylphenol	oral: dermal:	LD50 2951mg/kg LD50 2288 mg/kg	Rat Rabbit		
25620-58-0	Trimethylhexan-1,6-diamin	oral: dermal:	LD50 910 mg/kg Data lacking	Rat		
100-51-6	benzyl alcohol	oral: inhalation vapour: inhalation aerosol:	LD50 1230 mg/kg ATE 11 mg/l ATE 1,5 mg/l	@N11.P0000002	GESTIS	
90640-66-7	Tetraethylenepentamine	oral: dermal:	ATE 500 mg/kg ATE 1100 mg/kg			

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity
The product is not: Ecotoxic.

CAS No	Chemical Name	Aquatic Toxicity	Dose	[h] [d]	Species	Source	Method
98-54-4	4-tert-butylphenol	Acute fish toxicity	LC50 >1 mg/l	96 h	LC50: Oryzias latipes (Ricefish)	Manufacturer	
		Acute algae toxicity	ErC50 14 mg/l	72 h	EC50:Pseudokirchneri ella subcapitata	Manufacturer	
		Acute crustacea toxicity	EC50 3,4 mg/l	48 h	EC50: Daphnia magna (Big water flea)	Manufacturer	
		Fish toxicity	NOEC 0,1 mg/l	128 d	NOEC Pimephales promelas (fathead minnow)	Manufacturer	
		Algea toxicity	NOEC 0,32 mg/l	72 d	NOEC Pseudokirchneriella subcapitata	Manufacturer	
		Crustacea toxicity	NOEC 0,73 mg/l	21 d	NOEC Daphnia magna (Big water flea)	Manufacturer	

12.2 Persistence and degradability
The product has not been tested.

12.3 Bioaccumulative potential
The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical Name	Log Pow
100-51-6	benzyl alcohol	1,05

12.4 Mobility in soil
The product has not been tested.

12.5 Results of PBT and vPvB assessment
The product has not been tested.

12.6 Other adverse effects
No information available.

Further information
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Advice on disposal

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14 TRANSPORT INFORMATION

Land transport (ADR/RID)

14.1 UN number: **UN 2735**

14.2 UN proper shipping name: **AMINES, LIQUID, CORROSIVE, N.O.S. m-phenylenebis(methylamine)**

14.3 Transport hazard class(es): **8**

14.4 Packing group: **III**

Hazard label: 8

Classification code:	C7
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1 UN number: **UN 2735**

14.2 UN proper shipping name: **AMINES, LIQUID, CORROSIVE, N.O.S. m-phenylenebis(methylamine)**

14.3 Transport hazard class(es): **8**

14.4 Packing group: **III**

Hazard label: 8

Classification code:	C7
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1 UN number: **UN 2735**

14.2 UN proper shipping name: **AMINES, LIQUID, CORROSIVE, N.O.S. m-phenylenebis(methylamine)**

14.3 Transport hazard class(es): **8**

14.4 Packing group: **III**

Hazard label: 8

Special Provisions:	223, 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1 UN number: **UN 2735**

14.2 UN proper shipping name: **AMINES, LIQUID, CORROSIVE, N.O.S. m-phenylenebis(methylamine)**

14.3 Transport hazard class(es): **8**

14.4 Packing group: **III**
Hazard label: 8

Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

14.6 Special precautions for user
Warning: strongly corrosive.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
not applicable

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information:
Restrictions on use (REACH, annex XVII):

Entry 3:	benzyl alcohol
2004/42/EC (VOC):	3,5 % (45,5 g/l)

National regulatory information:
Water contaminating class (D): 2 - clearly water contaminating

15.2 Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16 OTHER INFORMATION

Abbreviations and acronyms

ADR:	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG:	International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
EINECS:	European Inventory of Existing Commercial Chemical Substances
ELINCS:	European List of Notified Chemical Substances
CAS:	Chemical Abstracts Service
LC50:	Lethal concentration, 50%
LD50:	Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Corr. 1; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Repr. 2; H361f	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361f	Suspected of damaging fertility.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Further Information

@N16.P0000001 @N16.P0000002

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

2110002001 PICOTE FIBER BONDED MASTIC TECH DATA SHEET

DESCRIPTION

GENERAL DESCRIPTION 100% SOLIDS TROWELABLE EPOXY

COLOR Gloss white

USAGE Used to protect new infrastructure and to rehabilitate existing damaged infrastructure.

PERFORMANCE

- Manholes, wet wells, vaults & septic tanks
- Steel substrates
- Floor and wall penetrations/cracks
- Simple spot repair
- Extreme bonding to nearly all substrates
- Fast curing
- Easy workability
- ¼" build capability with no sag
- No mixing means faster application

SURFACE PREPARATION

CONCRETE/BRICK Substrate surface must be Hydro Blasted at 3000 psi., removing any loose concrete or other material. Must be free of grease and oil.

STEEL Sand blast to a Nace No. 1/SSPC SP-5 White Metal Profile.

ALL SURFACES MUST BE DRY, CLEAN AND FREE FROM OIL, GREASE, DEBRIS AND OTHER CONTAMINANTS!

TECHNICAL DATA

SOLIDS 100% (no solvents)

VOLATILE ORGANIC COMPOUNDS None

COVERAGE 125 to 250 mils per coat (3-6mm)

CURE TIME AT 70°F (21° C)

Recoat	Water Contact	Final Cure
2 hours	4 hours	24 hours

RECOAT Must be abraided with the equivalent of 36 grit sand paper after 24 hrs.

NUMBER OF COMPONENTS 2

2110002001 PICOTE FIBER BONDED MASTIC TECH DATA SHEET

DESCRIPTION

NET WEIGHT	2.5lbs (1/1kg) usable material/cartridge 15lbs (6.9kg) usable material/case (6 cartridges)
STORAGE TEMP	70°F (21°C)
SHELF LIFE	24 months unopened
FLASH POINT	n/a

RATE OF COVERAGE	Sqft/gallon	250mils (6mm) 6.4 ft^2 (.6 m^2) Gallon 125mils (3mm) Gallon (1.2m^2)
	Sqft/case	250mils (6mm) 9.12 ft^2 (.8 m^2) Case 125mils (3mm) Gallon (1.7m^2)
POT LIFE	10 minutes at 70°F (21°C)	
MIXING RATIO	2 to 1 in prepackaged cartridge. Also available in buckets. Use with Picote Smart Mixer 2.0, a cordless cartridge dispenser. Use only the material that the job requires, leaving virtually no wasted material.	
APPLICATION EQUIPMENT	Directly applied to substrate from static mixing tip. Use trowel or putty knife to smooth material.	

ENVIRONMENTALLY SAFE: No harmful VOC's or odors. Disposable packaging and minimal waste.

ASTM

Tensile Strength	ASTM D638-14	4150 psi
Compression Strength	ASTM D695-13	9650 psi
Flexural Modulus Flexural Strength	ASTM D790-15e2 Procedure A	8950 psi 437 ksi
Coating Pull Off Strength Test	ASTM D4541-09	substrate failure

CLEAN UP

Acetone. **REFER TO SAFETY DATA SHEET FOR SAFETY AND HEALTH INFORMATION.**

Please Contact your reseller or Picote at coating@picotesolutions.com

Picote Solutions Inc., 777 W Pinnacle Peak Rd, Ste B-108
Phoenix, AZ 85027 - USA Tel: +1 864 940 0088

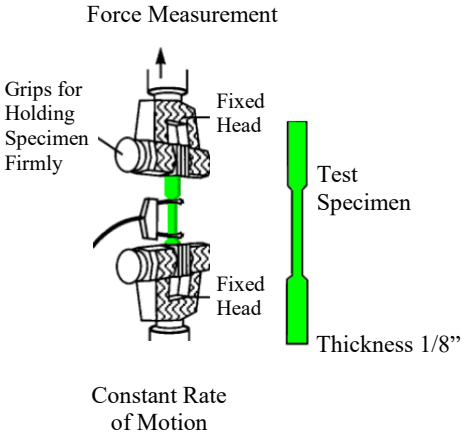
PICOTE
LIFE FOR PIPES

ASTM Testing on Fiber Bonded Epoxy Mastic

TESTED PRODUCT: Picote Fiber Bonded Mastic TEST 1

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 1: ASTM D638-14 “Tensile Strength”



A piece of finished product, with a maximum thickness of .125-inches, is machined into a dog-bone shape. Each end of the test specimen is placed in opposite facing clamps which then attempt to pull it apart.

The PSI that it takes to break the specimen is calculated as "**Tensile Strength at the Break**". The "**Tensile Elongation at the Break**" is an additional measurement that shows how much the product stretches during this test.The "**Tensile Modulus**" is a measure taken to test rigidity. All of these measurements make up the “Tensile Strength” test. The D638-14 test would simulate separating pipe joints and the effect that would have on the product in question.

TEST 1 RESULTS: Picote Fiber Bonded Mastic Tensile Test

Test Method:	ASTM D638-14
Test Conditions:	23±2°C, 50±10% R.H.
Conditioning:	40+ hours, 23±2°C, 50±10% R.H.
Preparation:	Machined from sample sent by client
Specimen:	Type I tensile bars (2-inch gage length)
Cross Head Speed:	0.2-inches per minute

Sample	Replicate	Width (inches)	Thickness (inches)	Tensile Strength at Break (psi)	Tensile Elongation at Break (%)	Tensile Modulus at Young’s (ksi)
P/N Picote Fiber Bonded Mastic						
		0.5090	0.3062	4000	0.66	644
Requirement				n/a	n/a	n/a

ASTM Testing on Fiber Bonded Epoxy Mastic

TESTED PRODUCT: Picote Fiber Bonded Mastic TEST 2

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 2: D695-15 “Compression Strength”

A sample of the product at approximately .25-inches is laid flat and a machine pushes down on the specimen until it begins to compress. The PSI it requires to sheer the sample is its **“Compression Strength”**. The amount it swells when the pressure is applied is also measured.

This test will show how well the product can sustain loads. **Please note:** This test does not measure the Compression Strength of the cylinder that is created by the product inside the pipe.

TEST 2 RESULTS: Picote Fiber Bonded Mastic Compressive Test

Test Method:	ASTM D695-15
Test Conditions:	23±2°C, 50±10% R.H.
Conditioning:	40+ hours, 23±2°C, 50±10% R.H.
Preparation:	Machined from sample sent by client
Specimen:	Prism (1.0-inch length)
Cross Head Speed:	0.05 inches per minute

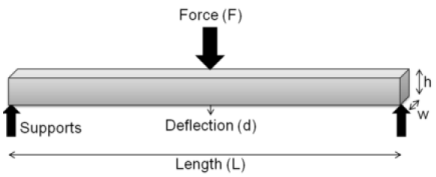
Sample	Replicate	Width (inches)	Thickness (inches)	Compressive Strength at Yield (PSI)
P/N Picote Fiber Bonded Mastic				
		0.5142	0.3068	9650
Requirement				n/a

ASTM Testing on Fiber Bonded Epoxy Mastic

TESTED PRODUCT: Picote Fiber Bonded Mastic TEST 3

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 3: D 790-15e2 ”Flexural Modulus”



This test is used to measure the horizontal strength of the material. Supports are placed under the sample at each end, and then a piston drives down at the center. The force to drive down and the amount of deflection are measured to come up with the specimen’s **“Flexural Modulus”.**

This test would simulate areas in a coated pipe that are being subjected to uneven stress.

TEST 3 RESULTS: Picote Fiber Bonded Mastic Flexural Test

Test Method:	ASTM D790-15e2, Procedure A
Test Conditions:	23±2°C, 50±10% R.H.
Conditioning:	40+ hours, 23±2°C, 50±10% R.H.
Preparation:	Machined from sample sent by client
Support Span:	5.184 inches
Cross Head Speed:	0.150 inches per minute

Sample	Replicate	Width (inches)	Depth	Flexural Strength at Break (PSI)	Flexural Modulus (KSI)
P/N Picote Fiber Bonded Mastic					
	2	0.5172	0.2860	7050	437
Requirement				n/a	n/a

ASTM Testing on Fiber Bonded Epoxy Mastic

TESTED PRODUCT: Picote Fiber Bonded Mastic TEST 4

A total of four tests were performed including:
1. Tensile Strength 2. Compression Strength 3. Flexural Modulus 4. Coating Pull Off Strength.

TEST 4: D4541-09 “Coating Pull Off Strength”

In this test, a dolly is glued to the epoxy and allowed to cure. The sample is then cored using a hole saw. A device with a piston is attached that pulls away from the substrate until it breaks.

This test can look for two different outcomes depending upon the substrate used. When a brick or concrete substrate is used in a real-world application, it is testing whether or not that substrate breaks before the coating (product) does. If steel were to be used, however, the coating will always break before the substrate, so the PSI is also measured at the time of the break.

The D4541-09 test simulates a pipe (that has been coated with the product) breaking, failing, or becoming compromised in any way and how well the material would hold up and stay adhered under those circumstances.

TEST 4 RESULTS: Picote Fiber Bonded Mastic Pull-off Strength Test

Test Method:	ASTM D4541-09
Test Conditions:	23±5°C, 50±35% R.H.
Conditioning:	As sent by client
Preparation:	Coating as sent by client.
Specimen:	Loading fixture glued to coating
Instrument:	Fixed alignment test modified to use a tensile tester
Cross Head Speed:	0.2 inches per minute

TEST 4 RESULTS: Picote Fiber Bonded Mastic Pull-off Strength Test continued

Sample	Replicate	Loading Fixure Diameter (inches)	Pull-Off Strength (psi)	Failure Mode
P/N Picote Fiber Bonded Mastic – Brick Substrate				
		0.500	>502	Substrate
P/N Picote Fiber Bonded Mastic – Metal Substrate				
		0.500	>5	Coating
P/N Picote Fiber Bonded Mastic – Concrete Substrate				
		0.500	>384	.Substrate
Requirement			n/a	

For more information on ASTM testing of Picote products, please contact:

Ryan Boldan
Global Learning Solutions Director, Picote Solutions
Ryan@picotesolutions.com
+1 (480) 622-8314

SECTION 1 . INDENTIFICATION

Product Name: FIBER BONDED EPOXY MASTIC PART B Product Code: PICOTE MASTIC CATALYST

PICOTE SOLUTIONS
20810 SE 18TH PL
SAMMAMISH, WA 98075

PHONE 800-535-5053
EMERGENCY: INFOTRAC

SECTION 2. HAZARD(S) IDENTIFICATION

GHS Ratings:

Oral Toxicity	Acute Tox. 2	Oral>5+<=50mg/kg
Skin corrosive	2	Reversible adverse effects in dermal tissue, Draize score: >= 2.3 < 4.0 or persistent inflammation
Eye corrosive	1	Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity >= 3, Iritis > 1.5
Skin sensitizer	1	Skin sensitizer
Reproductive toxin	2	Human or animal evidence possibly with other information

GHS Hazards

H300	Fatal if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H361	Suspected of damaging fertility or the unborn child

GHS Precautions

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash … thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves/protective clothing/eye protection/face protection
P281	Use personal protective equipment as required
P310	Immediately call a POISON CENTER or doctor/physician
P321	Specific treatment (see … on this label)
P330	Rinse mouth
P362	Take off contaminated clothing and wash before reuse
P363	Wash contaminated clothing before reuse
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352	IF ON SKIN: Wash with soap and water
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P308+P313	IF exposed or concerned: Get medical advice/attention
P332+P313	If skin irritation occurs: Get medical advice/attention
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention
P405	Store locked up
P501	Dispose of contents/container to …

Signal Word: Danger

Avoid breathing vapors

Oral: N.D.A.
Dermal: N.D.A.
Inhalation: N.D.A.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS number	Weight Concentration %
Paratertiarybutylphenol	98-54-4	30.00% - 40.00%
Amine	1477-55-0	20.00% - 30.00%
1,5-Pentanediamine, 2 methyl	15520-10-2	20.00% - 30.00%
Silica	67762-90-7	10.00% - 20.00%
nonyl phenol	84852-15-3	1.00% - 5.00%

SECTION 4. FIRST AID MEASURES

If inhaled remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptons
Rinse immediately with plenty of water for at least 15 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue Rinsing. Get medical attention, if irritation or symptoms of overexposure persists.
Immediately wash skin with soap and plenty of water.
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person

SECTION 5. FIRE FIGHTING MEASURES

Flash Point: 134 C (273 F)

LEL: UEL:

Not applicable
Foam, Carbon dioxide (CO2) or dry chemical or water spray (water stream may be ineffective).
No information available
Not available

Firefighters, and others exposed, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Stop leak. Dike or contain spill. Pump into slavage tanks and/or absorb with suitable material. Use sparkless shovel to remove material. Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use appropriate containment and clean up immediately.
Corrosive. Avoid personal contact adn breathing vapor or mist. Stop leak, Dike and contain spill.Prevent spilled material from entering the ground, water and/or air by using appropriate containment methods.

SECTION 7. HANDLING and STORAGE

Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Keep away from heat and flame. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.
Avoid exposure to heat, light, and air for prolonged periods of time. Store in a cool, dry well ventilated area away from sources of heat and incompatable materials. Eliminate all ignition materials and incompatible materials. Collect

spill with non spark tools.
No information available.

SECTION 8.EXPOSURE CONTROLS, PERSONAL PROTECTION

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Paratertiarybutylphenol 98-54-4	Not Established	Not Established	Not Established
Amine 1477-55-0	Not Established	0.1 mg/m3 Ceiling	NIOSH: 0.1 mg/m3 Ceiling
1,5-Pentanediamine, 2 methyl 15520-10-2	Not Established	Not Established	Not Established
Silica 67762-90-7	Not Established	Not Established	Not Established
nonyl phenol 84852-15-3	Not Established	Not Established	Not Established

Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficiant to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which preforms satisfactory and meets OSHA or other recgonized standards. Consult with local procedures for selection, training, and maintenance of the personal protective equipment Always use adaquate ventilation that comply with local regulations.

Eye/face Protection: Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face rotection reulation, or the Europena standard EN 166

Skin Protection: Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.

Respiratory Protection: A NIOSH air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive presure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known or any other circumstance where air purifyig respirator may not provide adequate protection.

SECTION 9. PHYSICAL and CHEMICAL PROPERTIES

Boiling Point 247 °C	**Specific Gravity (SG)** 0.970
Lbs VOC/Gallon Less Water 0.00	**Lbs VOC/Gallon Less Exempt** 0.00

SECTION 10. STABILITY and REACTIVITY

Stable, Hazardous polymeraization will not occur. Will react with Epoxy Resins especially at elevated temperatures

STABLE

Epoxy Resins under uncontrolled conditions. Mineral acids. Organic acid, oxidixers, Reacts with metals until reacted with epoxy.

None known

Hazardous polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Mixture Toxicity

Oral Toxicity LD50: 8mg/kg
Dermal Toxicity LD50: 3,216mg/kg
Inhalation Toxicity LC50: 2,901mg/L

Component Toxicity

98-54-4 Paratertiarybutylphenol

	Oral LD50: 3,250 µL/kg (Rat) Dermal LD50: 2,318 mg/kg (Rabbit)
1477-55-0	Amine Oral LD50: 660 mg/kg (Rat) Dermal LD50: 2 g/kg (Rabbit) Inhalation LC50: 700 ppm (Rat)
84852-15-3	nonyl phenol Oral LD50: 1,300 mg/kg (Rat) Dermal LD50: 2,031 mg/kg (Rabbit)

Eyes: Irritant to the eyes. Corrosive to Eyes
Skin: Irritant to the skin. Corrosive to Skin
Inhalation: Irritant to respiratory tract. Prolonged or excessive inhalation may cause respiratory tract irritation.
Sensitization: Skin sensitization in humans.

Eyes Kidneys Liver Skin Respiratory System

Effects of Overexposure

CAS Number	Description	% Weight	Carcinogen Rating

SECTION 12. ECOLOGICAL INFORMATION

No ecotoxicity data was found for the product

Component Ecotoxicity

Paratertiarybutylphenol	96 Hr LC50 Pimephales promelas: 4.71 - 5.62 mg/L [flow-through]; 96 Hr LC50 Cyprinus carpio: 6.9 mg/L [static] 48 Hr EC50 Daphnia magna: 3.9 mg/L; 48 Hr EC50 Daphnia magna: 3.4 - 4.5 mg/L [Static] 72 Hr EC50 Desmodesmus subspicatus: 11.2 mg/L
nonyl phenol	96 Hr LC50 Pimephales promelas: 0.135 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 0.1351 mg/L [flow-through] 48 Hr EC50 Daphnia magna: 0.14 mg/L 96 Hr EC50 Pseudokirchneriella subcapitata: 0.36 - 0.48 mg/L [static]; 72 Hr EC50 Pseudokirchneriella subcapitata: 0.16 - 0.72 mg/L [static]; 72 Hr EC50 Desmodesmus subspicatus: 1.3 mg/L

SECTION 13. DISPOSAL INFORMATION

Dispose of in accordance with applicable local/municipal, state/provincial and federal regulations.

SECTION 14. TRANSPORT INFORMATION

UN2735 Amines, Liquid, corrosive, n.o.s. (Benzene-1,3-Dimethanamine,1,5-Pentanediamine, 2-Mthyl).
DOT Hazad Class 8
DOT Packaging Class II

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class

SECTION 15. REGULATORY INFORMATION

OSHA:29 CFR 1910.1200 Haxardous Chemical "Irritant", Sensitizer
TSCA: Ingredients listed
SARA III: Sec311 & 312 Immediate Health Haxard; Sec313 Chemicals above de minimus level: None
CA PROP. 65 NOTICE WARNING:

CANADIAN REGULATORY INFORMATION
WHMIS; Hazard Classification: D2B Skin Sensitizer. Refer to SDS for specific warnings
WHMIS Symbols: Stylized T.
WHMIS Trade Secret Registry Numbers: None

Hazardous Products Act Informtion: This product SDS contains ingredients which are Controlled and/or on the Ingredient Disclosure List (HPA sections 13 and 14).

The following chemicals are classified under SARA 313 Toxic Release Invetnory (TRI):

84852-15-3 nonyl phenol 1 to 5 %

Country	Regulation	All Components Listed
	Toxic Substance Control Act (TSCA)	Yes

EU Risk Phrases

Safety Phrase

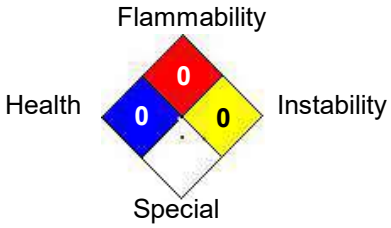
- None

SECTION 16. ADDITIONAL INFORMATION

Hazardous Material Information System (HMIS)

HMIS & NFPA Hazard Rating Legend
*** = Chronic Health Hazard**
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

National Fire Protection Association (NFPA)



Date revised: 2017-01-31

Date Prepared: 1/31/2017

Reviewer Revision

SECTION 1 . INDENTIFICATION

Product Name: FIBER BONDED EPOXY MASTIC PART A Product Code: PICOTE MASTIC

PICOTE SOLUTIONS
20810 SE 18TH PL
SAMMAMISH, WA 98075

PHONE 800-535-5053
EMERGENCY: INFOTRAC

SECTION 2. HAZARD(S) IDENTIFICATION

GHS Ratings:

Carcinogen	2	Limited evidence of human or animal carcinogenicity

GHS Hazards

H351	Suspected of causing cancer

GHS Precautions

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P281	Use personal protective equipment as required
P308+P313	IF exposed or concerned: Get medical advice/attention
P405	Store locked up
P501	Dispose of contents/container to …

Signal Word: Warning

Avoid breathing vapors

Oral: N.D.A.
Dermal: N.D.A.
Inhalation: N.D.A.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS number	Weight Concentration %
Epoxy Resin	25085-99-8	74.70%
Barium Sulfate	7727-43-7	10.00% - 20.00%
Silica	67762-90-7	1.00% - 5.00%
Titanium Dioxide	13463-67-7	1.00% - 5.00%

SECTION 4. FIRST AID MEASURES

If inhaled remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptons

Rinse immediately with plenty of water for at least 15 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue Rinsing. Get medical attention, if irritation or symptoms of overexposure persists.

Immediately wash skin with soap and plenty of water.

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person

SECTION 5. FIRE FIGHTING MEASURES

Flash Point: N/A

LEL: UEL:

Not applicable

Foam, Carbon dioxide (CO2) or dry chemical or water spray (water stream may be ineffective).

No information available

Not available

Firefighters, and others exposed, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Stop leak. Dike or contain spill. Pump into slavage tanks and/or absorb with suitable material. Use sparkless shovel to remove material. Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use appropriate containment and clean up immediately.

Corrosive. Avoid personal contact adn breathing vapor or mist. Stop leak, Dike and contain spill.Prevent spilled material from entering the ground, water and/or air by using appropriate containment methods.

SECTION 7. HANDLING and STORAGE

Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Keep away from heat and flame. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Avoid exposure to heat, light, and air for prolonged periods of time. Store in a cool, dry well ventilated area away from sources of heat and incompatable materials. Eliminate all ignition materials and incompatible materials. Collect spill with non spark tools.

No information available.

SECTION 8.EXPOSURE CONTROLS, PERSONAL PROTECTION

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Epoxy Resin 25085-99-8	Not Established	Not Established	Not Established
Barium Sulfate 7727-43-7	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	5 mg/m3 TWA (inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica)	NIOSH: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Silica 67762-90-7	Not Established	Not Established	Not Established
Titanium Dioxide 13463-67-7	15 mg/m3 TWA (total dust)	10 mg/m3 TWA	Not Established

Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficiant to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which preforms satisfactory and meets OSHA or other recgonized standards. Consult with local procedures for selection, training, and maintenance of the personal protective equipment Always use adaquate ventilation that comply with local regulations.

Eye/face Protection: Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face rotection reulation, or the Europena standard EN 166

Skin Protection: Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.

Respiratory Protection: A NIOSH air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive presure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known or any other circumstance where air purifyig respirator may not provide adequate protection.

SECTION 9. PHYSICAL and CHEMICAL PROPERTIES

Boiling Range 2500 to 3000 °C	**Specific Gravity (SG)** 1.398
Lbs VOC/Gallon Less Water 0.00	**Lbs VOC/Gallon Less Exempt** 0.00

SECTION 10. STABILITY and REACTIVITY

Stable, Hazardous polymeraization will not occur. Will react with Epoxy Resins especially at elevated temperatures

STABLE

Epoxy Resins under uncontrolled conditions. Mineral acids. Organic acid, oxidixers, Reacts with metals until reacted with epoxy. Nitrogen oxides and other toxic and acidic gasses when burned.

None known

Hazardous polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Mixture Toxicity

Component Toxicity

Eyes: Irritant to the eyes. Corrosive to Eyes
Skin: Irritant to the skin. Corrosive to Skin
Inhalation: Irritant to respiratory tract. Prolonged or excessive inhalation may cause respiratory tract irritation.
Sensitization: Skin sensitization in humans.

Eyes Respiratory System

Effects of Overexposure

CAS Number	Description	% Weight	Carcinogen Rating
13463-67-7	Titanium Dioxide	1 to 5%	Titanium Dioxide: NIOSH: potential occupational carcinogen IARC: Possible human carcinogen OSHA: listed

SECTION 12. ECOLOGICAL INFORMATION

No ecotoxicity data was found for the product

Component Ecotoxicity

SECTION 13. DISPOSAL INFORMATION

Dispose of in accordance with applicable local/municipal, state/provincial and federal regulations.

SECTION 14. TRANSPORT INFORMATION

UN2735 Amines, Liquid, corrosive, n.o.s. (Benzene-1,3-Dimethanamine,1,5-Pentanediamine, 2-Mthyl).
DOT Hazad Class 8
DOT Packaging Class II

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class

SECTION 15. REGULATORY INFORMATION

OSHA:29 CFR 1910.1200 Haxardous Chemical "Irritant", Sensitizer
TSCA: Ingredients listed
SARA III: Sec311 & 312 Immediate Health Haxard; Sec313 Chemicals above de minimus level: None
CA PROP. 65 NOTICE WARNING:

CANADIAN REGULATORY INFORMATION
WHMIS; Hazard Classification: D2B Skin Sensitizer. Refer to SDS for specific warnings
WHMIS Symbols: Stylized T.
WHMIS Trade Secret Registry Numbers: None
Hazardous Products Act Informtion: This product SDS contains ingredients which are Controlled and/or on the Ingredient Disclosure List (HPA sections 13 and 14).

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING!
This product contains the following chemicals which are listed by the State of California as carcinogenic or a reproductive toxin:

13463-67-7 Titanium Dioxide 1 to 5 % Carcinogen

Country	**Regulation**	**All Components Listed**
	Toxic Substance Control Act (TSCA)	Yes

EU Risk Phrases

Safety Phrase

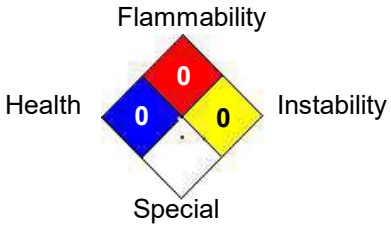
- None

SECTION 16. ADDITIONAL INFORMATION

Hazardous Material Information System (HMIS)

HMIS & NFPA Hazard Rating Legend
*** = Chronic Health Hazard**
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

National Fire Protection Association (NFPA)



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Reviewer Revision