



FIELD-APPLIED COMPOSITE SYSTEMS LLC
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SAFETY DATA SHEET

Base Primer 1-Part B

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Base Primer 1-Part B Hardener
MFR'S NAME: Field-Applied Composite Systems LLC, 925 North Todd Avenue, Azusa CA 91702
EMERGENCY PHONE: 800.424.9300 (CHEMTREC) **GENERAL INFORMATION:** 626.633.0294
USE OF THE SUBSTANCE: Hardener combined with Base Primer 1-Part A prepares surfaces for maximum adhesion with AquaWrap™ products for the repair of pipelines or other structures.

SECTION 2: HAZARDS IDENTIFICATION

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label Elements:
Hazard Pictograms:



Signal Word: Warning! Danger!

Hazard Statements and GHS Classifications:

H315, H320:	Causes skin and eye irritation.	Category 2
H317:	May cause an allergic skin reaction.	Category 1
H334:	May cause sensitization of respiratory airways.	Category 1
H332:	Harmful if inhaled (mist).	Category 4
H335:	May cause respiratory irritation.	Category 3
H351:	Suspected of causing cancer (via inhalation).	Category 2

Precautionary Statements:

Prevention: P260: Do not breathe fumes, vapors, mist, or spray.
 P262: Avoid contact with eyes, skin, hair, or clothing.
 P264: Wash hands thoroughly with soap and water after handling.
 P270: Do not eat, drink, or smoke when using this product.
 P271: Use only outdoors, or in a well-ventilated area.
 P273: Avoid release to the environment.
 P280: Wear protective clothing, gloves, and eye protection.

Responses: P301+P312: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call POISON CENTER, or doctor if you feel unwell.
 P302+P352+P333+P313: IF ON SKIN: Rinse skin with water, and shower/wash with plenty of soap and water. If skin irritation or rash persists, get medical attention.
 P362+P364: Take off contaminated clothing, and wash it before reuse.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do. Continue rinsing.

P337+F313: If eye irritation persists, get medical attention.

P391: Collect spillage.

Storage: P403+P233: Store in a well-ventilated place. Keep containers tightly closed.
P405: Store in a secure area.

Disposal: P501: Dispose of contents and containers in accordance with all local, regional, and international regulations.

Other Hazards: None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

CHEMICAL NAME	% by WT	CAS NUMBER	67/548/EEC	Regulation (EC) 1272/2008 (CLP)
Isocyanic acid, polymethylenepolyphenylene ester (IAPM)	26-53%	9016-87-9	See GHS classifications above.	
4,4'-Diphenylmethane-Diisocyanate	26-53%	101-68-8		
Reaction product, IAPM and poly(oxy1-2 ethanediyl), alpha.-methyl-.omega.hydroxy	2-6%	70644-56-3		

Occupational Exposure Limits, if available, are listed in Section 8.

SECTION 4: FIRST AID MEASURES

Description of necessary first aid measures:

General Get medical attention immediately for any person who is having trouble, not breathing, or any unconscious person. Provide oxygen or artificial respiration to a person if they have trouble breathing. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Place an unconscious person in a recovery position, maintain an open airway, and loosen tight clothing.

Inhalation Remove victim to fresh air, and keep warm and at rest, in a position comfortable for breathing. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention immediately.

Skin Contact Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. Get medical attention if irritation persists. Heavily soiled clothing or footwear should be soaked in water until material cures, and disposed of properly. Cured material is NOT hazardous.

Eye Contact Flush eyes with plenty of water, occasionally lifting the upper and lower eyelids, and rolling eyes in a circular motion. Check for, and remove any contact lenses. Continue to rinse for at least 15 minutes, or longer, if there is any indication that material remains in the eye. Get medical attention if irritation persists.

Ingestion Wash out mouth with water. Remove dentures, if any. Remove victim to fresh air, and keep at rest in a position comfortable for breathing. Give small amounts of water, unless nauseous. DO NOT induce vomiting. Get medical attention, if feeling unwell.

Most Important Symptoms/Effects, Acute and Long –Term:

Potential Acute Health Effects:

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed after exposure. Harmful if inhaled in high airborne concentrations.

Skin Contact May cause skin irritation. May cause an allergic skin irritation, or aggravate existing conditions through prolonged/repeated contact.

Eye Contact Irritating, and may cause redness and pain.
Ingestion May cause discomfort if swallowed.
Overexposure Signs/Symptoms:
Inhalation Respiratory irritation, coughing, wheezing or breathing difficulties.
Skin Contact Adverse symptoms may include the following: Irritation, and/or Redness.
Eye Contact Adverse symptoms may include the following: Pain or Irritation, Watering, Redness.
Ingestion No specific data.

Indication of Immediate Medical Attention and/or Special Treatment needed:

Notes to Physician Treat symptomatically.

Specific Treatments No specific treatment(s).

See also Toxicological Information in Section 11.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media Dry chemicals, foam, water spray, or carbon dioxide.

Unsuitable Media Water jet.

Specific Hazards Material is not considered a fire or explosion hazard, but will burn if ignited. Closed containers may rupture due to pressure build-up when exposed to extreme heat. Containers should be sprayed with water, if possible, to avoid this.

National Fire Protection Association (USA):

Labeling: Health: N/A Fire: N/A Reactivity: N/A

Hazardous Thermal Decomposition Products

Irritating or toxic substances may be emitted upon burning or decomposition. See **Section 10** for additional information.

Special Protective Actions for Firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident, if there is a fire. No action shall be taken involving any personal risk, or without suitable training.

Special Protective Equipment for Firefighters

Firefighters should wear appropriate protective equipment, and self-contained breathing apparatus (SCBA) with a full-face piece operated in a positive pressure mode, during the attack phase of firefighting operations. During cleanup, if area is poorly ventilated, SCBA should be used.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Keep unauthorized persons away. Provide adequate ventilation, and avoid breathing vapors. Put on appropriate personal protective equipment (see **Section 8**). If spilled in an enclosed area, ventilate area, or use SCBA. Remove potential ignition sources.

Environmental Precautions

Avoid dispersal of material, and runoff, from contact with soil, waterways, drains, and/or sewers.

Methods and Materials for Containment and Cleaning Up (Small or Large Spill)

Stop leak, if possible, without risk. Move containers from spill area. Absorb spilled material with vermiculite, dry sand, or earth. Put into open, or lightly covered containers. Soak the materials with water, and allow to cure for about one hour. Cured material is NOT hazardous. Dispose of in accordance with local, state, or other regulations. Clean spillage area with plenty of water.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling/Personal Hygiene

Use appropriate personal protective equipment as per **Section 8**. Keep in the original container, or an approved alternative; keep containers tightly closed when not in use.

Eating, drinking, and/or smoking should be prohibited where this material is being used. Workers should remove contaminated clothing/protective equipment, and wash hands and face before entering eating areas, and eating, drinking, and/or smoking.

Conditions for Safe Storage, including any Incompatibilities

Store in sealed original containers, or approved alternatives, in a dry, well-ventilated area when not in use. Protect containers from direct sunlight in a dry, cool, and well ventilated area between 15°C 40°C (~110°F). Do not reuse containers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>ACGIH TWA</u>	<u>OSHA PEL</u>
Isocyanic acid, polymethylenepolyphenylene ester (IAPM)	9016-87-9	0.005 ppm	0.2 mg.m ³
4,4'-Diphenylmethane- Diisocyanate	101-68-8	0.005 ppm	0.2 mg.m ³
Reaction product, IAPM and poly(oxy1-2 ethanediyl), alpha.-methyl-.omega.hydroxy	70644-56-3	No specific data	Np specific data

Appropriate Engineering Controls

Good general ventilation should be sufficient to control worker exposure to any airborne contaminants. If working in enclosed spaces, provide additional local ventilation. Eyewash fountains and safety showers are recommended, as well as, good laboratory procedures and care.

Exposure controls

Respiratory Protection

If necessary, a properly-fitted vapor mask/respirator complying with organic vapor sorbents, and HEPA 100 particulate filter, or SCBA, should be used.

Hand Protection

Chemical-resistant (impervious) gloves (such as nitrile rubber of .35mm thickness or similar) should be worn when handling this material. Contaminated gloves should be disposed of properly.

Body Protection

Chemically resistant long-sleeved shirts and long pants, or lab coats are recommended. Contaminated clothing should be washed separately from other clothes before reuse. Footwear appropriate for the work being performed should be worn, and cleaned carefully if contaminated, before reuse. Heavily soiled clothing or shoes should be discarded after allowing the material to cure.

Eye/Face Protection

Safety eyewear and face shields appropriate for the work being performed should be used. Ordinarily, this means a minimum of safety eyewear, or splash goggles.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Color:	Buff white
Odor:	Mild, musty	Odor Threshold:	0.4 mg/m ³
pH	N/A	Melting Point:	N/A
Boiling Point:	~300°C (~570°F)	Flash Point:	~222°C (~432°F)

Evaporation Rate:	N/A	Vapor Pressure/Density:	N/A/8.5 (Air=1)
Relative Density	N/A	Viscosity:	N/A
Auto-Ignition Temp.	>600°C	Decomposition Temp.	N/A
Upper/Lower Flammability or Explosive Limits N/A			
Solubility: Insoluble. Material hydrolyzes rapidly with exposure to water and becomes inert.			
VOC Content: None.			

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Exothermic reactions can occur with materials containing active hydrogen, such as bases, acids, amines, or alcohols. Reacts with water, forming CO₂, which may risk bursting closed containers. Reaction with water at less than 50°C (106°F) is slow, but accelerates at higher temperatures.

Chemical Stability: This product is stable under normal conditions.

Possibility of Hazardous Reactions: See "Reactivity" above for cautions.

Conditions to Avoid: High, or freezing temperatures.

Incompatible Materials: Strong acids, bases, amines, alcohols, and water.

Hazardous Decomposition Products: Thermal decomposition may produce smoke, oxides of carbon and nitrogen, isocyanate vapors, traces of hydrogen cyanide, and other products of incomplete combustion.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

<u>CHEMICAL NAME</u>	<u>LC₅₀ INHALATION (RAT)</u>	<u>LD₅₀ ORAL (RAT)</u>	<u>LD₅₀ DERMAL (RABBIT)</u>
Isocyanic acid, polymethylenepolyphenylene ester	0.49 mg/m ³	>10,000 mg/kg	>9,400 mg/kg
4,4'-Diphenylmethane- Diisocyanate	0.49 mg/m ³	>10,000 mg/kg	>9,400 mg/kg
Reaction Product	0.49 mg/m ³	>10,000 mg/kg	>9,400 mg/kg

Skin Corrosion/Irritation: Skin Irritation-Category 2

Serious Eye Damage/Irritation: Eye Irritation-Category 2

Respiratory or Skin Sensitization: Sensitization-Category 1

Mutagenicity: No specific data. **Carcinogenicity:** Material produced tumors via prolonged inhalation at severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure, and if material is used as intended.

Reproductive Toxicity: No effects shown. **Teratogenicity:** No effects shown.

Aspiration Hazard: No specific data. **Genotoxicity:** No effects shown.

Specific Target Organ Toxicity (Single and Repeated Exposure): May cause respiratory irritation with single exposure. No specific data on STOT with repeated exposure.

Information on the Likely Routes of Exposure: Eyes, skin, inhalation, and ingestion.

Potential Acute Health Effects and Related Symptoms:

See Section 4.

Delayed, immediate and chronic effects from short and long term exposure:

Some persons may become sensitized after chronic exposure, and may exhibit moderate to severe allergic reactions when exposed.

SECTION 12: ECOLOGICAL INFORMATION**Toxicity:**

CHEMICAL NAME	LC ₅₀ 96 Hours (Fish)	EC ₅₀ 24 Hours (Daphnia)	EC ₅₀ 3 Hours (static) (Bacteria)
IMPA	>1,000 mg/L	>1,000 mg/L	>100 mg/L
4,4'-Diphenylmethane-Diisocyanate	>1,000 mg/L	>1,000 mg/L	Not Available
Reaction Product	>1,000 mg/L	>500 mg/l	>100 mg/L

Persistence and Degradability:

Material is not inherently degradable because it hydrolyzes in water to form a solid, inert, non-hazardous material.

Bioaccumulative Potential:

No information is available on any components. Significant accumulation in organisms is not anticipated.

Mobility in Soil:

No information is available on any components. Mobility in soil is limited because material cures with exposure to water in any form into a solid, inert, non-hazardous material.

Other Adverse Effects/Information: No other information is available. No ingredients meet the classification criteria as PBT or vPvB.

SECTION 13: DISPOSAL CONSIDERATIONS

Unused contents should be exposed to water or humidity, and allowed to cure. Cured material is non-hazardous, and should be disposed of in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate. See **Section 8** for recommendations on the use of personal protective equipment.

SECTION 14: TRANSPORTATION INFORMATION

UN No's: No numbers assigned by DOT, IATA, ICAO, TGD or IMDG.

DOT/TDG/UN /IATA Proper Shipping Name: LIQUID, CONTAINS ISOCYANATES. Not regulated in shipments of less than 2,269 kg (5,000 lbs.).

Hazard Classes: Not regulated in shipments as above.

Hazard Labels: Not regulated in shipments as above.

Pack Groups: Not regulated in shipments as above.

Environmental Hazards: **Marine Pollutant:** No. **Hazardous Substance (USA):** No.

Special Precautions for User: No information is available.

Transporting in Bulk per Annex II of MARPOL73/78 and IBC: No information is available.

Label for Conveyance:

N/A-none. Not required in shipments of less than 2,269 kg (5,000 lbs.).

SECTION 15: REGULATORY INFORMATION**International and US Inventory Lists**

Canada Inventory (DSL)	Not listed.*	EU-ELINCS	Not listed.*
Canada Inventory (NDSL)	Not listed.*	EU-EINECS	Not listed.*
US Toxic Substances Control Act (TSCA)	Components are listed.	REACH, Annex XIV and Annex XVII	Not listed.*

Substances of Very High Concern: None of the components are listed.

Other Information: Titanium Dioxide (CAS13463-67-7) (TiO₂) is on the "right to know" (RTK) lists of the following states: MA, NJ, PA, RI and CA. TiO₂ is a Prop 65 chemical if airborne and respirable. In this application, TiO₂ is bound in the product matrix and excluded from the list. 4,4'-Diphenylmethane-Diisocyanate are on the RTK lists of the following states: MA, NJ, PA.

SECTION 16: OTHER INFORMATION**ABBREVIATIONS:**

ACGIH: American Conference of Governmental Industrial Hygienists
 ADR/RID: European dangerous goods transport, road and rail, regulations
 CAS: Chemical Abstract Service Registry
 DOT: Department of Transportation (U.S.)
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals
 IATA: International Air Transport Association
 ICAO: International Civil Aviation Organization
 IMDG: International Maritime Dangerous Goods code
 OEL: Occupational Exposure Limits
 OSHA: Occupational Safety and Health Administration (U.S.)
 PEL: Permissible Exposure Limit
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit (15 minute Time Weighted Average)
 TDG: Canadian Transportation of Dangerous Goods Act and Regulations
 TPQ: Threshold Planning Quantity
 RQ: Reportable Quantity
 UN: United Nations
 U.S.: United States
 N/A: Not available or not applicable.

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Notice:

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