



## Submittal Stamp Sheet

**Project:** CCD – South Classroom Building  
**Phipps' Job #:** 12J1996  
**Submittal #** 079200-01 - Exterior Joint Sealants PD and Color Chart

OZ Architecture  
 3003 Larimer Street  
 Denver, CO 80205

<p>Gerald H. Phipps, Inc.:</p> <p style="text-align: center;"><b>SUBMITTED</b> <b><i>GH Phipps</i></b> <i>Construction Companies</i></p> <p>GH Phipps has reviewed, approved, and hereby submits the attached in accordance with the contract documents.</p> <p>Note to Subcontractor/Material Supplier: Subcontractor/Material Supplier remains responsible for the confirmation and correlation of dimensions at the jobsite; fabrication processes and construction techniques; coordination of the work with the work of other trades; and satisfactory performance of the work.</p>	<p>Architect:</p>
<p>Engineer:</p>	<p>Other:</p>

**NOTES:**

Signed: \_\_\_\_\_  
Nate Casten

# Submittal Letter

RESTORATION SPECIALISTS INC  
PO BOX 29  
BROOMFIELD, CO 80038

Thursday, December 27, 2012

Submittal No. 2

Page 1 of 1

**To:**

GERALD H PHIPPS INC  
PO BOX 3237  
ENGLEWOOD, CO 80155-3237  
Attn: Nate Casten  
nate.casten@ghphipps.com  
*Deliver via E-mail*

**Regarding:**

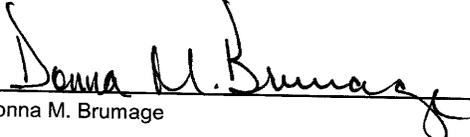
12187 - CCD South Classroom Bldg  
GH Phipps  
5995 Greenwood Plaza Blvd #100  
Greenwood Village, CO 80111

**Regarding:**

CCD South Classroom Bldg - Jt. Sealants  
Chad Hinshaw is your Project Manager.  
I will send color charts to your main office attention to you.

***We hereby submit the following for your approval. Please respond by: January 10, 2013***

Item No	Draw/Spec. No	Section No	Description
1		79200	Dynatrol II Product Data
2		79200	Dynatrol II MSDS
3		79200	Pecora Color Charts being sent to your main office.
4		79200	Pecora 890 Product Data
5		79200	Pecora 890 MSDS
6		79200	Pecora 890 Color Chart being sent to your main office.
7		79200	Backer Rod Open Cell Product Data
8		79200	Backer Rod Open Cell MSDS
9		79200	Material Schedule

Signed: 

Donna M. Brumage

# DynaTrol® II



## General Purpose Polyurethane Sealant

## Specification Data Sheet



### BASIC USES

Dynatrol® II is designed for use in expansion and control joints in precast panels, tilt walls and curtainwalls; bedding panels, coping joints, window and door perimeters, glazing, acoustical and firestopping applications. Its wide color range and low modulus make it highly effective in exterior insulated finish systems (EIFS).

### 2. MANUFACTURER

Pecora Corporation  
165 Wambold Road  
Harleysville, PA 19438  
Phone: 215-723-6051  
800-523-6688  
Fax: 215-721-0286  
Website: www.pecora.com

### 3. PRODUCT DESCRIPTION

Dynatrol® II is a general purpose non-sag elastomeric sealant that creates a tenacious bond and watertight seal between materials of similar or dissimilar surface textures, porosities or expansion coefficients.

**Fire Rated Systems:** Three-hour fire and temperature rated wall and floor Design Joint systems up to 3" (75 mm) wide can be designed with Ultra Block® fire-blocking material and/or mineral wool fire safing.

These designs have been full scale tested and classified by Underwriters Laboratories, Inc. and appear in the 2001 UL Fire Resistance Directory, Vol. 2.

**Ref:** Standard "Fire Tests of Building Construction Materials," ANSI/UL 263, ASTM E119, NFPA No. 251.

Consult Technical Bulletins # 85J and # 85P for a complete listing of Pecora Firestop Systems.

Ultra-Block® is a product of Backer Rod Mfg. Co., Denver, CO.

**Limitations:** Dynatrol® II should not be used:

- as a cap, heel or toe bead in glazing systems utilizing high-performance glass or acrylic polycarbonate sheet,
- in areas exposed to harsh chemicals.

### PACKAGING

- 1 1/2-gallon (347 cu. in.) (5.7 L) unit including Base and Activator  
Color Pack is packaged separately

### COLOR

- Color-Pack system has pre-measured tint paste for 48 standard colors.
- Custom colors are available upon request: minimum 15 color packs.
- The base material is not to be used without addition of color.
- Also available in pre-tinted limestone – this version eliminates need for color pack.

### 4. TECHNICAL DATA

Federal Specification TT-S-00227E, Class A, Type II; ASTM C-920, Type M, Grade NS, Class 50, use M,A,G and O.

Dynatrol® II will withstand structural movement of 50% in extension and 50% in compression without adhesive or cohesive failure in properly designed joints.

**Joint Design:** Good joint design in the construction industry dictates four times (4x) the anticipated movement of building components be used when calculating joint width. The theoretically derived 2:1 movement factor is based on thermal movement alone and does not allow for variances found at the jobsite and therefore should not be used.

The 4:1 design factor accommodates both thermal movement and wide variations in tolerances of construction materials, fabrication and erection often found in the

field. This will also accommodate joints installed narrower than originally designed.

The width or depth of the joint should not be less than 1/4" (6 mm). In joints up to 1/2" (12 mm) wide, the depth of the sealant should be equal to the width. In joints wider than 1/2" (12 mm) but not exceeding 2" (50 mm), the depth should be maintained at 1/2" (12 mm). For joints wider than 2" (50 mm), please consult our Technical Services department.

Joint sealants do not change volume with expansion or compression - only shape; the greater the change in shape (strain), the greater the stress on the sealant and bond line.

### 5. INSTALLATION

**Surface Preparation:** Joint surfaces must be dry, clean and free of all contamination. Glass, metal and other nonporous surfaces must be free of any coatings and wiped clean with solvent. Precast panels using form-release agents other than polyethylene film must be sandblasted or mechanically abraded and blown or brushed dust free.

**Priming:** Not required on glass or anodized aluminum and usually not necessary on most other common building materials. However, varieties of brick, natural stone, plastics, paints, coatings and other surface treatments

### TYPICAL PHYSICAL PROPERTIES at 77°F (25°C), 50% RH

Test Property	Value	Test Procedure
Adhesion & Cohesion	No bond loss**	ASTM C719
Adhesion-in-peel (lbs)	28, (4.kN/m) No adhesion loss*	ASTM C794
Adhesion-in-peel after UV exposure (pli)	28, (4.8 kN/m) No adhesion loss	ASTM C794
Application life (hours)	4-5	ASTM C603
Effect of acceleration weathering	No cracking	ASTM C793
Effect of heat aging (%)	1.4	ASTM C792
Extrusion rate (seconds)	4	ASTM C603
Hardness, Shore A	25-35	ASTM C661
Rheological properties	0	ASTM C639
Stain & color change	None	ASTM C510
Tack-free time (hours)	8-16	ASTM C679
VOC Content: Activator (g/L)	0	ASTM D3960
Base (g/L)	14	ASTM D3960

\*\*when tested for ±50% movement

\*aluminum, glass and primed concrete substrates

## Specification Data Sheet

often present the need for priming. Due to the number and unpredictable nature of these substrates, a field or laboratory test is recommended to determine the adhesion of Dynatrol® II with or without primer. When priming is indicated, P-75 or P-150 should be used on porous substrates and P-120 on nonporous substrates or consult Technical Services. Sealant should be applied within 8 hours after priming; otherwise, it will be necessary to reprime.

All Exterior Insulation Finish Systems must be primed with P-75 or P-150 as required by manufacturers of various EIFS systems.

Also, because architectural stones such as marble and granite vary considerably in porosity, some bleeding of the sealant into the substrate is a possibility. Again, a field or laboratory test to confirm this possibility is recommended.

Pecora offers complimentary adhesion, compatibility and stain testing in its laboratory on actual field samples of substrate from the jobsite or on representative samples from the same lots. Contact Technical Services for details.

**Joint Backing:** Backer rod controls the depth of the sealant and allows it to be applied under pressure. Closed-cell polyethylene or open-cell polyurethane is recommended. Use a size that will compress 25% when inserted into the joint. In joints too shallow for backer rod, use a bond-breaker tape to prevent undesirable three-sided adhesion.

**Application:** The Base and Activator (nested in Base container) are formulated and pre-measured to function as a unit. Do not interchange Base or Activator components from one shipment with those from another. The two components should be blended thoroughly along with the desired Color Pack for a minimum of six (6) minutes in accordance with mixing instructions appearing on the container label.

Do not thin with solvents or adulterate it in any way. Apply sealant to joints, using standard caulking equipment. Application life is 3-4 hours at 77° F (25° C), 50% R.H. Higher temperature and/or humidity will shorten this application life.

**Tooling:** Tool immediately to assure full

adhesion. Tooling without a slicking agent is preferred but if conditions require one, mineral spirits is recommended. (See Caution statement.)

**Painting:** Due to variability in paint products and their raw materials, installation conditions, installation techniques as well as primers, it is required that contractors who apply paint, pretest paint onto sealant, to determine suitability. Oil based paints can exhibit a slow/non-curing condition. Field test is required and user must determine suitability. Paintable after 72 hours. Consult Technical Bulletin # 31 for further information.

**Clean Up:** Immediately remove all excess sealant and smears adjacent to joints with mineral spirits. Also use mineral spirits to clean uncured sealant from equipment. Remove cured sealant by scraping, sandpapering, etc. (Caution: mineral spirits is flammable and toxic. Observe manufacturer's precautions.)

**Storage Life:** Dynatrol® II has a shelf life of approximately one (1) year from the date of manufacture when stored in sealed containers at temperatures lower than 80°F (26°C). Dynatrol® II performs equally well during any part of this shelf life.

**Precautions:** Toxic. The Activator portion of Dynatrol® II contains diisocyanates. Avoid prolonged breathing of vapors and contact with skin or eyes. Wash hands after use and before eating or smoking. Upon accidental contact with eyes, flush with water and seek medical attention at once. Ultra Block® is a noncarcinogenic processed continuous filament textile glass fiber that may cause skin, eye and respiratory irritation. When applying, wear long sleeves, gloves, cap, goggles or safety glasses and NIOSH/MSHA approved dust respirator. After use, bathe with soap and warm water. Wash clothes separately and rinse after use.

Refer to Material Safety Data Sheets for additional information.

**FOR PROFESSIONAL USE ONLY.  
KEEP OUT OF THE REACH  
OF CHILDREN.**

## 6. AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest repre-

sentative, call the number below or visit our website at [www.pecora.com](http://www.pecora.com).

## 7. WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

## 8. MAINTENANCE

If the sealant is damaged and the bond is intact, cut out the damaged area and prime with P-75 or P-150 primer and recaulk. If the bond has been affected, remove the sealant, clean and prepare the joint in accordance with instructions under "Installation".

## 9. TECHNICAL SERVICES

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further assistance call our Technical Service Department at 800-523-6688 or 215-723-6051.

## 10. FILING SYSTEMS

- Sweet's Catalog File: [www.sweets.com](http://www.sweets.com)
- General Building
  - 07100 Waterproofing
  - 07920 Sealants
- Civil Engineering
  - 07100 Waterproofing



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[www.pecora.com](http://www.pecora.com)

**Material Safety Data Sheet**

Date last revised: April, 2001

<b>I. GENERAL INFORMATION</b>		
Chemical Name & Synonyms AROMATIC ISOCYANATE	Trade Name & Synonyms DYNATROL II ACTIVATOR (Part A)	
Chemical Family URETHANE	Formula MIXTURE	
Proper DOT Shipping CAULKING COMPOUND	DOT Hazard Classification N/A	
Manufacturer PECORA CORPORATION	Manufacturer's Phone Number 215-723-6051	
Manufacturer's Address 165 Wambold Road, Harleysville, PA 19438	Chemtrec Phone Number 800-424-9300	
<b>II. INGREDIENTS</b>		
Principal Hazardous Components TOULENE DIISOCYANATE (CAS #26471-62-5)	Percent < 5	Threshold Limit Value (Units) 0.02 PPM PEL
URETHANE PREPOLYMER	> 95	NOT ESTABLISHED
THIS PRODUCT CONTAINS TOLUENE DIISOCYANATE WHICH IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA. THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.		
HEALTH 3	FLAMMABILITY 1	REACTIVITY 2
<b>III. PHYSICAL DATA</b>		
Boiling Point (°F) 484° F. (TDI)	Specific Gravity (H <sub>2</sub> O = 1) 1.05	
Vapor Pressure (mm Hg.) 0.025 @ 77° F. (TDI)	Percent Volatile by Volume (%) NEGLIGIBLE	
Vapor Density (Air = 1) 6.0 (TDI)	Evaporation Rate (ETHER = 1) SLOWER	
Solubility in Water INSOLUBLE	pH N/A	
Appearance & Odor CLEAR, LIGHT YELLOW LIQUID – TDI ODOR		
<b>IV. FIRE &amp; EXPLOSION HAZARD DATA</b>		
Flash Point (Test Method) > 200° F.	Auto Ignition Temperature UNKNOWN	
Flammable Limits UNKNOWN	LEL UNKNOWN	UEL UNKNOWN
Extinguishing Media Small Fires: DRY CHEMICAL, WATER FOG, FOAM & CHEMICALS		
Special Fire Fighting Procedures: SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN WHEN FIGHTING FIRES INVOLVING CHEMICALS.		
Unusual Fire & Explosion Hazards: AT TEMPERATURES GREATER THAN 350° F. (177° C.), TDI FORMS CARBODIIMIDES WITH THE RELEASE OF CO <sub>2</sub> WHICH CAN CAUSE PRESSURE BUILD UP IN CLOSED CONTAINERS. USE COLD WATER TO COOL FIRE-EXPOSED CONTAINERS		

DYNATROL –II ACTIVATOR (PART A) PAGE 2 OF 2	
V. Health Hazard Data	
OSHA Permissible Exposure Limit SEE SECTION II	ACGIH Threshold Limit Value SEE SECTION II
Carcinogen – TDI	Carcinogen – TDI
Symptoms of Exposure: NO ILL EFFECTS IN THE NORMAL USE OF THIS COMPOUND. INHALATION OF VAPORS MAY CAUSE IRRITATION TO LUNGS AND PULMONARY. EDEMA MAY OCCUR AFTER A SERIOUS VAPOR EXPOSURE. PULMONARY SENSITIZATION CAN OCCUR IN SOME INDIVIDUALS.	
Medical Conditions Aggravated By Exposure: PRECLUDE FROM EXPOSURE THOSE INDIVIDUALS HAVING A HISTORY OF RESPIRATORY ILLNESS, ASTHMATIC CONDITIONS, EYE DAMAGE AND TDI SENSITIZATION.	
Primary Route (s) of Entry: DERMAL AND INHALATION	
Emergency First Aid: SKIN: WASH WITH SOAP AND WATER. INHALATION: MOVE TO FRESH AIR. AID BREATHING IF NECESSARY. OBTAIN MEDICAL ATTENTION IMMEDIATELY. EYES: FLUSH WITH WATER FOR 15 MINUTES. INGESTION: GIVE LARGE AMOUNTS OF WATER TO DILUTE MATERIAL AND CONSULT A PHYSICIAN IMMEDIATELY.	
VI. REACTIVITY DATA	
Stability	Unstable Stable
	Conditions to Avoid Conditions to Avoid HIGH TEMPERATURES
Incompatibility	Materials to Avoid WATER OR MOISTURE AND ANY OTHER PRODUCTS THAT REACT WITH ISOCYANATES.
Hazardous	May Occur
Polymerization	Will Not Occur
	Conditions to Avoid Conditions to Avoid HIGH TEMPERATURES AND CONTACT WITH MOISTURE.
Hazardous Decomposition Products: TDI VAPORS, OXIDES OF NITROGEN, CO AND HCN	
VII. ENVIRONMENTAL PROTECTION PROCEDURES	
Spill Response: SCRAPE UP AND PLACE IN CONTAINERS. ALLOW TO HARDEN IN OPEN CONTAINERS. CO <sub>2</sub> WILL BE EVOLVED. FINISH CLEANING AREA WITH A SOLVENT SUCH AS CELLOSOLVE ACETATE. FOLLOW SOLVENT MANUFACTURER'S PRECAUTIONS.	
Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.	
VIII. SPECIAL PROTECTION INFORMATION	
Eye Protection GLASSES OR GOGGLES	Skin Protection NEOPRENE GLOVES, IF NECESSARY
Respiratory Protection (Specific Type) NIOSH ORGANIC VAPOR RESPIRATOR FOR CONFINED AREAS	Ventilation Recommended LOCAL OR MECHANICAL
Other Protection: BARRIER SKIN CREAM	
IX. SPECIAL PRECAUTIONS	
Hygienic Practices In Handling & Storage: WASH HANDS AFTER USE AND BEFORE EATING OR SMOKING. STORE IN UNOPENED CONATINERS AT OR BELOW 80° F. (27° C.) TO PROLONG SHELF LIFE.	
Precautions For Repair & Maintenance of Contaminated Equipment: SEE SECTION VI & VIII	
Other Precautions: THIS PRODUCT CONTAINS DIISOCYANATES. AVOID PROLONGED BREATHING OF VAPORS AND CONTACT WITH EYES AND SKIN. FOR COMMERCIAL USE ONLY.	
<b>KEEP OUT OF REACH OF CHILDREN!!!!</b>	

**Material Safety Data Sheet**

Date last revised: April, 2001

<b>I. GENERAL INFORMATION</b>		
Chemical Name & Synonyms PIGMENTED POLYOLS	Trade Name & Synonyms DYNATROL II BASE (PART B)	
Chemical Family URETHANE	Formula MIXTURE	
Proper DOT Shipping CAULKING COMPOUND	DOT Hazard Classification N/A	
Manufacturer PECORA CORPORATION	Manufacturer's Phone Number 215-723-6051	
Manufacturer's Address 165 Wambold Road, Harleysville, PA 19438	Chemtrec Phone Number 800-424-9300	
<b>II. INGREDIENTS</b>		
Principal Hazardous Components CALCIUM CARBONATE (CAS # 1317-65-3)	Percent 40 – 45	Threshold Limit Value (Units) 5 Mg/M <sup>3</sup> DUST
POLYOL (CAS # 25322-69-4)	35 – 50	NOT ESTABLISHED
PHthalate Ester (CAS # 68648-93-1)	8 – 10	5 Mg/M <sup>3</sup>
CASTOR WAX (CAS # 8001-79-3)	3 - 5	NOT ESTABLISHED
LIME (CAS # 1305-78-8)	2 - 3	2 Mg/M <sup>3</sup>
U.V. STABILIZER (CAS # 25973-55-11)	0.6 – 0.8	NOT ESTABLISHED
MERCURY CATALYST (CAS # 26545-49-31)	< 0.04	0.1 Mg/M <sup>3</sup>
TOLUENE DIISOCYANATES (CAS # 26471-62-5)	< 1	0.02 PPM
MINERAL SPIRITS (CAS # 64741-41-9)	2	100 PPM
THIS PRODUCT CONTAINS DIISOCYANATE WHICH IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA. THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.		
HEALTH 2	FLAMMABILITY 1	REACTIVITY 1
<b>III. PHYSICAL DATA</b>		
Boiling Point (°F) UNKNOWN	Specific Gravity (H <sub>2</sub> O = 1) 1.37	
Vapor Pressure (mm Hg.) UNKNOWN	Percent Volatile by Volume (%) UNKNOWN	
Vapor Density (Air = 1) HEAVIER	Evaporation Rate (ETHER= 1) SLOWER	
Solubility in Water INSOLUBLE	pH N/A	
Appearance & Odor: HEAVY WHITE PASTE – SLIGHT ODOR		
<b>IV. FIRE &amp; EXPLOSION HAZARD DATA</b>		
Flash Point (Test Method) > 200° F. T.O.C.	Auto Ignition Temperature UNKNOWN	
Flammable Limits UNKNOWN	LEL UNKNOWN	UEL UNKNOWN
Extinguishing Media Small Fires: FOAM, WATER, DRY CHEMICALS AND CARBON DIOXIDE		
Special Fire Fighting Procedures: WEAR SELF-CONTAINED BREATHING APPARATUS WHEN FIGHTING FIRES INVOLVING CHEMICALS.		
Unusual Fire & Explosion Hazards: BECAUSE THIS IS A TWO-PART SYSTEM, (BASE AND ACTIVATOR), ALSO SEE DYANTROL II ACTIVATOR (PART A) MSDS.		

DYNATROL II BASE (PART B)		PAGE 2 OF 2	
<b>V. Health Hazard Data</b>			
OSHA Permissible Exposure Limit SEE SECTION II		ACGIH Threshold Limit Value SEE SECTION II	
Carcinogen – NO		Carcinogen – NO	
Symptoms of Exposure: PRECLUDE FROM EXPOSURE THOSE INDIVIDUALS HAVING A HISTORY OF RESPIRATORY PROBLEMS. ALSO CONSULT MSDS SHEET FOR DYNATROL - II ACTIVATOR (PART A).			
Medical Conditions Aggravated By Exposure: PRECLUDE FROM EXPOSURE THOSE INDIVIDUALS HAVING A HISTORY OF RESPIRATORY PROBLEMS. ALSO CONSULT MSDS SHEET FOR ACTIVATOR.			
Primary Route (s) of Entry: SKIN AND INHALATION			
Emergency First Aid: SKIN: WASH WITH SOAP AND WATER. INHALATION: MOVE TO FRESH AIR. AID BREATHING IF NECESSARY. EYES: FLUSH WITH WATER FOR 15 MINUTES. INGESTION: OBTAIN IMMEDIATE MEDICAL ATTENTION.			
<b>VI. REACTIVITY DATA</b>			
Stability	<input type="checkbox"/>	Unstable	Conditions to Avoid
	<input checked="" type="checkbox"/>	Stable	Conditions to Avoid HIGH TEMPERATURES, DIRECT CONTACT WITH MOISTURE OR WATER
Incompatibility		Materials to Avoid WATER AND MOISTURE	
Hazardous	<input type="checkbox"/>	May Occur	Conditions to Avoid
	<input checked="" type="checkbox"/>	Will Not Occur	Conditions to Avoid HIGH TEMPERATURES
Polymerization			
Hazardous Decomposition Products: SMOKE, FUMES, CO & CO <sub>2</sub> AND POSSIBLY OXIDES OF NITROGEN			
<b>VII. ENVIRONMENTAL PROTECTION PROCEDURES</b>			
Spill Response: SCRAPE UP AND PLACE IN CONTAINERS FOR DISPOSAL. CLEAN AREA WITH SOLVENT SUCH AS MATERIAL SPIRITS. FOLLOW MANUFACTURER'S INSTRUCTIONS REGARDING USE OF SOLVENT.			
Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.			
<b>VIII. SPECIAL PROTECTION INFORMATION</b>			
Eye Protection GLASSES OR GOGGLES		Skin Protection NEOPRENE GLOVES, IF NECESSARY	
Respiratory Protection (Specific Type) NIOSH ORGANIC VAPOR RESPIRATOR FOR CONFINED AREAS		Ventilation Recommended GENERAL MECHANICAL, IN CONFINED AREA	
Other Protection: BARRIER CREAM FOR SKIN			
<b>IX. SPECIAL PRECAUTIONS</b>			
Hygienic Practices In Handling & Storage: WASH HANDS AFTER USE AND BEFORE EATING OR SMOKING. STORE IN UNOPENED CONTAINERS AT OR BELOW 80° F (27° C) TO PROLONG LIFE.			
Precautions For Repair & Maintenance of Contaminated Equipment: SEE SECTION VI & VIII.			
Other Precautions: THE ACTIVATOR PORTION OF THIS PRODUCT CONTAINS DIISOCYANATES. AVOID PROLONGED BREATHING OF VAPORS AND CONTACT WITH SKIN AND EYES.			
<b>KEEP OUT OF REACH OF CHILDREN!!!!</b>			

# Pecora 890FTS and Pecora 890FTS-TXTR

Field Tintable, Non-Staining Silicone Sealant - Smooth and Textured Formulas

## Specification Data Sheet



### 1. BASIC USES

- For sealing expansion and control joints in precast concrete panels, architectural and natural stone, masonry, steel, metal curtain walls, sealing of door and window perimeters, Exterior Insulation Finish Systems (EIFS), fluoropolymer and powder coated aluminum, wood, vinyl and many plastics, generally without need for a primer.
- Where the versatility of field tinting through the use of our universal color packs as well as the option of smooth or a textured, grout-like formula is needed.
- New or remedial construction

strong adhesion to all base and top coats and because the ultra-low modulus formulation places minimal stress on the bond line.

**Advantages:** Pecora 890FTS and Pecora 890FTS-TXTR offers the following features:

- Ability to produce virtually any color in the field through the use of Pecora's universal color pack system and color matching services.
- The option of a smooth (890FTS) or a textured, grout-like appearance (890FTS-TXTR).
- Will not stain natural stone or other porous surfaces.
- Superior adhesion: Will bond tenaciously to most substrates without the need for priming.

- Excellent weatherability: Because of its 100% silicone composition, it is virtually unaffected by UV, precipitation, ozone, and temperature extremes.
- Resilient: Will remain flexible under extreme temperature swings (-60°F to 300°F).

### PACKAGING

- 1.5 gallon (5.68 L) units

### COLOR

- 890FTS and 890FTS-TXTR are available in 51 standard colors (see 890FTS/890FTS-TXTR color chart for details).
- Unlimited range of custom colors (certain restrictions may apply).

### 2. MANUFACTURER

Pecora Corporation  
165 Wambold Road  
Harleysville, PA 19438

Phone: 215-723-6051  
800-523-6688

Fax: 215-721-0286

Website: [www.pecora.com](http://www.pecora.com)

### 3. PRODUCT DESCRIPTION

Pecora 890FTS and Pecora 890FTS-TXTR are field tintable, neutral-curing silicones that will not stain natural stone such as marble and granite, and react with atmospheric moisture to form a durable, flexible building sealant. 890FTS and 890FTS-TXTR both perform exceptionally well under dynamic conditions with 890FTS accommodating long-term movement of +100/-50% and 890FTS-TXTR accommodating long-term movement of +50/-50% in properly designed joints. Harsh weather conditions and extreme temperatures have very little effect on the performance of 890FTS and 890FTS-TXTR even after years of exposure. They are also particularly well suited for use in Exterior Insulation Finish Systems (EIFS) because of their proven

**TABLE 1: TYPICAL UNCURED PROPERTIES**  
at 77°F (25°C), 50% R.H.

Test Property	Value	Test Procedure
Flow, Sag, Slump	Nil	ASTM C-639
Tool/Work Time (minutes)	15-20	Pecora Corp.
Tack free time (hrs)	1-2	ASTM C-679
Cure time (days)	7-14	Pecora Corp.
Full adhesion (days)	7-14	Pecora Corp.
VOC g/L	98	ASTM D-3960

**TABLE 2: TYPICAL CURED PROPERTIES**  
After 7 days cure at 77°F (25°C), 50% R.H.

Test Property	Value	Test Procedure
Hardness (Shore A)	15-18	ASTM C-661
Extension (%)	1000	ASTM D-412
Modulus @ 100% ext. (psi)	30	ASTM D-412
Tensile strength (psi)	120	ASTM D-412
Tear strength (ppi)	30	ASTM D-624
Peel strength (pli)	25	ASTM D-794
Dynamic movement (%) - 890FTS	+100/-50	ASTM C-719
Dynamic movement (%) - 890FTS-TXTR	+50/-50	ASTM C-719
Ozone/UV resistance	excellent	ASTM C-793
Staining of porous substrates		ASTM C-1248
Marble	no stain	
Granite	no stain	
Limestone	no stain	
Service temp. range (°F)	-60 to +300	Pecora Corp.
VOC g/L	98	ASTM D-3960

NOTE: 890FTS-TXTR values may differ slightly from that of 890FTS."

**Limitations:** Pecora 890FTS and Pecora 890FTS-TXTR should not be used in the following applications:

- Sealing horizontal decks, patios, driveway or terrace joints where abrasion or physical abuse is encountered.
- Below grade, submerged joints or below the waterline in marine uses.
- In totally confined or air-free spaces since moisture is necessary for cure.
- In designs that will be painted after the sealant is applied. Apply sealant after painting is completed.
- In structural glazing applications.
- On surfaces with special protective or decorative coatings without prior consultation with Technical Services.
- With building materials that bleed oils, plasticizers or solvents, i.e., impregnated wood, caulks, some vulcanized rubber gaskets or tapes, etc.
- In interior penetration firestop systems.
- On surfaces in direct contact with food, use of Pecora 860 silicone with FDA approval is recommended.

## 4. TECHNICAL DATA

**Applicable Standards:** Pecora 890FTS and Pecora 890FTS-TXTR meets or exceeds the requirements of the following industry specifications:

TT-S-230C, Class A; ASTM C920, Class 100, Type S, Grade NS, Use G,A, M, O, and CGSB-19GP-9

**Joint Design:** Pecora 890FTS and Pecora 890FTS-TXTR Silicone sealant should be no deeper than 3/8" (9 mm) and no less than 1/8" (3 mm). Ideally, ratio of joint width to the sealant depth is 2:1. Joint width should not exceed 1". For joints greater than 1", consult Technical Services. If Pecora 890FTS and Pecora 890FTS-TXTR cannot be installed when the design width is approximately halfway between the dimensional extremes, the designed joint must be at least twice the total anticipated joint movement. Good architectural practice calls for joint design of four times the anticipated movement due to construction tolerances and material variations.

## 5. INSTALLATION

**Surface Preparation:** Clean all joints and glazing areas by removing foreign matter and contaminants such as oil, dust, grease, frost, water, surface dirt, old sealants or glazing compounds and any protective coating. Porous substrates and precast concrete panels using form release agents should be cleaned by grinding, saw cutting, blast cleaning (water or sand), mechanical abrading or a combination of these methods which will provide a sound, clean and dry surface for sealant application. Dust, loose particles, etc. should be blown out of joints with oil-free compressed air or vacuum cleaned. Metal, glass and plastic surfaces should be cleaned with solvent procedure or by mechanical means. Soap or detergent and water cleaning treatments are not recommended. Cleaning of all surfaces should be done on the same day the sealant is applied.

### Mixing:

- Remove plastic film. In the event skinning developed during storage, remove and discard prior to mixing.
- Pour contents of Pecora universal color pack into pail using a spatula to scrape as much color tint from container as possible.
- For best overall appearance, use the Albion® 381-G01 4 inch mixing paddle or Pecora #2 mixing paddle (or other comparable mixing paddle). Do not over mix.
- Mix for about 1 minute, moving drill throughout material while avoiding contact with pail.
- Scrape any unmixed material from sides and bottom of can with flat-edge spatula or margin trowel.
- Continue mixing for 1-2 minutes or until a uniform color is achieved. Do not exceed 4 minutes total mixing time.
- Use clean bulk caulking gun for sealant application.
- Dry tooling is recommended. If a slicking agent is required, use mineral spirits.

**Cleaning:** Excess sealant should be removed from all surfaces while still uncured. Cured sealant is very difficult, if not impossible, to remove without altering

or damaging the surface it is adhered to.

**CAUTION:** Solvents may be toxic and/or flammable. Refer to solvent manufacturer's instructions or Material Safety Data Sheets.

**Priming:** Pecora 890FTS and Pecora 890FTS-TXTR does not require priming on most common substrates. However, Pecora strongly suggests adhesion pre-testing, either in the field or in Pecora's laboratory, on all porous substrates, particularly brick, as well as unusual building materials and other substrates where special coatings or surface treatments may impair optimum adhesion. Where primer is indicated, P-150 should be used on porous substrates and P-120 on special metal and plastic surfaces. All EIFS substrates require priming with P-150 primer. Contact Technical Services for primer use on other substrates.

Pecora routinely conducts project specific adhesion, compatibility, and staining tests in its laboratory on representative substrate samples. Consult Technical Services for details.

**Joint Backing:** Backer rod controls the depth of the sealant and allows it to be applied under pressure. Use a size that will compress 25%. Denver Foam® open-cell polyurethane or reticulated (soft) polyethylene rod is recommended. Closed-cell polyethylene may be used but care must be taken not to puncture the rod which can cause outgassing or bubbling/blistering in the sealant. Open-cell polyurethane is required with non-porous substrates to allow proper curing from both sides of the sealant. In joints too shallow for backer rod, use a polyethylene bond-breaker tape to prevent three-sided adhesion. For detailed information on the use of sealant backing materials, consult Pecora Technical Bulletin #105.

**Application:** All joints should be masked to ensure a neat appearance and prevent sealant applied outside the joint confines from discoloring the substrate.

**Storage:** 12 months from date of manufacture when stored in original, airtight containers at temperatures below 90°F (32°C).

**Precautions:** Use in well ventilated

## Specification Data Sheet

area or wear an appropriate NIOSH-approved respirator. Contact with uncured sealant or with vapors generated during curing MAY CAUSE RESPIRATORY TRACT IRRITATION. Avoid breathing vapor, mist, or dust. Keep container closed when not in use. MAY CAUSE SKIN AND EYE IRRITATION OR ALLERGIC REACTION. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. HARMFUL IF SWALLOWED. Do not taste or swallow.

**FOR PROFESSIONAL USE ONLY.  
KEEP OUT OF THE REACH  
OF CHILDREN.**

### 6. AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at [www.pecora.com](http://www.pecora.com).

### 7. WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

### 8. MAINTENANCE

If the sealant is damaged and the bond is intact, cut out the damaged area and re-caulk. No primer is necessary. If the bond has been affected, remove the sealant, clean and repair joint in accordance with instructions under "installation".

### 9. TECHNICAL SERVICES

Local Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions, or to conduct job-site inspections. For further information and assistance, please call our Technical Service department at 215-723-6051 or 800-523-6688.

### 10. FILING SYSTEMS

- General Building
  - 07100 Waterproofing
  - 07920 Sealants
- Civil Engineering
  - 07100 Waterproofing

**Specification Data Sheet**



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[www.pecora.com](http://www.pecora.com)

**Material Safety Data Sheet**

Date last revised May, 2005

<b>I. GENERAL INFORMATION</b>		
Chemical Name & Synonyms SILICONE SEALANT	Trade Name & Synonyms PECORA 890FTS	
Chemical Family POLYDIMETHYLSILOXANE MIXTURE	Formula MIXTURE	
Proper DOT Shipping CALKING COMPOUND	DOT Hazard Classification NONE	
Manufacturer PECORA CORPORATION	Manufacturer's Phone Number 215-723-6051	
Manufacturer's Address 165 Wambold Road, Harleysville, PA 19438	Chemtrec Phone Number 800-424-9300	
<b>II. INGREDIENTS</b>		
Principal Hazardous Components SILICONE DIOXIDE (CAS # 112945-52-5)	Percent 4 - 5 %	Threshold Limit Value (Units) 10 Mg/M <sup>3</sup> DUST
METHYL OXIMINO SILANE (CAS # 34036-80-1)	4 - 5 %	NONE ESTABLISHED
MINERAL SPIRITS (CAS # 64741-41-9)	1 - 3 %	
THIS PRODUCT DOES NOT CONTAIN ANY TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA.		
HEALTH 1	FLAMMABILITY 1	REACTIVITY 0
<b>III. PHYSICAL DATA</b>		
Boiling Point (°F) N/A	Specific Gravity (H <sub>2</sub> O = 1) 1.30	
Vapor Pressure (mm Hg.) UNKNOWN	Percent Volatile by Volume (%) <5%	
Vapor Density (Air = 1) HEAVIER	Evaporation Rate (ETHER= 1) SLOWER	
Solubility in Water INSOLUBLE	pH N/A	
Appearance & Odor SMOOTH PASTE – MILD, SLIGHTLY SOLVENT-LIKE		
<b>IV. FIRE &amp; EXPLOSION HAZARD DATA</b>		
Flash Point (Test Method) > 220° F.	Auto Ignition Temperature	
Flammable Limits UNKNOWN	LEL NOT DETERMINED	UEL NOT DETERMINED
Extinguishing Media : DRY CHEMICAL, WATER SPRAY, FOAM, CARBON DIOXIDE		
Special Fire Fighting Procedures: WEAR SELF-CONTAINED BREATHING APPARATUS WHEN FIGHTING FIRES THAT CONTAIN CHEMICALS.		
Unusual Fire & Explosion Hazards: UNDER FIRE CONDITIONS, IRRITATING OR TOXIC VAPORS MAY BE PRESENT.		

PECORA 890FTS SILICONE		PAGE 2 OF 2	
<b>V. Health Hazard Data</b>			
OSHA Permissible Exposure Limit SEE SECTION II		ACGIH Threshold Limit Value SEE SECTION II	
Carcinogen – NTP Program NO		Carcinogen – IARC Program NO	
Symptoms of Exposure: VAPORS EMITTED AS THE SEALANT CURES MAY IRRITATE THE EYES, NOSE AND THROAT PARTICULARLY IN AN ENCLOSED OR POORLY VENTILATED AREA. DIRECT CONTACT WITH THE UNCURED PRODUCT MAY IRRITATE THE EYES AND MOUTH.			
Medical Conditions Aggravated By Exposure: PRECLUDE FROM EXPOSURE THOSE INDIVIDUALS HAVING A HISTORY OF RESPIRATORY ILLNESS OR PRE-EXISTING EYE OR SKIN CONDITIONS.			
Primary Route (s) of Entry: INHALATION AND SKIN OR EYE CONTACT			
Emergency First Aid: INHALATION: MOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN. SKIN: REMOVE UNCURED MATERIAL AND WASH WITH SOAP AND WATER. EYES: FLUSH WITH RUNNING WATER 15 MINUTES. CONSULT A PHYSICIAN. INGESTION: CONSULT A PHYSICIAN IMMEDIATELY.			
<b>VI. REACTIVITY DATA</b>			
Stability		Unstable	Conditions to Avoid
	X	Stable	WATER AND HIGH TEMPERATURES
Incompatibility		Materials to Avoid WATER AND STRONG ACID	
Hazardous		May Occur	Conditions to Avoid
	X	Will Not Occur	HIGH HUMIDITY AND HIGH TEMPERATURES
Polymerization			
Hazardous Decomposition Products: OXIDES OF CARBON, SILOXANE AND POSSIBLY OTHER FUMES WHICH MAY BE TOXIC.			
<b>VII. ENVIRONMENTAL PROTECTION PROCEDURES</b>			
Spill Response: COVER WITH DRY ABSORBENT MATERIAL SUCH AS SAND OR DIRT. PICK UP AND PLACE IN A CONTAINER FOR DISPOSAL.			
Waste Disposal Method: LAND FILL OR INCINERATE IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL ENVIRONMENTAL CONTROL REGULATIONS.			
<b>VIII. SPECIAL PROTECTION INFORMATION</b>			
Eye Protection NONE NORMALLY REQUIRED		Skin Protection NONE NORMALLY REQUIRED	
Respiratory Protection (Specific Type) ORGANIC VAPOR RESPIRATOR IN CONFINED AREAS		Ventilation Recommended LOCAL VENTILATION	
Other Protection: SAFETY GLASSES FOR OVERHEAD APPLICATIONS			
<b>IX. SPECIAL PRECAUTIONS</b>			
Hygienic Practices In Handling & Storage: TO PROLONG SHELF LIFE, STORE AT TEMPERATURES BELOW 80° F. WASH HANDS AFTER USE. STORE IN DRY AREA FROM HEAT.			
Precautions For Repair & Maintenance of Contaminated Equipment: SEE SECTION V			
Other Precautions:			
<b>KEEP OUT OF REACH OF CHILDREN!!!!</b>			



# TECH DATA

## Backer Rod Mfg. Inc.

### 1. PRODUCT NAME

**DENVER FOAM®**

### 2. MANUFACTURER

Backer Rod Mfg. Inc.  
4244 N. Broadway  
Denver, CO 80216  
Phone: (800) 595-2950  
(303) 308-0363  
Fax: (303) 308-0393  
Web: www.backerrod.com

### 3. PRODUCT DESCRIPTION

**Basic Use:** DENVER FOAM® is a backer rod used as a backing for elastomeric and other applied caulking sealants. DENVER FOAM® controls the depth and amount of sealant required.

DENVER FOAM® also forms the correct hour glass shape of sealant.

**Specific Uses:** For use in expansion/construction joints in concrete and precast concrete walls, floors, partitions, bridge construction, parking decks, curtain walls, glazing, log home construction, highway construction, and pavement maintenance.

Both hot and cold installations can be installed with DENVER FOAM® backer rod.

Open cell DENVER FOAM® has an advantage allowing air to reach both sides of sealant offering a faster and more uniform cure. This is especially true for one part non-sag sealants. DENVER FOAM® can also be used in floor joints with self-leveling sealants or in traffic areas where additional support is required.

**Limitations:** Whatever restriction the sealant manufacturer places on their product, the same will apply to DENVER FOAM®.

**Composition and Materials:** DENVER FOAM® is continuous lengths of flexible, round, fabricated open cell polyurethane. Yellow in color and available in a wide range of diameters.

**Packaging:** Both mini bags and master bags are compressed into super bundles for economical shipping and storage. Each individual size is color coded for identification.

### 4. TECHNICAL DATA

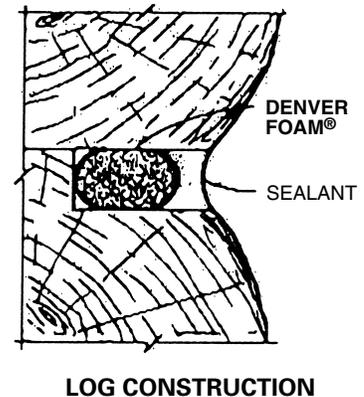
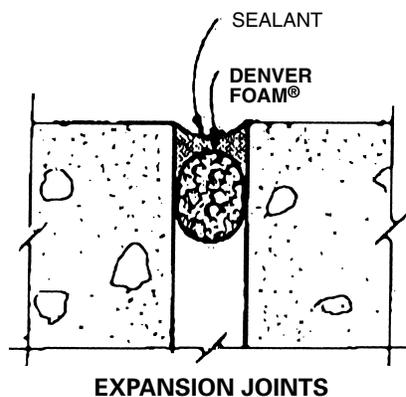
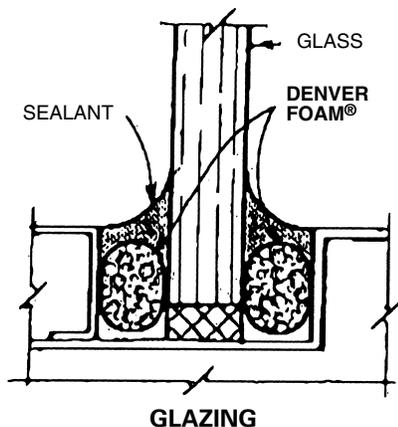
DENVER FOAM® is chemically inert and will resist oil, gasoline and most solvents. Material is odorless and will not stain. The open cell construction eliminates the out-gassing and cold flow problem associated with closed cell polyethylene backer rods. Plus sealant has benefits of a two-sided cure.

### Physical Properties:

- Density: 1.7 pcf. ASTM D-1622
- Tensile: 25 psi. ASTM D-1623
- Moisture Absorption: .024% by volume. ASTM C-509
- Out Gassing: None
- Temperature Service Range: -60°F to +500°F. ASTM D-5249-95
- Auto Ignition: 700-800°F
- Elongation: 90% ASTM D-3574
- Air Flow: 90%. ASTM D-3574
- Compression Set: less than 5% (after 80% compression for 30 days). ASTM D-3574

### 5. INSTALLATION

DENVER FOAM® should be installed in expansion/construction joints free from all contaminants, loose materials, and dry and free from frost. Install under 25% compression to offer a good tooling base. Systems can be installed without the fear of out-gassing associated with polyethylene.



## 6. AVAILABILITY AND COST

DENVER FOAM® is marketed nationally and internationally by our distributors. For name, address, and telephone number of your nearest distributor please contact us at:

### Backer Rod Mfg. Inc.

4244 N Broadway  
Denver, CO 80216  
Phone: (800) 595-2950  
(303) 308-0363  
Fax: (303) 308-0393  
Web: www.backerrod.com

DENVER FOAM® is available in other sizes, shapes, and colors. Please contact Backer Rod Mfg. Inc. for availability on custom made items.

## 7. WARRANTY

Unless otherwise agreed to in writing, product is sold without warranty. In no case will Backer Rod Mfg. Inc. be liable for incidental or consequential damages on any product.

## 8. MAINTENANCE

No maintenance is needed.

## 9. TECHNICAL SERVICES

Contact Backer Rod Mfg. Inc. for technical guidance or special project engineering designs and drawings.

DENVER FOAM® PACKAGING INFORMATION				
Color Code	Diameter	Ft/per Mini Bag	Ft/per Master Bag	Ft/per Super Bundle
Clear	3/8" (10mm)	200' (61m)	3,600' (1097m)	36,000' (10972m)
Red	5/8" (16mm)	100' (30m)	2,000' (608m)	20,000' (6090m)
Orange	7/8" (22mm)	100' (30m)	1,050' (319m)	10,500' (3,192m)
Green	1 1/8" (29mm)	75' (23m)	600' (182m)	6,000' (1,824m)
Yellow	1 1/2" (38mm)	40' (12m)	350' (106m)	3,500' (1,064m)
Blue	2" (51mm)	25' (7.6m)	200' (61m)	2,000' (608m)

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**Section III - Physical/Chemical Characteristics**

Boiling Point	SOLID	Specific Gravity (H <sub>2</sub> O = 1)	.038
Vapor Pressure (mm Hg.)	DNA	Melting Point	DNA
Vapor Density (AIR = 1)	DNA	Evaporation Rate (Butyl Acetate = 1)	DNA
Solubility in Water NO			
Appearance and Odor ROUND DIA/IN COILS (LITE YELLOW, OR BLACK) SOLID MATERIAL NO VAPORS OR ODOR			

**Section IV - Fire and Explosion Hazard Data**

Flash Point (Method Used) 600 – 650 F	Flammable Limits N/A	LEL	UEL
Extinguishing Media H2O – CO2 OR DRY CHEMICAL EXTINGUISHERS			
Special Fire Fighting Procedures DRENCHING OR SOAKING WITH WATER. FIRE FIGHTING PERSONNEL SHOULD USE FULL MASK & SELF CONTAINED BREATHING APPARATUS			
Unusual Fire and Explosion Hazards NONE			

(Reproduce locally)

OSHA 174, Sept. 1985

**Section V - Reactivity Data**

Stability	Unstable		Conditions to Avoid NONE
	Stable	X	DO NOT STORE NEAR OPEN FLAMES
Incompatibility ( <i>Materials to Avoid</i> ) PRODUCT DEGRADED BY STRONG ALKALI OR ACID & SWOLLEN BY SOLVENTS			
Hazardous Decomposition or Byproducts NONE AT TEMPERATURE PRODUCT IS USED			
Hazardous Polymerization	May Occur		Conditions to Avoid NONE DNA
	Will Not		

	Occur		DNA
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### Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? DNA	Skin? DNA	Ingestion? DNA
Health Hazards ( <i>Acute and Chronic</i> ) NONE DNA			
Carcinogenicity:	NTP? NONE	IARC Monographs? NONE	OSHA Regulated? NONE
Signs and Symptoms of Exposure DNA			
Medical Conditions Generally Aggravated by Exposure DNA			
Emergency and First Aid Procedures			

### Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled
DNA SOLID PRODUCT
Waste Disposal Method
DNA
Precautions to Be taken in Handling and Storing
KEEP AWAY FROM OPEN FLAME
Other Precautions

NONE
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**Section VIII - Control Measures**

Respiratory Protection ( <i>Specify Type</i> ) SOLID MATERIAL NO VAPORS		
Ventilation	Local Exhaust NONE NEEDED	Special DNA
	Mechanical ( <i>General</i> ) NONE	Other DNA
Protective Gloves NONE NEEDED	Eye Protection NONE NEEDED	
Other Protective Clothing or Equipment NONE		
Work/Hygienic Practices NONE		

