

**SECTION 1: Identification****1.1. Identification**

Product form : Mixture  
Product name : EPO-TEK® OD121-42 PMF SYRINGE

**1.2. Recommended use and restrictions on use**

Use of the substance/mixture : Adhesives  
Recommended use : Adhesives  
Restrictions on use : Not to be used for any purpose other than the one the product was designed for

**1.3. Supplier**

Epoxy Technology, Inc.  
14 Fortune Drive  
Billerica, MA 01821, 01821  
USA  
T 978-667-3805 - F 978-663-9782  
[www.epotek.com](http://www.epotek.com)

**1.4. Emergency telephone number**

Emergency number : VelocityEHS: +1 (800) 255-3924, +1 (813) 248-0585

**SECTION 2: Hazard(s) identification****2.1. Classification of the substance or mixture****GHS US classification**

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Hazardous to the aquatic environment – Chronic Hazard Category 2	H411	Toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

**2.2. GHS Label elements, including precautionary statements****GHS US labeling**

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

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

Precautionary statements (GHS US) :

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P272 - Contaminated work clothing must not be allowed out of the workplace.  
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

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

contact lenses, if present and easy to do. Continue rinsing.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
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.  
P363 - Wash contaminated clothing before reuse.  
P391 - Collect spillage.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Harmful dust may be released during cutting, milling or grinding process.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Bisphenol A diglycidyl ether resin*	CAS-No.: Trade Secret	10 – 30	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Epoxy phenol novolac resin	CAS-No.: 9003-36-5	10 – 30	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Crosslinking Agent*	CAS-No.: Trade Secret	≥ 10	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317
Crosslinking Agent*	CAS-No.: Trade Secret	≥ 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Epoxy resin*	CAS-No.: Trade Secret	1 – 5	Skin Sens. 1, H317 Aquatic Chronic 3, H412
Epoxy resin*	CAS-No.: Trade Secret	1 – 5	Skin Irrit. 2, H315 Skin Sens. 1, H317
Adhesion Promoter*	CAS-No.: Trade Secret	< 5	Eye Dam. 1, H318 Aquatic Chronic 3, H412
Phenol Novolac Resin*	CAS-No.: Trade Secret	< 1	Skin Sens. 1, H317

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Comments : Components not listed are either non-hazardous or are below reportable limits.

Full text of hazard classes and H-statements : see section 16

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.

#### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
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#### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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#### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.
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##### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Take up liquid spill into absorbent material.
Other information	: Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapors/spray.
Hygiene measures	: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep cool.
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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

<b>Hand protection:</b>
Wear suitable gloves resistant to chemical penetration. Neoprene or nitrile rubber gloves. Butyl-rubber protective gloves. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Refer to manufacturer's information. Gloves must be replaced after each use and whenever signs of wear or perforation appear
<b>Eye protection:</b>
Safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
In case of insufficient ventilation, wear suitable respiratory equipment

#### Personal protective equipment symbol(s):



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: light pink
Odor	: slight
Odor threshold	: No data available
pH	: No data available

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### Bisphenol A diglycidyl ether resin

LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
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# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Bisphenol A diglycidyl ether resin</b>	
ATE US (oral)	11400 mg/kg body weight
<b>Phenol Novolac Resin</b>	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: other:, Remarks on results: other:
LC50 Inhalation - Rat	> 5 mg/l air Animal: rat, Guideline: other:, Remarks on results: other:
<b>Epoxy resin</b>	
LD50 oral rat	4490 mg/kg (Rat, Oral)
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, Rat, Male / female, Experimental value, Dermal)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit, Dermal)
LC50 Inhalation - Rat	> 20 mg/l (4 h, Rat, Inhalation)
ATE US (oral)	4490 mg/kg body weight
<b>Crosslinking Agent</b>	
LD50 oral rat	1000 – 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Remarks on results: other:
LC50 Inhalation - Rat	> 3363 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity), Remarks on results: other:
ATE US (oral)	1000 mg/kg body weight
<b>Crosslinking Agent</b>	
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
<b>Adhesion Promoter</b>	
LD50 oral rat	8025 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	4250 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal)
LC50 Inhalation - Rat	> 5.3 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
ATE US (oral)	7010 mg/kg body weight
ATE US (dermal)	4244 mg/kg body weight
ATE US (dust, mist)	5.3 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Bisphenol A diglycidyl ether resin	
NOAEL (chronic,oral,animal/male,2 years)	15 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Guideline: EPA OPPTS 870.4300 (Combined Chronic Toxicity / Carcinogenicity), Guideline: other:MITI, Japanese ministry of international trade and industry, February 1998, Remarks on results: other:Effect type: toxicity (migrated information)
NOAEL (chronic,oral,animal/female,2 years)	100 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Guideline: EPA OPPTS 870.4300 (Combined Chronic Toxicity / Carcinogenicity), Guideline: other:MITI, Japanese ministry of international trade and industry, February 1998, Remarks on results: other:Effect type: toxicity (migrated information)

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

Crosslinking Agent	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

Bisphenol A diglycidyl ether resin	
NOAEL (oral,rat,90 days)	50 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: other:japanese MITI guidelines for toxicity testing of chemicals

Phenol Novolac Resin	
NOAEL (oral,rat,90 days)	1000 mg/kg body weight Animal: rat, Guideline: other:

Epoxy phenol novolac resin (9003-36-5)	
NOAEL (oral,rat,90 days)	≈ 250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Crosslinking Agent	
LOAEL (dermal,rat/rabbit,90 days)	11.25 mg/kg body weight Animal: rat, Guideline: other:, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
NOAEL (dermal,rat/rabbit,90 days)	≥ 180 mg/kg body weight Animal: rat, Guideline: other:, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Eye irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

Bisphenol A diglycidyl ether resin	
LC50 - Fish [1]	1.3 mg/l (96 h, Pisces, Literature study)
EC50 - Crustacea [1]	2 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Bisphenol A diglycidyl ether resin</b>	
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
<b>Phenol Novolac Resin</b>	
EC50 - Crustacea [1]	172 mg/l Test organisms (species): Daphnia pulex
<b>Epoxy phenol novolac resin (9003-36-5)</b>	
LC50 - Fish [1]	1.9 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Semi-static system, Fresh water, Weight of evidence)
EC50 - Crustacea [1]	3.5 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence, GLP)
LC50 - Fish [2]	1000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
<b>Epoxy resin</b>	
LC50 - Fish [1]	24 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	40 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
<b>Crosslinking Agent</b>	
LC50 - Fish [1]	358.365 mg/l Source: ECOSAR
<b>Adhesion Promoter</b>	
LC50 - Fish [1]	55 mg/l (EU Method C.1, 96 h, Cyprinus carpio, Semi-static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	473 – 710 mg/l (48 h, Daphnia magna, Literature study)
LC50 - Fish [2]	237 mg/l (96 h, Salmo gairdneri, Static system, Literature study, Young)
ErC50 algae	350 mg/l (72 h, Selenastrum capricornutum, Literature study)
LOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic crustacea	100 mg/l
<b>12.2. Persistence and degradability</b>	
<b>Bisphenol A diglycidyl ether resin</b>	
Persistence and degradability	Not readily biodegradable in water.
<b>Phenol Novolac Resin</b>	
Persistence and degradability	Biodegradability in water: no data available.
<b>Epoxy phenol novolac resin (9003-36-5)</b>	
Persistence and degradability	Not readily biodegradable in water.
<b>Epoxy resin</b>	
Persistence and degradability	Biodegradability in soil: no data available. Readily biodegradable in water.



# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Epoxy resin	
ThOD	2.16 g O <sub>2</sub> /g substance

Adhesion Promoter	
Persistence and degradability	Not readily biodegradable in water.

### 12.3. Bioaccumulative potential

Bisphenol A diglycidyl ether resin	
Partition coefficient n-octanol/water (Log Pow)	3 (Estimated value, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Phenol Novolac Resin	
Bioaccumulative potential	No bioaccumulation data available.

Epoxy phenol novolac resin (9003-36-5)	
Partition coefficient n-octanol/water (Log Pow)	2.7 – 3.6 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Epoxy resin	
Partition coefficient n-octanol/water (Log Pow)	1.34 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Adhesion Promoter	
Partition coefficient n-octanol/water (Log Pow)	-0.92 (Estimated value)
Bioaccumulative potential	Not bioaccumulative.

### 12.4. Mobility in soil

Bisphenol A diglycidyl ether resin	
Surface tension	59 mN/m (20 °C, 0.09 g/l)
Ecology - soil	No (test)data on mobility of the substance available.

Epoxy phenol novolac resin (9003-36-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.65 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Low potential for mobility in soil.

Epoxy resin	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.4195 (log Koc, QSAR)
Ecology - soil	Low potential for adsorption in soil. Highly mobile in soil.

Adhesion Promoter	
Ecology - soil	No (test)data on mobility of the substance available.

### 12.5. Other adverse effects

No additional information available

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

#### 14.1. UN number

DOT NA No : UN3082  
UN-No. (TDG) : UN3082  
UN-No. (IMDG) : 3082  
UN-No. (IATA) : 3082

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s. (Epoxy Resin Blend)  
Proper Shipping Name (TDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin Blend)  
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin Blend)  
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin Blend)

#### 14.3. Transport hazard class(es)

##### DOT

Transport hazard class(es) (DOT) : 9  
Hazard labels (DOT) : 9



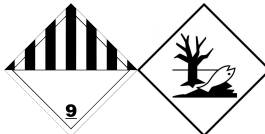
##### TDG

Transport hazard class(es) (TDG) : 9  
Hazard labels (TDG) : 9



##### IMDG

Transport hazard class(es) (IMDG) : 9  
Hazard labels (IMDG) : 9



##### IATA

Transport hazard class(es) (IATA) : 9  
Hazard labels (IATA) : 9

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations



### 14.4. Packing group

Packing group (DOT)	: III
Packing group (TDG)	: III
Packing group (IMDG)	: III
Packing group (IATA)	: III

### 14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes



Other information : No supplementary information available.

### 14.6. Special precautions for user

<b>DOT</b>	
UN-No.(DOT)	: UN3082
DOT Special Provisions (49 CFR 172.102)	: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No Limit

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No Limit

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### TDG

UN-No. (TDG) : UN3082

TDG Special Provisions : 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks).  
(2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name:  
(a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.;  
(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.;  
(c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.;  
(d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or  
(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.  
(3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment:  
(a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or  
(b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and during transport.  
(2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.

Explosive Limit and Limited Quantity Index : 5 L

Excepted quantities (TDG) : E1

Emergency Response Guide (ERG) Number : 171

### IMDG

Special provision (IMDG) : 274, 335, 969

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : LP01, P001

Packing provisions (IMDG) : PP1

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP1, TP29

EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS

Stowage category (IMDG) : A

### IATA

PCA Excepted quantities (IATA) : E1

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PCA Limited quantities (IATA)	: Y964
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L
Special provision (IATA)	: A97, A158, A197, A215
ERG code (IATA)	: 9L

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Crosslinking Agent	CAS-No.	≥ 5%
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### 15.2. International regulations

#### CANADA

#### Bisphenol A diglycidyl ether resin

Listed on the Canadian DSL (Domestic Substances List)

#### Epoxy resin

Listed on the Canadian DSL (Domestic Substances List)

#### Phenol Novolac Resin

Listed on the Canadian DSL (Domestic Substances List)

#### Epoxy phenol novolac resin (9003-36-5)

Listed on the Canadian DSL (Domestic Substances List)

#### Epoxy resin

Listed on the Canadian DSL (Domestic Substances List)

#### Crosslinking Agent

Listed on the Canadian DSL (Domestic Substances List)

#### Crosslinking Agent

Listed on the Canadian NDSDL (Non-Domestic Substances List)

#### Adhesion Promoter

Listed on the Canadian DSL (Domestic Substances List)

# EPO-TEK® OD121-42 PMF SYRINGE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### EU-Regulations

No additional information available

### National regulations

#### Phenol Novolac Resin

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### Epoxy phenol novolac resin (9003-36-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

#### Full text of H-phrases

H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.