

SECTION 1: Identification**1.1. Identification**

Product form : Mixture
Product name : EPO-TEK® TV2001 PMF SYRINGE

1.2. Recommended use and restrictions on use

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
USA
T 978-667-3805 - F 978-663-9782
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
Carcinogenicity Category 2	H351	Suspected of causing cancer
Hazardous to the aquatic environment – Chronic Hazard Category 3	H412	Harmful 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
H351 - Suspected of causing cancer
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/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.

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P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
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.
P405 - Store locked up.
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)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Butylated epoxy resin	CAS-No.: 71033-08-4	30 – 60	Skin Sens. 1, H317
Epoxy phenol novolac resin	CAS-No.: 9003-36-5	10 – 30	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Substituted imidazole	CAS-No.: 931-36-2	1 – 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317
Substituted imidazole	CAS-No.: 822-36-6	< 1	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Carc. 2, H351

Comments : Components not listed are either non-hazardous or are below reportable limits.
*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret
Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

No additional information available

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

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

No additional information available

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

No additional information available

7.2. Conditions for safe storage, including any incompatibilities

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Epoxy phenol novolac resin (9003-36-5)

No additional information available

Butylated epoxy resin (71033-08-4)

No additional information available

Substituted imidazole (822-36-6)

No additional information available

Substituted imidazole (931-36-2)

No additional information available

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Hand protection:

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

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: off-white to yellowish
Odor	: Mild odour
Odor threshold	: No data available
pH	: No data available
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 (solid, gas)	: No data available
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

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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

No additional information available

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

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

Substituted imidazole (822-36-6)	
LD50 oral rat	350 mg/kg Source: IUCLID
LD50 oral	173 mg/kg
LD50 dermal rabbit	440 mg/kg Source: IUCLID
ATE US (oral)	173 mg/kg body weight
ATE US (dermal)	440 mg/kg body weight
Substituted imidazole (931-36-2)	
LD50 oral rat	731 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 400 mg/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 0.03 mg/l (Equivalent or similar to OECD 403, 8 h, Rat, Male / female, Experimental value, (maximum achievable concentration), Inhalation (vapours))

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Substituted imidazole (931-36-2)	
ATE US (oral)	731 mg/kg body weight
Skin corrosion/irritation	: Causes skin irritation.
Epoxy phenol novolac resin (9003-36-5)	
pH	No data available in the literature
Substituted imidazole (822-36-6)	
pH	10.6 (10 %)
Substituted imidazole (931-36-2)	
pH	10.9 (21 %)
Serious eye damage/irritation	: Causes serious eye irritation.
Epoxy phenol novolac resin (9003-36-5)	
pH	No data available in the literature
Substituted imidazole (822-36-6)	
pH	10.6 (10 %)
Substituted imidazole (931-36-2)	
pH	10.9 (21 %)
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Substituted imidazole (822-36-6)	
IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
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)
Substituted imidazole (931-36-2)	
NOAEL (oral,rat,90 days)	150 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:EPA OPPTS 870.3650 (Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test)
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Epoxy phenol novolac resin (9003-36-5)	
Viscosity, kinematic	No data available in the literature
Substituted imidazole (931-36-2)	
Viscosity, kinematic	1435.897 mm²/s

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SECTION 12: Ecological information

12.1. Toxicity

Epoxy phenol novolac resin (9003-36-5)	
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)
EC50 72h - Algae [1]	1.8 mg/l (Equivalent or similar to OECD 201, Selenastrum capricornutum, Static system, Fresh water, Experimental value)
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'
Substituted imidazole (822-36-6)	
LC50 - Fish [1]	0.34 mg/l Source: IUCLID
EC50 - Crustacea [1]	180 mg/l Source: IUCLID
EC50 72h - Algae [1]	2 mg/l Source: IUCLID
Substituted imidazole (931-36-2)	
LC50 - Fish [1]	68.1 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	297.3 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
EC50 72h - Algae [1]	124.8 mg/l (DIN 38412-9, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Growth rate)
EC50 72h - Algae [2]	72 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	6.057 mg/l Source: Ecological Structure Activity Relationships

12.2. Persistence and degradability

Epoxy phenol novolac resin (9003-36-5)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
Substituted imidazole (822-36-6)	
Not rapidly degradable	
Persistence and degradability	Inherently biodegradable.
Biochemical oxygen demand (BOD)	0.000002 g O ₂ /g substance
Chemical oxygen demand (COD)	0.0015 g O ₂ /g substance
Substituted imidazole (931-36-2)	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.

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12.3. Bioaccumulative potential

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).

Substituted imidazole (822-36-6)

Partition coefficient n-octanol/water (Log Pow)	0.35 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Substituted imidazole (931-36-2)

Partition coefficient n-octanol/water (Log Pow)	1.13 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

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.

Substituted imidazole (822-36-6)

Mobility in soil	28.23 Source: EPI SUITE
Ecology - soil	No (test)data on mobility of the substance available.

Substituted imidazole (931-36-2)

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.71 (log Koc, Calculated value, pH = 7)
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

No additional information available

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			

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DOT	TDG	IMDG	IATA
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

DOT

No data available

TDG

No data available

IMDG

No data available

IATA

No data available

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

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Aluminum oxide (Al ₂ O ₃) (non-fibrous)	CAS-No. 1344-28-1	30 – 60%
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15.2. International regulations

CANADA

Epoxy phenol novolac resin (9003-36-5)

Listed on the Canadian DSL (Domestic Substances List)

Butylated epoxy resin (71033-08-4)

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

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Substituted imidazole (822-36-6)

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

Substituted imidazole (931-36-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Epoxy phenol novolac resin (9003-36-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Substituted imidazole (822-36-6)

Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations



WARNING:

This product can expose you to 4-Methylimidazole, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

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Full text of H-phrases

H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H351	Suspected of causing cancer
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.