

A Meridian Adhesives Group Company

# **EPO-TEK® MED-354-2 PART A**

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 1/2/2025 Version: 1.0

# **SECTION 1 Identification**

#### 1.1. Product identifier

Product form : Mixture

Product name : EPO-TEK® MED-354-2 PART A

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical 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

#### 1.4. Supplier's details

Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA 01821 USA

T 978-667-3805 - F 978-663-9782

www.epotek.com

#### 1.5. Emergency phone number

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

## **SECTION 2 Hazard Identification**

## 2.1. Classification of the substance or mixture

#### **GHS US classification**

Skin corrosion/irritation, Category 2 H315 Causes skin 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. Label elements

#### **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

H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) : P261 - Avoid breathing dust, fume, gas, mist, vapours, 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.

P302+P352 - If on skin: Wash with plenty of water.

P321 - Specific treatment (see supplemental first aid instruction on this label).

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 ${\sf P333+P313-If} \ skin\ irritation\ or\ rash\ occurs:\ Get\ medical\ advice\ or\ attention.$ 

P362+P364 - Take off contaminated clothing and wash it before reuse.

P391 - Collect spillage.

P501 - Dispose of contents and/or container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulations.

### 2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

#### 2.4. Hazards not otherwise classified

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

### 2.5. Unknown acute toxicity

No additional information available

## **SECTION 3 Composition/information on ingredients**

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Epoxy phenol novolac resin	CAS-No.: 9003-36-5		Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411

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 necessary first-aid measures

First-aid measures general : If you feel unwell, seek medical advice.

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 eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

## 4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : None under normal conditions.

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

Symptoms/effects after eye contact : None under normal conditions. Symptoms/effects after ingestion : None under normal conditions.

## 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

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#### **SECTION 5: Fire-fighting measures**

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

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard. Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

#### **SECTION 6 Accidental release measures**

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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb

spillage to prevent material-damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing

dust/fume/gas/mist/vapors/spray.

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".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

Environmental precautions : Avoid release to the environment.

### 6.2. Methods and materials for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into

sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13

### **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.

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

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

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Keep cool. Protect from sunlight.

Packaging materials : Store always product in container of same material as original container.

## **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, such as personal protective equipment

#### Personal protective equipment:

Wear recommended 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

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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







#### **SECTION 9 Physical and chemical properties**

### 9.1. Basic physical and chemical properties

Physical state : Liquid Color Clear Odor : Mild odour Odor threshold No data available рΗ No data available Melting point : Not applicable Freezing point : No data available Boiling point : No data available Flash point : No data available Flammability (solid, gas) : Not applicable. Vapor pressure : No data available

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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 **Explosion limits** : No data available Particle characteristics : No data available

## **Epoxy phenol novolac resin**

Particle characteristics No data available

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

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
Skin corrosion/irritation : Causes skin irritation.

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

pH No data available in the literature

Serious eye damage/irritation : Not classified

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

pH No data available in the literature

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Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified STOT-single exposure : Not classified STOT-repeated exposure : Not classified

Epoxy phenol	novolac resin	(0003-36-5)
EDUXV DITERIOR	Hovolac resin	13003-30-31

NOAEL (oral,rat,90 days) ≈ 250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day

Oral Toxicity in Rodents)

Aspiration hazard : Not classified

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Viscosity, kinematic No data available

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

Viscosity, kinematic No data available in the literature

: None under normal conditions. Symptoms/effects after inhalation

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

Symptoms/effects after eye contact : None under normal conditions. Symptoms/effects after ingestion : None under normal conditions.

### **SECTION 12 Ecological information**

### 12.1. Ecotoxicity

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

: Not classified

Hazardous to the aquatic environment, short-term

(acute)

Hazardous to the aquatic environment, long-term : Not classified

(chronic)

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'

### 12.2. Persistence and degradability

EPO-TEK® MED-354-2 PART A		
Persistence and degradability Not rapidly degradable		
Epoxy phenol novolac resin (9003-36-5)		
Persistence and degradability Not 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).		

### 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.		

### 12.5. Other adverse effects

Ozone : Not classified

Fluorinated greenhouse gases : No

## **SECTION 13 Disposal considerations**

Regional waste regulation : Disposal must be done according to official regulations.

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

Sewage disposal recommendations : Disposal must be done according to official regulations. Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

## **SECTION 14 Transport information**

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA	
14.1. UN number				
UN3082	UN3082	3082	3082	
14.2. Proper Shipping Name				
Environmentally hazardous substances, liquid, n.o.s. (Epoxy phenol novolac resin)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy phenol novolac resin)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy phenol novolac resin)	Environmentally hazardous substance, liquid, n.o.s. (Epoxy phenol novolac resin)	
14.3. Transport hazard class(es	5)			
9	9	9	9	
<b>1 1 1 1 1 1 1 1 1 1</b>	**************************************	**************************************	**************************************	
14.4. Packing group				
III	III	III	III	

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DOT	TDG	IMDG	IATA
14.5. Environmental hazards			
Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information availab	ole		

#### 14.6. Transport in bulk

Not applicable

#### 14.7. Special precautions for user

DOT

UN-No.(DOT)

DOT Special Provisions (49 CFR 172.102)

UN3082
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

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 : No Limit

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49

CFR 175.75)

: No Limit

MAWP.

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

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**TDG Special Provisions** 

- : 16 (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers 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). 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).
  - (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 offered for transport, handled or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means of containment and during transport.
  - (2) These Regulations, except for Parts 1 and 2, do not apply to the offering for transport, handling or transport 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 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

Special provision (IATA) : A97, A158, A197, A215

PCA Excepted quantities (IATA) : E1
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

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ERG code (IATA) : 9L

## **SECTION 15 Regulatory information**

#### 15.1. 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

#### 15.2. International regulations

#### **CANADA**

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

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)

## 15.3. 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**

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Full text of hazard classes and H-statements	
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H411	Toxic 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.

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A Meridian Adhesives Group Company

# **EPO-TEK® MED-354-2 PART B**

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 1/3/2025 Version: 1.0

### **SECTION 1 Identification**

#### 1.1. Product identifier

Product form : Mixture

Product name : EPO-TEK® MED-354-2 PART B

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical 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

#### 1.4. Supplier's details

Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA 01821 USA

T 978-667-3805 - www.epotek.com

T 978-667-3805 - F 978-663-9782

#### 1.5. Emergency phone number

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

## **SECTION 2 Hazard Identification**

## 2.1. Classification of the substance or mixture

## **GHS US classification**

Acute toxicity (oral), Category 4 H302 Harmful if swallowed.

Skin corrosion/irritation, Category 2 H315 Causes skin irritation.

Serious eye damage/eye irritation, Category 1 H318 Causes serious eye damage.

Full text of H statements : see section 16

## 2.2. Label elements

#### **GHS US labeling**

Hazard pictograms (GHS US)





Signal word (GHS US) : Danger

Hazard statements (GHS US) : H302 - Harmful if swallowed H315 - Causes skin irritation

H318 - Causes serious eye damage

Precautionary statements (GHS US) : P264 - Wash hands, forearms and face thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves.

P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.

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.

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P310 - Immediately call a poison center or doctor.

P321 - Specific treatment (see supplemental first aid instruction on this label).

P330 - Rinse mouth.

P332+P313 - If skin irritation occurs: Get medical advice or attention. P362+P364 - Take off contaminated clothing and wash it before reuse.

P501 - Dispose of contents and/or container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulations.

#### 2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

#### 2.4. Hazards not otherwise classified

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

#### 2.5. Unknown acute toxicity

No additional information available

### **SECTION 3 Composition/information on ingredients**

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Substituted imidazole*	CAS-No.: Trade Secret	< 30	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
Reactive diluent*	CAS-No.: Trade Secret	1 – 5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 STOT SE 3, H336

<sup>\*</sup>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.

\*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 necessary first-aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.

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 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. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

#### 4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Serious damage to eyes.

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Symptoms/effects after ingestion : Harmful if swallowed.

#### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

## **SECTION 5: Fire-fighting measures**

## 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard. Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

#### **SECTION 6 Accidental release measures**

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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb

spillage to prevent material-damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

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".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

Environmental precautions : Avoid release to the environment.

#### 6.2. Methods and materials for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent

migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13

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#### **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.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

Always wash hands after handling the product.

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

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

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Keep cool. Protect from sunlight.

Packaging materials : Store always product in container of same material as original container.

## **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, such as personal protective equipment

#### Personal protective equipment:

Wear recommended 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

### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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







### **SECTION 9 Physical and chemical properties**

### 9.1. Basic physical and chemical properties

Physical state : Liquid

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Color	:	Amber
Odor	:	Mild odour
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Flammability (solid, gas)	:	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
Explosion limits	:	No data available
Particle characteristics	:	No data available

C	hotis	utod	imic		
Ju	ນວເແ	uteu	IIIIIC	Iazui	

Particle characteristics No data available

		luer	

Particle characteristics No data available

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

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.

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### **SECTION 11 Toxicological information**

11.	1. In	formation	on toxico	logical	effects
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Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

riodic toxioity (iriidiation)	. Not diagonited			
EPO-TEK® MED-354-2 PART B				
ATE US (oral)	677.644 mg/kg body weight			
Substituted imidazole				
ATE US (oral)	100 mg/kg body weight			
Reactive diluent				
LD50 oral rat	1582 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 8 day(s))			
LD50 oral	800 mg/kg			
LD50 dermal	5600 mg/kg			
LC50 Inhalation - Rat	> 5.1 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (mixture of vapour and aerosol), 14 day(s))			
LC50 Inhalation - Rat (Dust/Mist)	5.1 mg/l/4h			
LC50 Inhalation - Rat (Vapours)	> 2.68 mg/l Source: International Uniform ChemicaL Information Database			
ATE US (oral)	800 mg/kg body weight			

Skin corrosion/irritation : Causes skin irritation.

Rea	acti	ve	dil	uen	t
	4061	• •	WIII	aoii	•

ATE US (dust, mist)

ATE US (dermal)

pH No data available in the literature

Serious eye damage/irritation : Causes serious eye damage.

Reactive diluent	
рН	No data available in the literature

5600 mg/kg body weight

5.1 mg/l/4h

Respiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified

Carcinogenicity	: Not classified

Reactive diluent		
NOAEL (chronic,oral,animal/male,2 years)	225 mg/kg body weight Animal: rat, Animal sex: male, Guideline: other:NTP Protocol, Remarks on results: other:Effect type: carcinogenicity (migrated information)	
NOAEL (chronic,oral,animal/female,2 years)	450 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other:NTP Protocol, Remarks on results: other:Effect type: carcinogenicity (migrated information)	
IARC group	3 - Not classifiable	

Reproductive toxicity : Not classified STOT-single exposure : Not classified

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Substituted imidazole		
STOT-single exposure	May cause respiratory irritation.	
Reactive diluent		
STOT-single exposure	May cause drowsiness or dizziness.	
	Not classified Not classified	
EPO-TEK® MED-354-2 PART B		
Viscosity, kinematic	No data available	
Substituted imidazole		
Viscosity, kinematic	No data available	
Reactive diluent		
Viscosity, kinematic	No data available in the literature	
Symptoms/effects after skin contact : Symptoms/effects after eye contact :	None under normal conditions. Irritation. Serious damage to eyes. Harmful if swallowed.	

## **SECTION 12 Ecological information**

### 12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse

effects in the environment.

Hazardous to the aquatic environment, short-term

icute)

: Not classified

Hazardous to the aquatic environment, long-term :

(chronic)

: Not classified

Reactive diluent	
LC50 - Fish [1]	56 mg/l (Equivalent or similar to OECD 203, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 500 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 1000 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Estimated value)

## 12.2. Persistence and degradability

EPO-TEK® MED-354-2 PART B		
Persistence and degradability	Not rapidly degradable	
Substituted imidazole		
Persistence and degradability	Not rapidly degradable	
Reactive diluent		
Persistence and degradability Biodegradable in the soil, Readily biodegradable in water.		

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Reactive diluent	
ThOD	1.67 g O <sub>2</sub> /g substance

## 12.3. Bioaccumulative potential

Reactive diluent		
BCF - Other aquatic organisms [1]	3.162 l/kg (BCFBAF v3.00, Calculated value, Fresh weight)	
Partition coefficient n-octanol/water (Log Pow)	-0.566 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)	
Bioaccumulative potential	Not bioaccumulative.	

### 12.4. Mobility in soil

Reactive diluent		
Surface tension	No data available (test not performed)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.544 – 0.811 (log Koc, SRC PCKOCWIN v2.0, Calculated value)	
Ecology - soil	Highly mobile in soil.	

### 12.5. Other adverse effects

Ozone : Not classified

Fluorinated greenhouse gases : No

## **SECTION 13 Disposal considerations**

Regional waste regulation : Disposal must be done according to official regulations.

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

Sewage disposal recommendations : Disposal must be done according to official regulations. Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

## **SECTION 14 Transport information**

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA		
14.1. UN number					
UN2735	UN2735	2735	Not regulated		
14.2. Proper Shipping Name					
Amines, liquid, corrosive, n.o.s. (1H- Imidazole-1-propanenitrile, 4,5- bis[(2-cyanoethoxy)methyl]-2- phenyl-)	AMINES, LIQUID, CORROSIVE, N.O.S. (1H-Imidazole-1- propanenitrile, 4,5-bis[(2- cyanoethoxy)methyl]-2-phenyl-)	AMINES, LIQUID, CORROSIVE, N.O.S. (1H-Imidazole-1- propanenitrile, 4,5-bis[(2- cyanoethoxy)methyl]-2-phenyl-)	Not regulated		
14.3. Transport hazard class(es)					
8	8	8	Not regulated		

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DOT	TDG	IMDG	IATA	
CORROSIVE 8	8	8	Not regulated	
14.4. Packing group				
III	III	III	Not regulated	
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Not regulated	
No supplementary information available				

### 14.6. Transport in bulk

Not applicable

#### 14.7. Special precautions for user

**DOT** 

UN-No.(DOT) : UN2735

DOT Special Provisions (49 CFR 172.102) : 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).

T7 - 4 178.274(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.

TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the

MAWP.

: 60 L

DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Quantity Limitations Passenger aircraft/rail (49 : 5 L

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49

CFR 175.75)

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

passenger vessel.

DOT Vessel Stowage Other : 52 - Stow "separated from" acids

**TDG** 

UN-No. (TDG) : UN2735

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**TDG Special Provisions** 

- : 16 (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers 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). 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
  - (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.

**Explosive Limit and Limited Quantity Index** 

Excepted quantities (TDG) Passenger Carrying Road Vehicle or Passenger

Carrying Railway Vehicle Index

Emergency Response Guide (ERG) Number

: 5 L : 153

: T7

: A

: 5 L

: E1

**IMDG** 

Special provision (IMDG) : 223, 274 Limited quantities (IMDG) : 5 L Excepted quantities (IMDG) : E1 Packing instructions (IMDG) : P001, LP01 IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG)

Tank special provisions (IMDG)

: TP1. TP28 EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES EmS-No. (Spillage)

Stowage category (IMDG)

: SGG18, SG35 Segregation (IMDG)

Properties and observations (IMDG)

: Colourless to yellowish liquids or solutions with a pungent odour. Miscible with or soluble in water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. Reacts violently with acids. Cause burns to skin, eyes and mucous membranes.

#### IATA

Not regulated

## **SECTION 15 Regulatory information**

## 15.1. 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

#### 15.2. International regulations

#### **CANADA**

### **Substituted imidazole**

Listed on the Canadian DSL (Domestic Substances List)

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#### **Reactive diluent**

Listed on the Canadian DSL (Domestic Substances List)

#### **EU-Regulations**

No additional information available

#### **National regulations**

### **Reactive diluent**

Listed on INSQ (Mexican National Inventory of Chemical Substances)

## 15.3. State regulations



This product can expose you to Acrylonitrile, 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 hazard classes and H-statements	
H301	Toxic if swallowed
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

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.