

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 3/1/2022 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : EPO-TEK® OE184 PART A

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

www.epotek.com

Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA, 01821 USA T 978-667-3805

1.4. Emergency telephone number

Emergency number : ChemTel: +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

Skin sensitization, Category 1 H317 May cause an allergic skin reaction

Hazardous to the aquatic environment - Acute Hazard Category 2 H401 Toxic to aquatic life

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

Precautionary statements (GHS US)

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

H401 - Toxic to aquatic life

H411 - Toxic to aquatic life with long lasting effects
: 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.

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

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P332+P313 - If skin irritation occurs: Get medical advice/attention.

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

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
Epoxy phenol novolac resin	CAS-No.: 9003-36-5		Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 2, H401 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 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 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 and effects (acute and delayed)

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

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.

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.

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.

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".

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.

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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

EPO-TEK® OE184 PART A

No additional information available

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Epoxy phenol novolac resin (9003-36-5)

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

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):



Explosion limits





SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : clear
Odor : Mild odor

Odor threshold No data available No data available pН Not applicable Melting point No data available Freezing point Boiling point No data available No data available Flash point Relative evaporation rate (butyl acetate=1) No data available Flammability (solid, gas) : Not applicable. : No data available Vapor pressure 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 No data available Decomposition temperature Viscosity, kinematic No data available Viscosity, dynamic No data available

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: No data available

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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 classifiedAcute toxicity (dermal): Not classifiedAcute toxicity (inhalation): Not classified

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Not classified

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 (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)

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

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

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SECTION 12: Ecological information

12.1. Toxicity

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

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)	
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

Epoxy phenol novolac resin (9003-36-5)		
Persistence and degradability	Not readily biodegradable in water.	

12.3. Bioaccumulative potential

Epoxy phenol novolac resin (9003-36-5)		
BCF - Fish [1]	150 (Pisces, QSAR)	
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 (BCF < 500).	

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

No additional information available

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

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

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s. (Epoxy Phenol Novolac)

Proper Shipping Name (TDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Phenol Novolac) Proper Shipping Name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Phenol Novolac)

Proper Shipping Name (IATA) Environmentally hazardous substance, liquid, n.o.s. (Epoxy Phenol Novolac)

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 9

Hazard labels (DOT) 9



TDG

Transport hazard class(es) (TDG)

Hazard labels (TDG) : 9



IMDG

Transport hazard class(es) (IMDG)

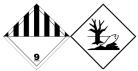
Hazard labels (IMDG) : 9



IATA

Transport hazard class(es) (IATA) : 9

Hazard labels (IATA)



14.4. Packing group

: 111 Packing group (DOT) : 111 Packing group (TDG) Packing group (IMDG) : 111 Packing group (IATA) : 111

14.5. Environmental hazards

Dangerous for the environment : Yes

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Marine pollutant : Yes



Other information : No supplementary information available.

14.6. Special precautions for user

DOT

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 : No limit

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49

CFR 175.75)

DOT Vessel Stowage Location

: No limit

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

passenger vessel.

TDG

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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 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
- (a) UN1544, ALKALOID SALTS, SOLID, N.O.S, or ALKALOIDS, SOLID, N.O.S;
- (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S;

disclosure of the technical name:

- (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
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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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

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. 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

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Full text of H-phrases	
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H401	Toxic to aquatic life
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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SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : EPO-TEK® OE184 PART B

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

www.epotek.com

Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA, 01821 USA T 978-667-3805

1.4. Emergency telephone number

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

SECTION 2: Hazard(s) 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 1B H314 Causes severe skin burns and eye damage Serious eye damage/eye irritation Category 1 H318 Causes serious eye damage Skin sensitization, Category 1 H317 May cause an allergic skin reaction Carcinogenicity Category 2 H351 Suspected of causing cancer Specific target organ toxicity — Single exposure, Category 3, H335 May cause respiratory irritation

Respiratory tract irritation

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) : Danger

Hazard statements (GHS US) : H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage H335 - May cause respiratory irritation H351 - Suspected of causing cancer

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

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P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 - Wash hands, forearms and face thoroughly after handling.

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

P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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

P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.

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

P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.

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.

P310 - Immediately call a poison center or doctor.

P312 - Call a poison center or doctor if you feel unwell.

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

P330 - Rinse mouth.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P363 - Wash contaminated clothing before reuse.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

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)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
lmidazole*	CAS-No.: Trade Secret	30 – 60	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Substituted imidazole*	CAS-No.: Trade Secret	30 – 60	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317
2,2'-iminodiethylamine, diethylenetriamine	CAS-No.: 111-40-0	10 – 30	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317

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Name	Product identifier	%	GHS US classification
Substituted imidazole*	CAS-No.: Trade Secret		Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Carc. 2, H351

^{*}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

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison

center/doctor/physician if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a

physician immediately.

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. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation : May cause respiratory irritation.

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

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

Symptoms/effects after ingestion : Burns.

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.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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.

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. Do not breathe

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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public

waters

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read

and understood. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe 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 locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

EPO-TEK® OE184 PART B

No additional information available

Imidazole

No additional information available

Substituted imidazole

No additional information available

Substituted imidazole

No additional information available

2,2'-iminodiethylamine, diethylenetriamine (111-40-0)

USA - ACGIH - Occupational Exposure Limits

Local name	Diethylenetriamine
ACGIH OEL TWA [ppm]	1 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr. Notations: Skin
Regulatory reference	ACGIH 2021

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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

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. Information on basic physical and chemical properties

Physical state : Liquid Color : amber Odor : slight

No data available Odor threshold No data available рΗ Melting point Not applicable No data available Freezing point : No data available Boiling point Flash point : No data available Relative evaporation rate (butyl acetate=1) No data available Flammability (solid, gas) Not applicable. No data available Vapor pressure No data available Relative vapor density at 20 °C No data available Relative density 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 : No data available Viscosity, kinematic Viscosity, dynamic : No data available **Explosion limits** No data available Explosive properties : No data available Oxidizing properties : No data available

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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) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Acute toxicity (inhalation)	Not classified
EPO-TEK® OE184 PART B	
ATE US (oral)	744.227 mg/kg body weight
Imidazole	
LD50 oral rat	1000 mg/kg body weight (Rat, Literature study)
ATE US (oral)	1000 mg/kg body weight
Substituted imidazole	
LD50 oral rat	350 mg/kg Source: IUCLID
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	
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)

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Substituted imidazole	
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))
ATE US (oral)	731 mg/kg body weight
2,2'-iminodiethylamine, diethylenetria	mine (111-40-0)
LD50 oral rat	1553 mg/kg body weight (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	1045 mg/kg body weight (Rabbit, Experimental value, Dermal)
ATE US (oral)	1080 mg/kg body weight
ATE US (dermal)	1040 mg/kg body weight
Skin corrosion/irritation Serious eye damage/irritation Respiratory or skin sensitization Germ cell mutagenicity Carcinogenicity	Causes severe skin burns. Causes serious eye damage. May cause an allergic skin reaction. Not classified Suspected of causing cancer.
Substituted imidazole	
IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity STOT-single exposure	Not classified May cause respiratory irritation.
Imidazole	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Substituted imidazole	
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)
2,2'-iminodiethylamine, diethylenetria	mine (111-40-0)
LOAEL (oral,rat,90 days)	530 – 620 mg/kg body weight Animal: rat, Guideline: other:OECD Guideline for Testing of Chemicals, No. 451, May 12, 1981
NOAEL (oral,rat,90 days)	70 – 80 mg/kg body weight Animal: rat, Guideline: other:OECD Guideline for Testing of Chemicals, No. 451, May 12, 1981
Aspiration hazard Viscosity, kinematic Symptoms/effects after inhalation Symptoms/effects after skin contact Symptoms/effects after eye contact	 Not classified No data available May cause respiratory irritation. Burns. May cause an allergic skin reaction. Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Substituted imidazole	
LC50 - Fish [1]	0.34 mg/l Source: IUCLID

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Substituted imidazole		
EC50 - Crustacea [1]	180 mg/l Source: IUCLID	
Substituted imidazole		
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)	
2,2'-iminodiethylamine, diethylenetriamine (111-40-0)		
LC50 - Fish [1]	430 mg/l (EU Method C.1, 96 h, Poecilia reticulata, Semi-static system, Fresh water, Experimental value, GLP)	
EC50 - Crustacea [1]	64.6 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)	
EC50 - Crustacea [2]	16 mg/l Test organisms (species): Daphnia magna	
ErC50 algae	1164 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Experimental value, GLP)	
LOEC (chronic)	11.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'	
NOEC (chronic)	5.6 mg/l Test organisms (species): Daphnia magna Duration: '21 d'	
NOEC chronic fish	> 10 mg/l Test organisms (species): Gasterosteus aculeatus Duration: '28 d'	
NOEC chronic crustacea	5.6 mg/l	

12.2. Persistence and degradability

Imidazole	
Persistence and degradability	Not readily biodegradable in water.
Substituted imidazole	
Persistence and degradability	Inherently biodegradable.
Biochemical oxygen demand (BOD)	0.000002 g O /g substance
Chemical oxygen demand (COD)	0.0015 g O /g substance
Substituted imidazole	
Persistence and degradability	Readily biodegradable in water.
2,2'-iminodiethylamine, diethylenetriamine (111-40-0)	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.

12.3. Bioaccumulative potential

Imidazole	
Partition coefficient n-octanol/water (Log Pow)	2.86 (Calculated, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Substituted imidazole	
Partition coefficient n-octanol/water (Log Pow)	0.35 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

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Substituted imidazole		
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).	
2,2'-iminodiethylamine, diethylenetriamine (111-40-0)		
BCF - Fish [1]	0.3 – 6.3 (OECD 305: Bioconcentration: Flow-Through Fish Test, 8 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, Fresh weight)	
Partition coefficient n-octanol/water (Log Pow)	-1.58 (Calculated, 20 °C)	
Bioaccumulative potential	Not bioaccumulative.	

12.4. Mobility in soil

Imidazole		
Mobility in soil	1097 Source: Quantitative Structure Activity Relation	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.905 – 3.319 (log Koc, SRC PCKOCWIN v2.0, Calculated value)	
Ecology - soil	Low potential for mobility in soil.	
Substituted imidazole		
Mobility in soil	28.23 Source: EPI SUITE	
Ecology - soil	No (test)data on mobility of the substance available.	
Substituted imidazole		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.71 (log Koc, Calculated value, pH = 7)	
Ecology - soil	Low potential for mobility in soil.	
2,2'-iminodiethylamine, diethylenetriamine (111-40-0)		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.4 – 4.6 (log Koc, Other, Experimental value, GLP)	
Ecology - soil	Adsorbs into the soil. Low potential for mobility in soil. Soil contaminant.	

12.5. Other adverse effects

No additional information available

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 : UN2079 UN-No. (TDG) : UN2079

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UN-No. (IMDG) : 2079 UN-No. (IATA) : 2079

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Diethylenetriamine
Proper Shipping Name (TDG) : DIETHYLENETRIAMINE

Proper Shipping Name (IMDG) : DIETHYLENETRIAMINE (Diethylenetriamine)
Proper Shipping Name (IATA) : Diethylenetriamine (Diethylenetriamine)

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 8
Hazard labels (DOT) : 8



TDG

Transport hazard class(es) (TDG) : 8
Hazard labels (TDG) : 8



IMDG

Transport hazard class(es) (IMDG) : 8
Hazard labels (IMDG) : 8



IATA

Transport hazard class(es) (IATA) : 8
Hazard labels (IATA) : 8



14.4. Packing group

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

14.5. Environmental hazards

Other information : No supplementary information available.

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14.6. Special precautions for user

DOT

UN-No.(DOT) UN2079

DOT Special Provisions (49 CFR 172.102) B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are

not authorized.

IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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.

T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59

F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154 DOT Packaging Non Bulk (49 CFR 173.xxx) 202 DOT Packaging Bulk (49 CFR 173.xxx) : 242 DOT Quantity Limitations Passenger aircraft/rail (49 : 1 L

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49

CFR 175.75)

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

passenger vessel.

DOT Vessel Stowage Other 40 - Stow "clear of living quarters",52 - Stow "separated from" acids

: 30 L

TDG

UN-No. (TDG) : UN2079 **Explosive Limit and Limited Quantity Index** : 1L Excepted quantities (TDG) : E2 Passenger Carrying Road Vehicle or Passenger : 1L

Carrying Railway Vehicle Index

DOT Vessel Stowage Location

Emergency Response Guide (ERG) Number : 154

Limited quantities (IMDG) : 1L Excepted quantities (IMDG) : E2 Packing instructions (IMDG) P001 IBC packing instructions (IMDG) IBC02 Tank instructions (IMDG) . T7 Tank special provisions (IMDG)

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

Stowage category (IMDG) Α

Yellow hygroscopic liquid with ammoniacal odour. Soluble in water. Strongly alkaline, corrosive. Properties and observations (IMDG)

> Can form explosive mixtures with nitric acid. Reacts with oxidizing substances. Corrosive to copper and its alloys. Reacts violently with acids. Liquid and vapour can cause severe damage

to skin and eyes.

IATA

PCA Excepted quantities (IATA) : E2 PCA Limited quantities (IATA) Y840 PCA limited quantity max net quantity (IATA) 0.5L PCA packing instructions (IATA) 851 . 1L PCA max net quantity (IATA) 855 CAO packing instructions (IATA)

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CAO max net quantity (IATA) : 30L ERG code (IATA) : 8L

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

15.2. International regulations

CANADA

Imidazole

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

Substituted imidazole

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

Substituted imidazole

Listed on the Canadian DSL (Domestic Substances List)

2,2'-iminodiethylamine, diethylenetriamine (111-40-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Substituted imidazole

Listed on IARC (International Agency for Research on Cancer)

2,2'-iminodiethylamine, diethylenetriamine (111-40-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations



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

Component	State or local regulations
2,2'-iminodiethylamine, diethylenetriamine(111-40-0)	U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

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SECTION 16: Other information

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Full tout of II al	= 11.4 4 511 4	
Full text of H-phrases		
H302	Harmful if swallowed	
H311	Toxic in contact with skin	
H312	Harmful 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	
H335	May cause respiratory irritation	
H351	Suspected of causing cancer	

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.