

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : EPO-TEK® 353ND-T PMF SYRINGE

1.2. Recommended use and restrictions on use

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

1.3. Supplier

Epoxy Technology, Inc.
14 Fortune Drive
Billerica, MA 01821
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 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 |
| Reproductive toxicity Category 1B | H360 | May damage fertility or the unborn child |
| Specific target organ toxicity (single exposure) Category 1 | H370 | Causes damage to organs |
| Hazardous to the aquatic environment – Chronic Hazard Category 2 | H411 | Toxic to aquatic life with long lasting effects |

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H351 - Suspected of causing cancer
H360 - May damage fertility or the unborn child
H370 - Causes damage to organs
H411 - Toxic to aquatic life with long lasting effects

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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.
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.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307+P311 - If exposed: Call a poison center/doctor.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center or doctor.
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.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
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 |
|----------------------------|-----------------------|-------|--|
| Epoxy phenol novolac resin | CAS-No.: 9003-36-5 | ≥ 60 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 |
| Substituted imidazole* | CAS-No.: Trade Secret | 1 – 5 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317 |
| Polar activator* | CAS-No.: Trade Secret | < 0.6 | Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 |

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| Name | Product identifier | % | GHS US classification |
|------------------------|-----------------------|-----|--|
| Imidazole | CAS-No.: 288-32-4 | ≥ 1 | Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 1B, H360 |
| Substituted imidazole* | CAS-No.: Trade Secret | < 1 | 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

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

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

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

- Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Serious damage to eyes.

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.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe 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. Notify authorities if product enters sewers or public waters.

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. 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 : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Separate working clothes from town clothes. Launder separately. 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 cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

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

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| |
|--|
| Eye protection: |
| Safety glasses |
| Skin and body protection: |
| Wear suitable protective clothing |
| Respiratory protection: |
| [In case of inadequate ventilation] wear respiratory protection. |

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Liquid |
| Color | : tan |
| Odor | : Mild odor |
| 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 | : Not applicable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20°C | : No data available |
| Relative density | : No data available |
| Solubility | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosion limits | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

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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

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) |
| 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 |

Imidazole (288-32-4)

| | |
|---------------|--|
| LD50 oral rat | 970 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 7 day(s)) |
| ATE US (oral) | 960 mg/kg body weight |

Polar activator

| | |
|-----------------------|---|
| LD50 oral rat | 1187 – 2769 mg/kg body weight (BASF test, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s)) |
| LD50 dermal rabbit | 300 mg/kg Source: ECHA |
| LC50 Inhalation - Rat | 128 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours)) |
| ATE US (oral) | 100 mg/kg body weight |
| ATE US (dermal) | 300 mg/kg body weight |
| ATE US (gases) | 700 ppmV/4h |

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| Polar activator | |
|---------------------|-------------|
| ATE US (vapors) | 3 mg/l/4h |
| ATE US (dust, mist) | 0.5 mg/l/4h |

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

| Substituted imidazole | |
|-----------------------|---|
| IARC group | 2B - Possibly carcinogenic to humans |
| Reproductive toxicity | : May damage fertility or the unborn child. |

| Polar activator | |
|---------------------------|--|
| NOAEL (animal/male, F0/P) | < 1000 mg/kg body weight Animal: mouse, Animal sex: male |
| STOT-single exposure | : Causes damage to organs. |

| Polar activator | |
|------------------------|--------------------------|
| STOT-single exposure | Causes damage to organs. |
| 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) |

| Imidazole (288-32-4) | |
|--------------------------|---|
| NOAEL (oral,rat,90 days) | 60 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |

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

SECTION 12: Ecological information

12.1. Toxicity

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

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

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| Substituted imidazole | |
|---|--|
| EC50 - Crustacea [1] | 297.3 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value) |
| Imidazole (288-32-4) | |
| LC50 - Fish [1] | 283.6 mg/l (48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration) |
| EC50 - Crustacea [1] | 341.5 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect) |
| ErC50 algae | 133 mg/l (DIN 38412: German standard methods for the examination of water, waste water and sludge, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration) |
| NOEC chronic algae | 25 mg/l |
| 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' |
| Polar activator | |
| LC50 - Fish [1] | 15400 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Lethal) |
| EC50 - Crustacea [1] | 18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect) |
| NOEC (chronic) | 208 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| 12.2. Persistence and degradability | |
| Substituted imidazole | |
| 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 | |
| Persistence and degradability | Readily biodegradable in water. |
| Imidazole (288-32-4) | |
| Persistence and degradability | Readily biodegradable in the soil. Readily biodegradable in water. |
| Epoxy phenol novolac resin (9003-36-5) | |
| Persistence and degradability | Not readily biodegradable in water. |
| Polar activator | |
| Persistence and degradability | Readily biodegradable in the soil. Readily biodegradable in water. |

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| Polar activator | |
|---------------------------------|--|
| Biochemical oxygen demand (BOD) | 0.6 – 1.12 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 1.42 g O ₂ /g substance |
| ThOD | 1.5 g O ₂ /g substance |

12.3. Bioaccumulative potential

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

| 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). |

| Imidazole (288-32-4) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -0.02 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C) |
| Bioaccumulative potential | Not bioaccumulative. |

| 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). |

| Polar activator | |
|---|---|
| BCF - Fish [1] | 1 – 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value) |
| Partition coefficient n-octanol/water (Log Pow) | -0.77 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

12.4. 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. |

| Imidazole (288-32-4) | |
|--|---|
| Surface tension | No data available in the literature |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 1.36 – 2.32 (log Koc, Calculated value) |
| Ecology - soil | Low potential for adsorption in soil. |

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| 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. |
| Polar activator | |
| Mobility in soil | 2.75 Source: HSDB |
| Surface tension | No data available in the literature |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | -0.89 – -0.21 (log Koc, Calculated value) |
| Ecology - soil | Highly mobile 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
UN-No. (TDG) : UN3082
UN-No. (IMDG) : 3082
UN-No. (IATA) : 3082

14.2. UN proper shipping name

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



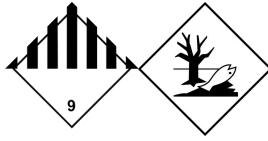
TDG

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

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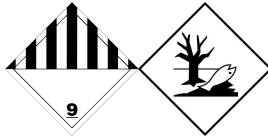
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IMDG

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



IATA

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



14.4. Packing group

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

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes



Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN3082

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| | |
|--|--|
| DOT Special Provisions (49 CFR 172.102) | : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : 155 |
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 203 |
| DOT Packaging Bulk (49 CFR 173.xxx) | : 241 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : No Limit |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : No Limit |
| DOT Vessel Stowage Location | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel. |
| TDG | |
| UN-No. (TDG) | : UN3082 |

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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 disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and during transport. (2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety. |
| Explosive Limit and Limited Quantity Index | : 5 L |
| Excepted quantities (TDG) | : E1 |
| Emergency Response Guide (ERG) Number | : 171 |
| IMDG | |
| Special provision (IMDG) | : 274, 335, 969 |
| Limited quantities (IMDG) | : 5 L |
| Excepted quantities (IMDG) | : E1 |
| Packing instructions (IMDG) | : LP01, P001 |
| Packing provisions (IMDG) | : PP1 |
| IBC packing instructions (IMDG) | : IBC03 |
| Tank instructions (IMDG) | : T4 |
| Tank special provisions (IMDG) | : TP1, TP29 |
| EmS-No. (Fire) | : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE |
| EmS-No. (Spillage) | : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS |
| Stowage category (IMDG) | : A |
| IATA | |
| PCA Excepted quantities (IATA) | : E1 |
| 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

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.

| | | |
|-----------------|-----------------|--------|
| Polar activator | CAS-No. 67-56-1 | < 0.6% |
|-----------------|-----------------|--------|

Polar activator

Listed on EPA Hazardous Air Pollutant (HAPS)

| | |
|-----------|---------|
| CERCLA RQ | 5000 lb |
|-----------|---------|

15.2. International regulations

CANADA

Substituted imidazole

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

Substituted imidazole

Listed on the Canadian DSL (Domestic Substances List)

Imidazole (288-32-4)

Listed on the Canadian DSL (Domestic Substances List)

Epoxy phenol novolac resin (9003-36-5)

Listed on the Canadian DSL (Domestic Substances List)

Polar activator

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)

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Imidazole (288-32-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Epoxy phenol novolac resin (9003-36-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Polar activator

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations



WARNING:

This product can expose you to Substituted imidazole, which is known to the State of California to cause cancer, and Polar activator, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

| Component | State or local regulations |
|-------------------|---|
| Polar activator() | 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 |

SECTION 16: Other information

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Revision date : 03/22/2023

| Full text of H-phrases | |
|------------------------|---|
| H225 | Highly flammable liquid and vapor |
| H301 | Toxic if swallowed |
| 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 |
| H331 | Toxic if inhaled |
| H351 | Suspected of causing cancer |
| H360 | May damage fertility or the unborn child |
| H370 | Causes damage to organs |
| 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.