## SECTION 1 Identification

### 1.1. Product identifier

Product form : Mixture
Product name : EPO-TEK® 354-T2 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. |
| 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. Label elements

#### 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
H370 - Causes damage to organs.
H411 - Toxic to aquatic life with long lasting effects
Precautionary statements (GHS US) : P260 - Do not breathe dust, fume, gas, mist, vapours, 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.
P302+P352 - If on skin: Wash with plenty of water.
P308+P311 - If exposed or concerned: Call a poison center or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
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.
P405 - Store locked up.
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 | ≥ 60 | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 |
| Polar activator* | CAS-No.: Trade Secret | 1 – 5 | Flam. Liq. 2, H225<br>Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation), H331<br>STOT SE 1, H370 |

*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 : 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 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 : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
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.

## 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. Do not breathe dust/fume/gas/mist/vapors/spray. 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 : 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. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment. |
| 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. |

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

| | | |
|---|---|---|
| Technical measures | : | Keep in a cool, well-ventilated place away from heat. |
| Storage conditions | : | Store locked up. |
| Packaging materials | : | Store always product in container of same material as original container. |

## SECTION 8 Exposure controls/personal protection

### 8.1. Control parameters

| Polar activator | |
|---|---|
| **USA - ACGIH - Occupational Exposure Limits** | |
| ACGIH OEL TWA | 200 ppm |
| ACGIH OEL STEL | 250 ppm |
| Remark (ACGIH) | TLV® Basis: Headache; eye dam; dizziness; nausea. Notations: Skin; BEI |
| Regulatory reference | ACGIH 2024 |
| **USA - ACGIH - Biological Exposure Indices** | |
| BEI | 15 mg/l Parameter: Methanol - Medium: urine - Sampling time: End of shift - Notations: B, Ns |
| Regulatory reference | ACGIH 2024 |
| **USA - OSHA - Occupational Exposure Limits** | |
| OSHA PEL TWA | 260 mg/m³ |
| | 200 ppm |
| Regulatory reference (US-OSHA) | OSHA Annotated Table Z-1 |

### 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 | : | tan |
| Odor | : | slight |
| 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 |
| Flammability (solid, gas) | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor density at 20°C | : | No data available |
| Relative density | : | No data available |
| Solubility | : | No data available |
| Partition coefficient n-octanol/water (Log Pow) | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | No data available |
| Explosion limits | : | No data available |
| Particle characteristics | : | No data available |

| **Epoxy phenol novolac resin** | |
|---|---|
| Particle characteristics | No data available |

| **Polar activator** | |
|---|---|
| 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

| Polar activator | |
|---|---|
| LD50 oral rat | 1187 – 2769 mg/kg body weight (BASF test, Rat, Male / female, Experimental value, 15-35 % aqueous solution, Oral, 7 day(s)) |
| LD50 oral | 1400 mg/kg |
| LD50 dermal rabbit | 300 mg/kg Source: ECHA |
| LD50 dermal | 15800 mg/kg |
| LC50 Inhalation - Rat | 128.2 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s)) |
| ATE US (oral) | 100 mg/kg body weight |
| ATE US (dermal) | 300 mg/kg body weight |
| ATE US (gases) | 700 ppmV/4h |
| ATE US (vapors) | 3 mg/l/4h |
| ATE US (dust, mist) | 0.5 mg/l/4h |

Skin corrosion/irritation : Causes skin irritation.

| Epoxy phenol novolac resin (9003-36-5) | |
|---|---|
| pH | No data available in the literature |

| Polar activator | |
|---|---|
| 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 |

| Polar activator | |
|---|---|
| pH | No data available in the literature |

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

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

| 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

| 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

| EPO-TEK® 354-T2 PART A | |
|---|---|
| Viscosity, kinematic | No data available |

| Epoxy phenol novolac resin (9003-36-5) | |
|---|---|
| Viscosity, kinematic | No data available in the literature |
| **Polar activator** | |
| Viscosity, kinematic | 0.68 – 0.747 mm²/s |

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

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

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

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

| 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) |

| Epoxy phenol novolac resin (9003-36-5) | |
|---|---|
| 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' |

| 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) |
| EC50 96h - Algae [1] | 22000 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate) |
| NOEC (chronic) | 208 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |

## 12.2. Persistence and degradability

| EPO-TEK® 354-T2 PART A | |
|---|---|
| Persistence and degradability | Not rapidly degradable |

| 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. |
| 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

| 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

| 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

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)** | | | |
| 9 | 9 | 9 | 9 |
|  |  |  |  |
| **14.4. Packing group** | | | |
| III | III | III | III |
| **14.5. Environmental hazards** | | | |
| Dangerous for the environment: Yes | Dangerous for the environment: Yes | Dangerous for the environment: Yes<br>Marine pollutant: Yes | Dangerous for the environment: Yes |
| No supplementary information available | | | |

### 14.6. Transport in bulk

Not applicable

## 14.7. 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.<br>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.<br>173 - An appropriate generic entry may be used for this material.<br>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.<br>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).<br>T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)<br>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.<br>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 |

| | | |
|---|---|---|
| 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).<br>(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:<br>(a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S;<br>(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S;<br>(c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S;<br>(d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or<br>(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.<br>(3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment:<br>(a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or<br>(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.<br>(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 |

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

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 | 1 – 5% |

| Polar activator | |
|---|---|
| Listed on EPA Hazardous Air Pollutant (HAPS) | |
| CERCLA RQ | 5000 lb |

### 15.2. International regulations

#### CANADA

| 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

| 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. State regulations

**WARNING:** This product can expose you to 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 |

## SECTION 16 Other information

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

Issue date : 1/2/2025

| Full text of hazard classes and H-statements | |
|---|---|
| H225 | Highly flammable liquid and vapor |
| H301 | Toxic if swallowed |
| H311 | Toxic in contact with skin |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H331 | Toxic if inhaled |
| 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.

## SECTION 1 Identification

### 1.1. Product identifier

Product form : Mixture
Product name : EPO-TEK® 354-T2 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 - 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**

| | | |
|---|---|---|
| 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.

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<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>STOT SE 3, H335 |
| Reactive diluent* | CAS-No.: Trade Secret | 1 – 5 | Acute Tox. 4 (Oral), H302<br>Eye Dam. 1, H318<br>STOT SE 3, H336 |

*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

No additional information available

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

No additional information available

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

No additional information available

## SECTION 5: Fire-fighting measures

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

No additional information available

### 5.2. Specific hazards arising from the chemical

No additional information available

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

No additional information available

## SECTION 6 Accidental release measures

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

**For non-emergency personnel**

No additional information available

**For emergency responders**

No additional information available

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

No additional information available

For further information refer to section 8: "Exposure controls/personal protection"

## SECTION 7 Handling and storage

### 7.1. Precautions for safe handling

No additional information available

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

No additional information available

## SECTION 8 Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Appropriate engineering controls

No additional information available

### 8.3. Individual protection measures, such as personal protective equipment

| **Hand protection:** |
| --- |
| Wear suitable gloves resistant to chemical penetration. Neoprene or nitrile rubber gloves. Butyl-rubber protective gloves. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Refer to manufacturer's information. Gloves must be replaced after each use and whenever signs of wear or perforation appear |

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

## SECTION 9 Physical and chemical properties

### 9.1. Basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Color | : | Amber |
| Odor | : | slight |
| 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 |
| Flammability (solid, gas) | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor density at 20°C | : | No data available |
| Relative density | : | No data available |
| Solubility | : | No data available |
| Partition coefficient n-octanol/water (Log Pow) | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | No data available |
| Explosion limits | : | No data available |
| Particle characteristics | : | No data available |

| Substituted imidazole | |
|---|---|
| Particle characteristics | No data available |

| Reactive diluent | |
|---|---|
| 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

No additional information available

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11 Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

| EPO-TEK® 354-T2 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 |
| ATE US (dermal) | 5600 mg/kg body weight |
| ATE US (dust, mist) | 5.1 mg/l/4h |

Skin corrosion/irritation : Causes skin irritation.

| Reactive diluent | |
|---|---|
| pH | No data available in the literature |

Serious eye damage/irritation : Causes serious eye damage.

| Reactive diluent | |
|---|---|
| pH | No data available in the literature |

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

| Substituted imidazole | |
|---|---|
| STOT-single exposure | May cause respiratory irritation. |

| Reactive diluent | |
|---|---|
| STOT-single exposure | May cause drowsiness or dizziness. |

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

| EPO-TEK® 354-T2 PART B | |
|---|---|
| Viscosity, kinematic | No data available |

| Substituted imidazole | |
|---|---|
| Viscosity, kinematic | No data available |

| Reactive diluent | |
|---|---|
| Viscosity, kinematic | No data available in the literature |

## SECTION 12 Ecological information

### 12.1. Ecotoxicity

Hazardous to the aquatic environment, short–term (acute) : 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® 354-T2 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. |
| ThOD | 1.67 g $O_2$ /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

No additional information available

## SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

| DOT | TDG | IMDG | IATA |
|---|---|---|---|
| **14.1. UN number** | | | |
| UN2735 | UN2735 | 2735 | 2735 |
| **14.2. Proper Shipping Name** | | | |
| Polyamines, liquid, corrosive, n.o.s. (Reactive diluent ; Substituted imidazole) | AMINES, LIQUID, CORROSIVE, N.O.S. (Reactive diluent ; Substituted imidazole) | AMINES, LIQUID, CORROSIVE, N.O.S. (Reactive diluent ; Substituted imidazole) | Amines, liquid, corrosive, n.o.s. (Reactive diluent ; Substituted imidazole) |
| **14.3. Transport hazard class(es)** | | | |
| 8 | 8 | 8 | 8 |

| DOT | TDG | IMDG | IATA |
|---|---|---|---|
|   |   |   |   |
| **14.4. Packing group** | | | |
| III | III | III | III |
| **14.5. Environmental hazards** | | | |
| Dangerous for the environment: No | Dangerous for the environment: No | Dangerous for the environment: No<br>Marine pollutant: No | Dangerous for the environment: No |
| 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.

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 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

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

| | | |
|---|---|---|
| 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).<br>(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:<br>(a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S;<br>(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S;<br>(c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S;<br>(d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or<br>(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.<br>(3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment:<br>(a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or<br>(b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS. |
| Explosive Limit and Limited Quantity Index | : | 5 L |
| Excepted quantities (TDG) | : | E1 |
| Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index | : | 5 L |
| Emergency Response Guide (ERG) Number | : | 153 |

**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) | : | T7 |
| Tank special provisions (IMDG) | : | TP1, TP28 |
| EmS-No. (Fire) | : | F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE |
| EmS-No. (Spillage) | : | S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES |
| Stowage category (IMDG) | : | A |
| Segregation (IMDG) | : | SGG18, SG35 |
| 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**

| | | |
|---|---|---|
| Special provision (IATA) | : | A3, A803 |
| PCA Excepted quantities (IATA) | : | E1 |
| PCA Limited quantities (IATA) | : | Y841 |
| PCA limited quantity max net quantity (IATA) | : | 1L |
| PCA packing instructions (IATA) | : | 852 |
| PCA max net quantity (IATA) | : | 5L |
| CAO packing instructions (IATA) | : | 856 |
| CAO max net quantity (IATA) | : | 60L |
| ERG code (IATA) | : | 8L |

## 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)

**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

**WARNING:** 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

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

Issue date : 1/2/2025

| **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.