

SECTION 1 Identification**1.1. Product identifier**

Product form : Mixture
Product name : EPX50-OVERLAY Part B

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

Echem
4102 El Rey Road SE
Albuquerque, New Mexico
United States
T (505) 832-3667 - F (505) 217-3721
<https://e-chem.net/>

1.5. Emergency phone number

Emergency number : 1-800-424-9300
For Chemical Emergency Call Chemtrec 24hr/day 7days/week
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: 703-527-3887
(collect calls accepted)

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. |
| Skin sensitization, Category 1 | H317 | May cause an allergic skin reaction. |
| Reproductive toxicity, Category 2 | H361 | Suspected of damaging fertility or the unborn child. |
| Hazardous to the aquatic environment — Acute Hazard, Category 1 | H400 | Very toxic to aquatic life. |
| Hazardous to the aquatic environment — Chronic Hazard, Category 1 | H410 | Very 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) :

H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction

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| | |
|-----------------------------------|--|
| Precautionary statements (GHS US) | : H318 - Causes serious eye damage H361 - Suspected of damaging fertility or the unborn child H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing dust, fume, gas, mist, vapors, spray. P264 - Wash hands, forearms and face thoroughly after handling. 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. 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. 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). P330 - Rinse mouth. 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

No additional information available

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 |
|----------------------------|---------------------|------|---|
| Phenol, 4-nonyl-, branched | CAS-No.: 84852-15-3 | ≥ 60 | Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Polyoxypropylenediamine | CAS-No.: 9046-10-0 | < 30 | Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412 |

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| Name | Product identifier | % | GHS US classification |
|---------------------------------------|---------------------|-------|---|
| Cyclic Ethyleneamine | CAS-No.: 140-31-8 | 1 – 5 | Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412 |
| 2-methylpentane-1,5-diamine | CAS-No.: 15520-10-2 | ≥ 1 | Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402 Aquatic Chronic 3, H412 |
| 2,4,6-tris(dimethylaminomethyl)phenol | CAS-No.: 90-72-2 | ≥ 1 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 |

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. Call a poison center/doctor/physician if you feel unwell. |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation 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 | : Rinse mouth. Call a poison center/doctor/physician if you feel unwell. |

4.2. Most important symptoms/effects, acute and delayed

| | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : None under normal conditions. |
| Symptoms/effects after skin contact | : Irritation. May cause an allergic skin reaction. |
| Symptoms/effects after eye contact | : Serious damage to eyes. |
| Symptoms/effects after ingestion | : Harmful if swallowed. |

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

| | |
|-----------------------------------|--------------------------|
| Other medical advice or treatment | : Treat symptomatically. |
|-----------------------------------|--------------------------|

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. Carbon dioxide. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Specific hazards arising from the chemical

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

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5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
- Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.
- Environmental precautions : Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

- For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
- 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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.
- Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
- Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

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.

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SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

| |
|--|
| Hand protection: |
| Protective gloves |
| 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. Basic physical and chemical properties

| | |
|---|---|
| Physical state | : Liquid |
| Color | : Mixture contains one or more component(s) which have the following color(s): Light yellow Colourless Colourless to light yellow light yellow |
| Odor | : There may be no odor warning properties, odor is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odor: Mild odour Phenol odour Amine-like odour Irritating/pungent odour Smell of fish Amine-like |
| Odor threshold | : No data available |
| pH | : No data available |
| Melting point | : Not applicable |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Flammability (solid, gas) | : Not applicable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20°C | : No data available |
| Relative density | : No data available |
| Solubility | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature | : No data available |

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| | |
|---------------------------|---------------------|
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Explosion limits | : No data available |
| Particle characteristics | : No data available |

| | |
|-----------------------------------|-------------------|
| Phenol, 4-nonyl-, branched | |
| Particle characteristics | No data available |

| | |
|--------------------------------|-------------------|
| Polyoxypropylenediamine | |
| Particle characteristics | No data available |

| | |
|-----------------------------|-------------------|
| Cyclic Ethyleneamine | |
| Particle characteristics | No data available |

| | |
|--|-------------------|
| 2,4,6-tris(dimethylaminomethyl)phenol | |
| Particle characteristics | No data available |

| | |
|------------------------------------|-------------------|
| 2-methylpentane-1,5-diamine | |
| 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) | : Harmful if swallowed. |
| Acute toxicity (dermal) | : Not classified |

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Acute toxicity (inhalation) : Not classified

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|--|--|
| ATE US (oral) | 766.04 mg/kg body weight |
| Phenol, 4-nonyl-, branched (84852-15-3) | |
| LD50 oral rat | 1412 mg/kg body weight (Rat, Male / female, Experimental value, Oral, 14 day(s)) |
| LD50 oral | 580 mg/kg |
| LD50 dermal rabbit | 3160 mg/kg Source: ChemIDPlus |
| LD50 dermal | 2037 mg/kg |
| ATE US (oral) | 580 mg/kg body weight |
| ATE US (dermal) | 2037 mg/kg body weight |
| Polyoxypropylenediamine (9046-10-0) | |
| LD50 oral rat | 2885 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral) |
| LD50 dermal rabbit | 2980 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal) |
| LC50 Inhalation - Rat | > 0.74 mg/l air (Equivalent or similar to OECD 403, 8 h, Rat, Male / female, Experimental value, Inhalation (vapours)) |
| ATE US (oral) | 2885 mg/kg body weight |
| ATE US (dermal) | 2980 mg/kg body weight |
| Cyclic Ethyleneamine (140-31-8) | |
| LD50 oral rat | 2097 mg/kg body weight (Rat, Male, Experimental value, Oral, 14 day(s)) |
| LD50 oral | 1470 mg/kg |
| LD50 dermal rabbit | 866 mg/kg bw/day (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s)) |
| LD50 dermal | 880 mg/kg |
| ATE US (oral) | 1470 mg/kg body weight |
| ATE US (dermal) | 866 mg/kg body weight |
| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
| LD50 oral rat | 2169 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s)) |
| LD50 oral | 1000 mg/kg |
| LD50 dermal rat | 1280 mg/kg |
| LD50 dermal | 1280 mg/kg |
| ATE US (oral) | 1000 mg/kg body weight |
| ATE US (dermal) | 1280 mg/kg body weight |
| 2-methylpentane-1,5-diamine (15520-10-2) | |
| LD50 oral rat | 1690 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | 1870 mg/kg body weight (Equivalent or similar to OECD 402, Rat, Male / female, Read-across, Dermal, 14 day(s)) |

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| 2-methylpentane-1,5-diamine (15520-10-2) | |
|---|---|
| LC50 Inhalation - Rat | 4.9 mg/l air (Equivalent or similar to OECD 403, 1 h, Rat, Male / female, Experimental value, Inhalation (mist), 14 day(s)) |
| ATE US (oral) | 1690 mg/kg body weight |
| ATE US (dermal) | 1870 mg/kg body weight |
| ATE US (gases) | 4500 ppmV/4h |
| ATE US (vapors) | 4.9 mg/l/4h |
| ATE US (dust, mist) | 4.9 mg/l/4h |

Skin corrosion/irritation : Causes skin irritation.

| Phenol, 4-nonyl-, branched (84852-15-3) | |
|--|-------------------------------------|
| pH | No data available in the literature |

| Cyclic Ethyleneamine (140-31-8) | |
|--|------|
| pH | 11.5 |

| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
|--|-----------|
| pH | 11 (10 %) |

| 2-methylpentane-1,5-diamine (15520-10-2) | |
|---|-------------------------------------|
| pH | No data available in the literature |

Serious eye damage/irritation : Causes serious eye damage.

| Phenol, 4-nonyl-, branched (84852-15-3) | |
|--|-------------------------------------|
| pH | No data available in the literature |

| Cyclic Ethyleneamine (140-31-8) | |
|--|------|
| pH | 11.5 |

| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
|--|-----------|
| pH | 11 (10 %) |

| 2-methylpentane-1,5-diamine (15520-10-2) | |
|---|-------------------------------------|
| 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 : Suspected of damaging fertility or the unborn child.

| Phenol, 4-nonyl-, branched (84852-15-3) | |
|--|---|
| NOAEL (animal/female, F0/P) | 15 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), Remarks on results: other:Generation: All generations tested: F0, F1, F2, F3 (migrated information) |
| NOAEL (animal/male, F1) | 15 mg/kg body weight Animal: rat, Animal sex: male, Guideline: other:EPA OPPTS 837.3800 (US EPA OPPTS 1998) |

STOT-single exposure : Not classified

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| 2-methylpentane-1,5-diamine (15520-10-2) | |
|--|--|
| STOT-single exposure | May cause respiratory irritation. |
| STOT-repeated exposure | : Not classified |
| Phenol, 4-nonyl-, branched (84852-15-3) | |
| LOAEL (oral,rat,90 days) | 400 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents) |
| NOAEL (oral,rat,90 days) | 100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents) |
| Aspiration hazard | : Not classified |
| EPX50-OVERLAY Part B | |
| Viscosity, kinematic | No data available |
| Phenol, 4-nonyl-, branched (84852-15-3) | |
| Viscosity, kinematic | No data available in the literature |
| Polyoxypropylenediamine (9046-10-0) | |
| Viscosity, kinematic | 10.9 mm ² /s (20 °C, OECD 114: Viscosity of Liquids) |
| Cyclic Ethyleneamine (140-31-8) | |
| Viscosity, kinematic | No data available in the literature |
| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
| Viscosity, kinematic | No data available in the literature |
| 2-methylpentane-1,5-diamine (15520-10-2) | |
| Viscosity, kinematic | No data available in the literature |
| Symptoms/effects after inhalation | : None under normal conditions. |
| Symptoms/effects after skin contact | : Irritation. May cause an allergic skin reaction. |
| Symptoms/effects after eye contact | : Serious damage to eyes. |
| Symptoms/effects after ingestion | : Harmful if swallowed. |

SECTION 12 Ecological information

12.1. Ecotoxicity

| | |
|---|---|
| Ecology - general | : Very 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 |

| Phenol, 4-nonyl-, branched (84852-15-3) | |
|--|--|
| EC50 - Crustacea [1] | 84 µg/l (ASTM E729-88, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Lethal) |
| EC50 96h - Algae [1] | 0.027 mg/l (EPA OTS 797.1050, Skeletonema costatum, Static system, Salt water, Experimental value, Cell numbers) |
| ErC50 algae | 0.027 mg/l |
| NOEC chronic fish | 0.006 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '91 d' |

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| Polyoxypropylenediamine (9046-10-0) | |
|--|--|
| LC50 - Fish [1] | 772.14 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinodon variegatus, Static system, Salt water, Experimental value, GLP) |
| EC50 - Crustacea [1] | 80 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP) |
| ErC50 algae | 15 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP) |

| Cyclic Ethyleneamine (140-31-8) | |
|--|---|
| LC50 - Fish [1] | 2190 mg/l (96 h, Pimephales promelas, Static system, Fresh water, Experimental value) |
| EC50 - Crustacea [1] | 58 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Experimental value, GLP) |
| EC50 72h - Algae [1] | > 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| ErC50 algae | > 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Fresh water, Experimental value, GLP) |

| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
|--|--|
| LC50 - Fish [1] | 175 mg/l (APHA, 96 h, Cyprinus carpio, Static system, Fresh water, Experimental value, Nominal concentration) |
| LC50 - Fish [2] | 180 – 240 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) |
| EC50 72h - Algae [1] | 84 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) |
| EC50 96h - Algae [1] | 34.812 mg/l Source: ECOSAR |
| ErC50 algae | 84 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP) |

| 2-methylpentane-1,5-diamine (15520-10-2) | |
|---|---|
| LC50 - Fish [1] | 1825 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Static system, Fresh water, Read-across, Nominal concentration) |
| EC50 - Crustacea [1] | 19.8 – 23.4 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Nominal concentration) |
| ErC50 algae | > 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across, GLP) |

12.2. Persistence and degradability

| EPX50-OVERLAY Part B | |
|--|-------------------------------------|
| Persistence and degradability | Not rapidly degradable |
| Phenol, 4-nonyl-, branched (84852-15-3) | |
| Persistence and degradability | Not readily biodegradable in water. |
| Polyoxypropylenediamine (9046-10-0) | |
| Persistence and degradability | Not readily biodegradable in water. |
| Cyclic Ethyleneamine (140-31-8) | |
| Persistence and degradability | Not readily biodegradable in water. |

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| Cyclic Ethyleneamine (140-31-8) | |
|--|-------------------------------------|
| Chemical oxygen demand (COD) | 0.56 g O ₂ /g substance |
| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
| Persistence and degradability | Not readily biodegradable in water. |
| 2-methylpentane-1,5-diamine (15520-10-2) | |
| Persistence and degradability | Readily biodegradable in water. |

12.3. Bioaccumulative potential

| Phenol, 4-nonyl-, branched (84852-15-3) | |
|---|---|
| BCF - Fish [1] | 1200 – 1300 (Equivalent or similar to OECD 305, 16 day(s), Gasterosteus aculeatus, Flow-through system, Salt water, Experimental value, Fresh weight) |
| Partition coefficient n-octanol/water (Log Pow) | 5.4 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 23 °C) |
| Bioaccumulative potential | Potential for bioaccumulation (500 ≤ BCF ≤ 5000). |

| Polyoxypropylenediamine (9046-10-0) | |
|---|--|
| Partition coefficient n-octanol/water (Log Pow) | 1.34 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| Cyclic Ethyleneamine (140-31-8) | |
|---|---|
| BCF - Fish [1] | 0.3 – 6.3 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Flow-through system, Fresh water, Read-across) |
| Partition coefficient n-octanol/water (Log Pow) | -1.48 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
|--|--|
| Partition coefficient n-octanol/water (Log Pow) | -0.66 (Experimental value, EPA OPPTS 830.7550: Partition Coefficient (n-octanol/water), Shake Flask Method, 21.5 °C) |
| Bioaccumulative potential | Not bioaccumulative. |

| 2-methylpentane-1,5-diamine (15520-10-2) | |
|---|--|
| Partition coefficient n-octanol/water (Log Pow) | ≤ 1 (Experimental value, US EPA, 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

12.4. Mobility in soil

| Phenol, 4-nonyl-, branched (84852-15-3) | |
|--|---|
| Surface tension | 38.9 mN/m (20 °C, EU Method A.5: Surface tension) |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 4 (log Koc, Calculated value) |
| Ecology - soil | Low potential for mobility in soil. |

| Polyoxypropylenediamine (9046-10-0) | |
|--|--------------|
| Surface tension | Data waiving |

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| Polyoxypropylenediamine (9046-10-0) | |
|--|---|
| Ecology - soil | No (test)data on mobility of the substance available. |
| Cyclic Ethyleneamine (140-31-8) | |
| Surface tension | No data available in the literature |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 4.57 (log Koc, Read-across, GLP) |
| Ecology - soil | Low potential for mobility in soil. |
| 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) | |
| Surface tension | No data available in the literature |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 1.32 (log Koc, Calculated value) |
| Ecology - soil | Highly mobile in soil. |
| 2-methylpentane-1,5-diamine (15520-10-2) | |
| Surface tension | No data available in the literature |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 2.159 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |
| Ecology - soil | Low potential for adsorption 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




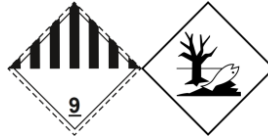
In accordance with DOT / TDG / IMDG / IATA

| DOT | TDG | IMDG | IATA |
|---|---|--|--|
| 14.1. UN number | | | |
| UN3082 | UN3082 | 3082 | 3082 |
| 14.2. Proper Shipping Name | | | |
| Environmentally hazardous substances, liquid, n.o.s. (Phenol, 4-nonyl-, branched) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, 4-nonyl-, branched ; Phenol, 4-nonyl-, branched) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, 4-nonyl-, branched) | Environmentally hazardous substance, liquid, n.o.s. (Phenol, 4-nonyl-, branched) |
| 14.3. Transport hazard class(es) | | | |
| 9 | 9 | 9 | 9 |

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| DOT | TDG | IMDG | IATA |
|---|---|--|---|
|  |  |  |  |
| 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 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. 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 |

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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).

(2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name:

(a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.;

(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.;

(c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.;

(d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S. or

(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.

(3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment:

(a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or

(b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS, 99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., may be offered for transport, handled or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means of containment and during transport.

(2) These Regulations, except for Parts 1 and 2, do not apply to the offering for transport, handling or transport of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no release of the dangerous goods that could endanger public safety.

Explosive Limit and Limited Quantity Index : 5 L

Excepted quantities (TDG) :

E1

Emergency Response Guide (ERG) Number :

171

IMDG

Special provision (IMDG) : 274, 335, 969

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : LP01, P001

Packing provisions (IMDG) : PP1

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP1, TP29

EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS

Stowage category (IMDG) : A

IATA

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

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y964

PCA limited quantity max net quantity (IATA) : 30kgG

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| | |
|---------------------------------|--------|
| 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, except for:

| | | |
|-----------------------------|--------------------|------|
| 2-methylpentane-1,5-diamine | CAS-No. 15520-10-2 | ≥ 1% |
|-----------------------------|--------------------|------|

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

| | | |
|----------------------------|--------------------|-------|
| Phenol, 4-nonyl-, branched | CAS-No. 84852-15-3 | ≥ 60% |
|----------------------------|--------------------|-------|

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.

| | | |
|----------------------------|--------------------|-------|
| Phenol, 4-nonyl-, branched | CAS-No. 84852-15-3 | ≥ 60% |
|----------------------------|--------------------|-------|

15.2. International regulations

CANADA

Phenol, 4-nonyl-, branched (84852-15-3)

Listed on the Canadian DSL (Domestic Substances List)

Polyoxypropylenediamine (9046-10-0)

Listed on the Canadian DSL (Domestic Substances List)

Cyclic Ethyleneamine (140-31-8)

Listed on the Canadian DSL (Domestic Substances List)

2,4,6-tris(dimethylaminomethyl)phenol (90-72-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Phenol, 4-nonyl-, branched (84852-15-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Polyoxypropylenediamine (9046-10-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Cyclic Ethyleneamine (140-31-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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2,4,6-tris(dimethylaminomethyl)phenol (90-72-2)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

| Component | State or local regulations |
|--------------------------------|---|
| Cyclic Ethyleneamine(140-31-8) | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List |

SECTION 16 Other information

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

Revision date : 2/27/2025

Issue date : 3/21/2024

| Full text of hazard classes and H-statements | |
|--|--|
| H227 | Combustible liquid |
| H302 | Harmful if swallowed |
| 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 |
| H332 | Harmful if inhaled |
| H335 | May cause respiratory irritation |
| H361 | Suspected of damaging fertility or the unborn child |
| H400 | Very toxic to aquatic life |
| H402 | Harmful to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.