

SECTION 1: Identification

1.1. Identification

Product name : EP1121-4 Black B

1.2. Recommended use and restrictions on use

Recommended use : Epoxy hardener
 Restrictions on use : Product for industrial use only

1.3. Supplier

ResinLab, LLC
 N109 W13300 Ellsworth Drive
 Germantown, WI 53022 - United States
 T 1-877-259-1669
msds@resinlab.com - www.resinlab.com

1.4. Emergency telephone number

Emergency number : CHEMTREC:1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Reproductive toxicity Category 1B	H360	May damage fertility or the unborn child

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) : H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H360 - May damage fertility or the unborn child

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.
- P272 - Contaminated work clothing must not be allowed out of the workplace.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
- P302+P352 - If on skin: Wash with plenty of water.
- P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 - If exposed or concerned: Get medical advice/attention.
- P310 - Immediately call a poison center or doctor.
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- 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.

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2.3. Other hazards which do not result in classification

No additional information available

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
fatty acids, C18-unsatd., dimers, reaction products with 1-piperazineethanamine and tall oil	(CAS-No.) 206565-89-1	5 – 10	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Poly(oxypropylene)diamine	(CAS-No.) 9046-10-0	5 – 10	Skin Corr. 1, H314 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
4-Nonylphenol, branched	(CAS-No.) 84852-15-3	5 – 10	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4-tert-butylphenol	(CAS-No.) 98-54-4	1 – 5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 2, H401 Aquatic Chronic 1, H410
Diethylenetriamine	(CAS-No.) 111-40-0	0.5 – 1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1, H314 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 3, H402
Bisphenol A	(CAS-No.) 80-05-7	0.1 – 0.5	Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 1B, H360 STOT SE 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

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	: Rinse immediately with plenty of water for 15 minutes. Remove/Take off immediately all contaminated clothing. Thoroughly clean shoes before reuse. Wash contaminated clothing before reuse. Get medical advice/attention.
First-aid measures after eye contact	: Immediately rinse with plenty of water (for at least 15 minutes). Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

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

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use water jet to extinguish.

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5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released, Carbon oxides (CO, CO₂), Aldehydes, ammonia, Nitrogen oxides

5.3. Special protective equipment and precautions for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : 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, ventilate curing ovens to prevent emissions in the workplace. 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. Do not breathe dust/fume/gas/mist/vapors/spray.

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

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OSHA	OSHA PEL (TWA) [1]	5 mg/m ³ (Respirable fraction) 15 mg/m ³ (Total dust)
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
fatty acids, C18-unsatd., dimers, reaction products with 1-piperazineethanamine and tall oil (206565-89-1)		
Not applicable		
Poly(oxypropylene)diamine (9046-10-0)		
Not applicable		
4-Nonylphenol, branched (84852-15-3)		
Not applicable		
Diethylenetriamine (111-40-0)		
ACGIH	Local name	Diethylenetriamine

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Diethylenetriamine (111-40-0)		
ACGIH	ACGIH OEL TWA [ppm]	1 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: URT & eye irr. Notations: Skin
ACGIH	Regulatory reference	ACGIH 2020
Bisphenol A (80-05-7)		
Not applicable		
4-tert-butylphenol (98-54-4)		
Not applicable		

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station, ventilate curing ovens to prevent emissions in the workplace.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses with side shields

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation, wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: White
Odor	: characteristic
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	: > 93 °C
Relative evaporation rate (butyl acetate=1)	: 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
Density	: 2.11 g/cm ³
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, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

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VOC content

No data 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

Acids. Bases (Alkalis).

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

Poly(oxypropylene)diamine (9046-10-0)	
LD50 oral rat	2627 mg/kg
LD50 dermal rat	2980 mg/kg
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
ATE US (oral)	2627 mg/kg body weight
ATE US (dermal)	2980 mg/kg body weight
4-Nonylphenol, branched (84852-15-3)	
LD50 oral rat	1412 mg/kg body weight (Other, Rat, Male / female, Experimental value, Oral)
ATE US (oral)	1412 mg/kg body weight
Diethylenetriamine (111-40-0)	
LD50 oral rat	1553 mg/kg body weight (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	1045 mg/kg body weight (Rabbit, Experimental value, Dermal)
LC50 Inhalation - Rat	70 mg/m ³
LC50 Inhalation - Rat [ppm]	16.4 ppm/4h
ATE US (oral)	1553 mg/kg body weight
ATE US (dermal)	1045 mg/kg body weight
ATE US (gases)	16.4 ppmV/4h
ATE US (vapors)	0.07 mg/l/4h
ATE US (dust, mist)	0.07 mg/l/4h
Bisphenol A (80-05-7)	
LD50 oral rat	2000 – 5000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral (one dose), 14 day(s))
LD50 dermal rabbit	3000 mg/kg body weight (Rabbit, Experimental value, Dermal)
ATE US (oral)	2000 mg/kg body weight
ATE US (dermal)	3000 mg/kg body weight
4-tert-butylphenol (98-54-4)	
LD50 oral rat	> 2000 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 16000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)

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4-tert-butylphenol (98-54-4)	
LC50 Inhalation - Rat	> 5.6 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Assumed to cause serious eye damage
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : May damage fertility or the unborn child.
STOT-single exposure : Not classified

Diethylenetriamine (111-40-0)	
STOT-single exposure	May cause respiratory irritation.

Bisphenol A (80-05-7)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

4-Nonylphenol, 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)

Diethylenetriamine (111-40-0)	
LOAEL (oral,rat,90 days)	530 – 620 mg/kg body weight Animal: rat, Guideline: other:OECD Guideline for Testing of Chemicals, No. 451, May 12, 1981
NOAEL (oral,rat,90 days)	70 – 80 mg/kg body weight Animal: rat, Guideline: other:OECD Guideline for Testing of Chemicals, No. 451, May 12, 1981

Bisphenol A (80-05-7)	
LOAEL (oral,rat,90 days)	600 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified
Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

SECTION 12: Ecological information

12.1. Toxicity

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

Poly(oxypropylene)diamine (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)

4-Nonylphenol, branched (84852-15-3)	
LC50 - Fish [1]	0.08 mg/l (ASTM E729-96, 96 h, Hybopsis monacha, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	0.084 mg/l (ASTM E729-88, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)
NOEC chronic fish	0.006 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '91 d'

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Diethylenetriamine (111-40-0)	
LC50 - Fish [1]	430 mg/l (EU Method C.1, 96 h, Poecilia reticulata, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	64.6 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [2]	16 mg/l Test organisms (species): Daphnia magna
ErC50 algae	1164 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Experimental value, GLP)
LOEC (chronic)	11.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	5.6 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 10 mg/l Test organisms (species): Gasterosteus aculeatus Duration: '28 d'
Bisphenol A (80-05-7)	
LC50 - Fish [1]	4.6 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	10.2 mg/l (ASTM E-35.21, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	2.73 – 3.1 mg/l (EPA 600/9-78-018, 96 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
LOEC (chronic)	3.6 mg/l Test organisms (species): other:Rotifer (Brachionus calyciflorus) Duration: '48 h'
4-tert-butylphenol (98-54-4)	
LC50 - Fish [1]	> 1 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Lethal)
EC50 - Crustacea [1]	4.8 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	14 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

Poly(oxypropylene)diamine (9046-10-0)	
Persistence and degradability	Not readily biodegradable in water.
4-Nonylphenol, branched (84852-15-3)	
Persistence and degradability	Biodegradability in soil: no data available. Readily biodegradable in water.
Diethylenetriamine (111-40-0)	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Bisphenol A (80-05-7)	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Chemical oxygen demand (COD)	0.036 g O ₂ /g substance
ThOD	2.5 g O ₂ /g substance
4-tert-butylphenol (98-54-4)	
Persistence and degradability	Readily biodegradable in water.
ThOD	2.77 g O ₂ /g substance

12.3. Bioaccumulative potential

Poly(oxypropylene)diamine (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	Not bioaccumulative.
4-Nonylphenol, branched (84852-15-3)	
BCF - Fish [1]	1200 – 1300 (OECD 305: Bioconcentration: Flow-Through Fish Test, 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).

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Diethylenetriamine (111-40-0)	
BCF - Fish [1]	0.3 – 6.3 (OECD 305: Bioconcentration: Flow-Through Fish Test, 8 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-1.58 (Calculated, 20 °C)
Bioaccumulative potential	Not bioaccumulative.
Bisphenol A (80-05-7)	
BCF - Fish [1]	5.1 – 67 (Other, 42 day(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	3.4 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 21.5 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
4-tert-butylphenol (98-54-4)	
BCF - Fish [1]	20 – 48 (OECD 305: Bioconcentration: Flow-Through Fish Test, 8 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 23 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Poly(oxypropylene)diamine (9046-10-0)	
Surface tension	Data waiving
Ecology - soil	No (test)data on mobility of the substance available.
4-Nonylphenol, branched (84852-15-3)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.35 – 5.69 (log Koc, Other, Experimental value, GLP)
Ecology - soil	Adsorbs into the soil.
Diethylenetriamine (111-40-0)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.4 – 4.6 (log Koc, Other, Experimental value, GLP)
Ecology - soil	Adsorbs into the soil. Low potential for mobility in soil. Soil contaminant.
Bisphenol A (80-05-7)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.4 – 3.18 (log Koc, Equivalent or similar to OECD 106, Experimental value)
Ecology - soil	Low potential for adsorption in soil.
4-tert-butylphenol (98-54-4)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.1 (log Koc, QSAR)
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT) : UN2735 Polyamines, liquid, corrosive, n.o.s. (4-Nonylphenol, branched ; Poly(oxypropylene)diamine), 8, III

UN-No.(DOT) : UN2735

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Proper Shipping Name (DOT) : Polyamines, liquid, corrosive, n.o.s.
4-Nonylphenol, branched ; Poly(oxypropylene)diamine
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 8 - Corrosive



Dangerous for the environment : Yes
Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
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 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
Emergency Response Guide (ERG) Number : 153
Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG) : UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (4-Nonylphenol, branched ; Poly(oxypropylene)diamine), 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
UN-No. (IMDG) : 2735
POLYAMINES, LIQUID, CORROSIVE, N.O.S.
4-Nonylphenol, branched ; Poly(oxypropylene)diamine
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : III - substances presenting low danger
Limited quantities (IMDG) : 5 L

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Marine pollutant : Yes



Air transport

Transport document description (IATA) : UN 2735 Polyamines, liquid, corrosive, n.o.s. (4-Nonylphenol, branched ; Poly(oxypropylene)diamine), 8, III, ENVIRONMENTALLY HAZARDOUS

UN-No. (IATA) : 2735

Proper Shipping Name (IATA) : Polyamines, liquid, corrosive, n.o.s.
4-Nonylphenol, branched ; Poly(oxypropylene)diamine

Class (IATA) : 8 - Corrosives

Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

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.

4-Nonylphenol, branched	CAS-No. 84852-15-3	5 – 10%
Bisphenol A	CAS-No. 80-05-7	0.1 – 0.5%

fatty acids, C18-unsatd., dimers, reaction products with 1-piperazineethanamine and tall oil (206565-89-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag : PMN - PMN - indicates a commenced PMN substance.
S - S - indicates a substance that is identified in a final Significant New Use Rule.

Poly(oxypropylene)diamine (9046-10-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag : XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).

4-Nonylphenol, branched (84852-15-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

EPA TSCA Regulatory Flag : SP - SP - indicates a substance that is identified in a proposed Significant New Use Rule.

Diethylenetriamine (111-40-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Bisphenol A (80-05-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

4-tert-butylphenol (98-54-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

fatty acids, C18-unsatd., dimers, reaction products with 1-piperazineethanamine and tall oil (206565-89-1)

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

Poly(oxypropylene)diamine (9046-10-0)

Listed on the Canadian DSL (Domestic Substances List)

4-Nonylphenol, branched (84852-15-3)

Listed on the Canadian DSL (Domestic Substances List)

Diethylenetriamine (111-40-0)

Listed on the Canadian DSL (Domestic Substances List)

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Bisphenol A (80-05-7)

Listed on the Canadian DSL (Domestic Substances List)

4-tert-butylphenol (98-54-4)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Contains the following REACH ingredient(s): 4-tert-butylphenol (EC 202-679-0, CAS 98-54-4), 4-Nonylphenol, branched (EC 284-325-5, CAS 84852-15-3), Bisphenol A (EC 201-245-8, CAS 80-05-7)

National regulations

No additional information available

15.3. US State regulations

WARNING: This product can expose you to Bisphenol A, 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
Diethylenetriamine(111-40-0)	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
Bisphenol A(80-05-7)	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

Full text of H-phrases:

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
H332	Harmful if inhaled
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

SDS US - ResinLab

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.