

SECTION 1: Identification

1.1. Identification

Product name : EP1056LV Black B

1.2. Recommended use and restrictions on use

Recommended use : 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 1	H314	Causes severe skin burns and eye damage.
Skin sensitisation, Category 1	H317	May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

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.
 H361 - Suspected of damaging 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/vapours/spray.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/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/doctor/...
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P363 - Wash contaminated clothing before reuse.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

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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
4-Nonylphenol, branched	(CAS-No.) 84852-15-3	12 - 25	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Repr. 2, H361
Tetraethylenepentamine	(CAS-No.) 112-57-2	4 - 8	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1, H314 Skin Sens. 1, H317
N-(2-Aminoethyl)piperazine	(CAS-No.) 140-31-8	4 - 8	Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Skin Sens. 1, H317

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

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

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/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.

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6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : 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. Do not breathe dust/fume/gas/mist/vapours/spray.
- Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

Not applicable

Tetraethylenepentamine (112-57-2)

Not applicable

N-(2-Aminoethyl)piperazine (140-31-8)

Not applicable

8.2. Appropriate engineering controls

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

8.3. Individual protection measures/Personal protective equipment

Hand protection:

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
- Colour : amber
- Odour : Amine-like
- Odour threshold : No data available
- pH : No data available
- Melting point : Not applicable
- Freezing point : No data available

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Boiling point	: No data available
Flash point	: > 100 °C
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.95 g/cm ³
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: 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. Peroxides. metals. Nitrates.

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

4-Nonylphenol, branched (84852-15-3)	
LD50 oral rat	1412 mg/kg bodyweight (Other, Rat, Male / female, Experimental value, Oral)
ATE US (oral)	1412 mg/kg bodyweight
Tetraethylenepentamine (112-57-2)	
LC50 inhalation rat (mg/l)	> 9.9 mg/l air (8 h, Rat, Male, Literature study, Inhalation)
ATE US (oral)	500 mg/kg bodyweight
ATE US (dermal)	1100 mg/kg bodyweight
N-(2-Aminoethyl)piperazine (140-31-8)	
LD50 oral rat	2097 mg/kg bodyweight (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	866 mg/kg bw/day (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
ATE US (oral)	2097 mg/kg bodyweight
ATE US (dermal)	866 mg/kg bodyweight

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: May cause an allergic skin reaction.

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
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 : Before neutralisation, the product may represent a danger to aquatic organisms.

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 Daphnia 1	0.084 mg/l (ASTM E729-88, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)
Tetraethylenepentamine (112-57-2)	
LC50 fish 1	420 mg/l (EU Method C.1, 96 h, Poecilia reticulata, Semi-static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1	24.1 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Experimental value, GLP)
ErC50 (algae)	6.8 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Experimental value)
N-(2-Aminoethyl)piperazine (140-31-8)	
LC50 fish 1	2190 mg/l (96 h, Pimephales promelas, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	58 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Experimental value, GLP)
ErC50 (algae)	> 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

4-Nonylphenol, branched (84852-15-3)	
Persistence and degradability	Biodegradability in soil: no data available. Readily biodegradable in water.
Tetraethylenepentamine (112-57-2)	
Persistence and degradability	Not readily biodegradable in water.
N-(2-Aminoethyl)piperazine (140-31-8)	
Persistence and degradability	Not readily biodegradable in water.
Chemical oxygen demand (COD)	0.56 g O ₂ /g substance

12.3. Bioaccumulative potential

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)
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).
Tetraethylenepentamine (112-57-2)	
BCF fish 1	3.162 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Log Pow	-3.16 (Estimated value, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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N-(2-Aminoethyl)piperazine (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)
Log Pow	-1.48 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

4-Nonylphenol, branched (84852-15-3)	
Log Koc	4.35 - 5.69 (log Koc, Other, Experimental value, GLP)
Ecology - soil	Adsorbs into the soil.
Tetraethylenepentamine (112-57-2)	
Log Koc	3.04 (log Koc, Calculated value)
Ecology - soil	Low potential for mobility in soil.
N-(2-Aminoethyl)piperazine (140-31-8)	
Log Koc	4.57 (log Koc, Read-across, GLP)
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 : UN3267 Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, branched, Tetraethylenepentamine), 8, III

UN-No.(DOT) : UN3267

Proper Shipping Name (DOT) : Corrosive liquid, basic, organic, n.o.s.
4-Nonylphenol, branched, Tetraethylenepentamine

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

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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	: 40 - Stow "clear of living quarters", 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 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (4-Nonylphenol, branched, TETRAETHYLENEPENTAMINE), 8, III
UN-No. (IMDG)	: 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. 4-Nonylphenol, branched, TETRAETHYLENEPENTAMINE
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: III - substances presenting low danger

Air transport

Transport document description (IATA)	: UN 3267 Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, branched, TETRAETHYLENEPENTAMINE), 8, III
UN-No. (IATA)	: 3267
Proper Shipping Name (IATA)	: Corrosive liquid, basic, organic, n.o.s. 4-Nonylphenol, branched, TETRAETHYLENEPENTAMINE
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

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.
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Tetraethylenepentamine (112-57-2)

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

N-(2-Aminoethyl)piperazine (140-31-8)

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

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15.2. International regulations

CANADA

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

Listed on the Canadian DSL (Domestic Substances List)

Tetraethylenepentamine (112-57-2)

Listed on the Canadian DSL (Domestic Substances List)

N-(2-Aminoethyl)piperazine (140-31-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: 4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof] (EC 284-325-5, CAS 84852-15-3)

National regulations

No additional information available

15.3. US State regulations

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

Component	State or local regulations
Tetraethylenepentamine(112-57-2)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
N-(2-Aminoethyl)piperazine(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

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Full text of H-statements:

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility or the unborn child.

NFPA health hazard

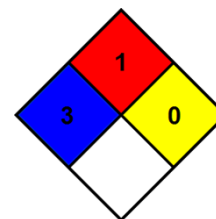
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

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.