

Printing date 08/24/2018 Reviewed on 08/24/2018

1 Identification

· Product identifier

Trade name: EP1121-4 B
 Recommended use Epoxy Hardener
 Restrictions on use For industrial use only

· Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Manufacturer/Supplier:
ResinLab, LLC
N109 W13300 Ellsworth Drive
Germantown, WI 53022
1-877-259-1669
www.resinlab.com
Information Department: Product Safety Department: msds@resinlab.com
Emergency Telephone Number:
North America - Chemtrec: 1-800-424-9300 (24 hours)
International - Chemtrec: 01-703-527-3887 (24 hours)

2 Hazard(s) identification

· Classification of the substance or mixture

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Skin Sens. 1 H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child.

Label elements

 GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
 Hazard pictograms



· Signal word Danger

Hazard-determining components of labeling:
 4-Nonylphenol, branched
 Mixture of Alicyclic aliphatic polyamine, alkyletheramine and alkylphenol.

Poly(oxypropylene)diamine Diethylenetriamine 2,4,6-tris(dimethylaminomethyl)phenol

Bisphenol A

Hazard statements
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.

H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves / eye protection / face protection.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.

Immediately call a poison center/doctor.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

NFPA System NFPA ratings (scale 0 - 4)



Health = 3Reactivity = 0

NFPA special hazards (water reactivity and oxidizing property): None

HMIS System HMIS-ratings (scale 0 - 4)



Health = *3Fire = 1Reactivity = 0

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.



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· vPvB: Not applicable.

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3 Composition/information on ingredients

· Chemical characterization: Mixtures				
· Dangerous components:				
CAS: 1344-28-1 EINECS: 215-691-6 RTECS: BD120000	Aluminum oxide	70-80%		
	Mixture of Alicyclic aliphatic polyamine, alkyletheramine and alkylphenol. Acute Tox. 3, H331 Repr. 2, H361 Eye Dam. 1, H318 Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Skin Sens. 1, H317	10-20%		
CAS: 84852-15-3 EINECS: 284-625-5 Index number: 601-053-00-8	4-Nonylphenol, branched Repr. 2, H361 Skin Corr. 1B, H314; Eye Dam. 1, H318 Aquatic Chronic 1, H410 Acute Tox. 4, H302	5-10%		
CAS: 9046-10-0	Poly(oxypropylene)diamine Skin Corr, 1C, H314: Eye Dam. 1, H318 Aquatic Chronic 2, H411 Aquatic Acute 3, H402	≥3-<5%		
CAS: 111-40-0 EINECS: 203-865-4 Index number: 612-058-00-X RTECS: IE 1225000	Diethylenetriamine Acute Tox. 1, H330 Skin Corr. 1B, H314 Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; STOT SE 3, H335	≥0.1-<1%		
CAS: 90-72-2 EINECS: 202-013-9 Index number: 603-069-00-0	2,4,6-tris(dimethylaminomethyl)phenol Skin Corr. 1B, H314; Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 3, H402; Aquatic Chronic 3, H412	≥0.1-<1%		
CAS: 80-05-7 EINECS: 201-245-8 Index number: 604-030-00-0 RTECS: SL 6300000	Bisphenol A Repr. 2, H361 Eye Dam. 1, H318 Skin Sens. 1, H317; STOT SE 3, H335	≥0.1-<1%		
CAS: 112-57-2 EINECS: 203-986-2 Index number: 612-060-00-0 RTECS: KH8585000	Acute Tox. 4, H312	0-0.1%		
CAS: 108-95-2 EINECS: 203-632-7 Index number: 604-001-00-2 RTECS: SJ 3325000	Phenol Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 Muta. 2, H341; STOT RE 2, H373 Skin Corr. 1B, H314	0-0.1%		
CAS: 8052-41-3 EINECS: 232-489-3 Index number: 649-345-00-4 RTECS: WJ 8925000	Stoddard solvent Flam. Liq. 3, H226 Asp. Tox. 1, H304	0-0.1%		

Additional information:
If the chemical name/CAS number is proprietary and or weight percentage is listed as a range, the specific chemical identity and or percentage of composition has been withheld as a trade secret.

4 First-aid measures

Description of first aid measures General information:

Keep warm, position comfortably and cover well. Immediately remove any clothing soiled by the product.

Immediately remove any clotring solied by the product.

After inhalation:
Remove victim from exposure to fresh air. Keep person at rest. Provide oxygen if person is not breathing. Supply fresh air and if symptoms occur call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:
Immediately wash with water and soap and rinse thoroughly.
Remove all contaminated clothing and wash before reuse.
If skin rash or irritation occurs, seek medical advice.

After eye contact:
Immediately flush opened eyes with water for 5 minutes, then remove contact lenses if present, continue flushing for at least another 15 minutes.

Trimities.

Get medical attention.

After swallowing:

If victim is unconscious; never give anything by mouth.

If victim is conscious rinse mouth and give small amounts of water.

Seek immediate medical advice. Information for doctor:

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed

Check section 11 Toxicological Information for further relevant information.





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5 Fire-fighting measures

Extinguishing media Suitable extinguishing agents:

Alcohol resistant foam dry chemical Fire-extinguishing powder Carbon dioxide

Carbon dioxide water fog
Special hazards arising from the substance or mixture
Will not burn unless preheated.
In case of fire, the following can be released:
Nitrogen oxides (NOx)
During heating or in case of fire poisonous gases are produced.
Carbon dioxide (CO_2) and Carbon monoxide (CO)Aluminum oxide (Al_2O_3) dust, a serious respiratory irritant, may be formed during fires.
Advice for firefinihers

Advice for firefighters

Protective equipment:
Mouth respiratory protective device.
If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR)

As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved. **Additional information**

Aluminum reacts exothermically with water, acids and alkalis to produce hydrogen gas. Close containers may rupture when exposed to heat.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective clothing.
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.

wear protective equipment. Keep unprotected persons away.

Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.

Environmental precautions: Inform respective authorities in case of seepage into water course or sewage system.

Methods and material for containment and cleaning up:

For large spills: provide diking or containment to minimize spreading. If possible pump and store material in appropriate container.

For small spills: Ventilate and wash area. Collect spills and absorbant material in appropriate container.

Ensure adequate ventilation.

Absorb spills with inert materials like sand and or vermiculite.

Non sparking tools should be used.

Non sparking tools should be used. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent if necessary. Dispose contaminated material as waste according to item 13.

7 Handling and storage

· Handling:

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Keep away from incompatible material(s). Avoid any release into the environment. Do not breathe dust/fumes/mist/vapor/spray.

Avoid contact with eyes, skin and clothing. Keep away from heat,sparks, flames and ignition sources. Observe all the personal protection requirements in Section 8.

· Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:
Provide ventilation for receptacles.
Keep stored in accordance with local, regional, national, and international regulations.

8 Exposure controls/personal protection

Control parameters

· Components with limit values that require monitoring at the workplace:

1344-28-1 Aluminum oxide

ACGIH Long-term value: 1 mg/m³ respirable fraction as Aluminum

OSHA Long-term value: 15 TWA total dust mg/m³

84852-15-3 4-Nonylphenol, branched

TEEL-1 Short-term value: 20 mg/m³ TEEL-2 Short-term value: 125 mg/m³

TEEL-3 Short-term value: 500 mg/m³

111-40-0 Diethylenetriamine

Long-term value: 4 mg/m³, 1 ppm

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TLV	Long-term value: 4.2 mg/m³, 1 ppm Skin
112-57-	? Tetraethylenepentamine
WEEL	Long-term value: 5 mg/m³ Skin; DSEN
108-95-2	? Phenol
PEL	Long-term value: 19 mg/m³, 5 ppm Skin
REL	Long-term value: 19 mg/m³, 5 ppm Ceiling limit value: 60* mg/m³, 15.6* ppm *15-min; Skin
TLV	Long-term value: 19 mg/m³, 5 ppm Skin; BEI
8052-41	-3 Stoddard solvent
PEL	Long-term value: 2900 mg/m³, 500 ppm
REL	Long-term value: 350 mg/m³ Ceiling limit value: 1800* mg/m³ *15-min
TLV	Long-term value: 525 mg/m³, 100 ppm

· Additional Occupational Exposure Limit Values for possible hazards during processing: None.

Exposure controls

Exposure controls

If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment:

General protective and hygienic measures:

Pregnant women should strictly avoid inhalation or skin contact.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eves and skin.

Avoid contact with the eyes and skin.

· Personal Protective Equipment (PPE)

Breathing equipment:
Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended

Sufficient ventilation in pattern and volume should be provided in class to him the exposure limits.

Use a NIOSH approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.

Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves



Chemical resistant gloves

Eye protection:



Safety Glasses with side shields

Body protection: Appropriate chemical resistant clothing.
 Limitation and supervision of exposure into the environment
 The Engineering measures or controls, and PPE recommendations are only guidelines and may not apply to every situation. For additional information, please consult the corresponding requirements under OSHA 29 CFR 1910.94-95, and 29 CFR 1910.132-138.

9 Physical and chemical properties Information on basic physical and chemical properties General Information · Appearance: Form: Color: Pasty White · Odor: Amine-like Odor threshold: Not determined. · pH-value: Not determined. · Change in condition Melting point/Melting range: Boiling point/Boiling range: Undetermined. Undetermined. · Flash point: >93 °C (>199.4 °F) · Flammability (solid, gaseous): Not applicable. · Ignition temperature: Not determined. (Contd. on page 5)



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		(Contd. of page 4)	
· Decomposition temperature:	Not determined.		
· Auto igniting:	Product is not selfigniting.		
· Danger of explosion:	Product does not present an explosion hazard.		
Explosion limits: Lower: Upper:	Not determined. Not determined.		
· Vapor pressure: · Vapor Density:	Not determined. not determined		
Density at 20 °C (68 °F): Relative density Vapor density Evaporation rate	2.08 g/cm³ (17.36 lbs/gal) Not determined. Not determined. Not determined.		
Solubility in / Miscibility with Water:	Not miscible or difficult to mix.		
· Partition coefficient (n-octanol/wate	· Partition coefficient (n-octanol/water): Not determined.		
· Viscosity: · Dynamic at 20 °C (68 °F): · Kinematic: · VOC content:	400,000 mPas Not available. 0.02 % 0.4 g/l / 0.00 lb/gal		

10 Stability and reactivity

- · Reactivity Not a regulated physical hazard under GHS.
- reactivity into a regulated physical hazard under GHS.
 Hazardous Reactivity and Chemical Stability Stable under normal conditions of use, storage and temperatures.
 Thermal decomposition / conditions to be avoided:

 To avoid thermal decomposition do not overheat.
 No decomposition if used and stored according to specifications.

 Possibility of hazardous reactions In contact with incompatible materials.
 Conditions to avoid Keep away from heat, sparks, flame and any other ignition sources.
 Incompatible materials:

 Oxidizing agents

 Strong reducing agents

 Acids
 Ethylene oxide
 chlorine trifluoride

chlorine trifluoride

• Hazardous decomposition products: Possible in traces. Refer to section 5.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:				
· LI	· LD/LC50 values that are relevant for classification:			
1344-28-1	1344-28-1 Aluminum oxide			
Oral	LD50	>5,000 mg/kg (rat) (OECD TG 401)		
Dermal	LD50	mg/kg (Test species: n/a) (Toxicity not expected based on acute oral data)		
Inhalative	LC50/4 h	7.6 mg/l (read across from 101-68-8) (not given)		
Mixture o	f Alicyclic	aliphatic polyamine, alkyletheramine and alkylphenol.		
Oral	LD50	>2,000 mg/kg (read across from 101-68-8) Alkylphenol		
		1,100 mg/kg (rat) Alkyletheramine		
Dermal	LD50	2,290 mg/kg (Test species: n/a) (Rabbit) Alkylphenol		
		1,550 mg/kg (rabbit) Alkyletheramine		
Inhalative	LC50/4 h	>5 mg/l (read across from 101-68-8) Alkylphenol		
84852-15-	3 4-Nonyl	phenol, branched		
Oral	LD50	1,604 mg/kg (rat) Reference: Vendor SDS (2015)		
Dermal	LD50	2,031 mg/kg (rabbit) Vendor SDS 2015		
Inhalative	LC50/4 h	mg/l (mouse) (Non-toxic; LC50 exceeded the satured vapor value)		
9046-10-0	9046-10-0 Poly(oxypropylene)diamine			
Oral	LD50	2,885 mg/kg (rat) (similar to OECD guideline 401) Reference: Vendor SDS (2015).		
Dermal	LD50	2,980 mg/kg (rabbit) (similar to OECD guideline 402) Reference: Vendor SDS (2015).		
Inhalative		mg/l (read across from 101-68-8) (Exposure Time 8h)		

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		(Contd. of page 5)			
112945-5	112945-52-5 silicon dioxide amorphous				
Oral	LD50	>5,000 mg/kg (rat) (OECD TG 401 A)			
Dermal	LD50	>2,000 mg/kg (rabbit)			

Primary irritant effect:

on the skin: Caustic effect on skin and mucous membranes.
 on the eye: Strong caustic effect.
 Sensitization: Sensitization possible through skin contact.

Experience with humans: Not applicable.

Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)	
112945-52-5 silicon dioxide amorphous	3
108-95-2 Phenol	3
· NTP (National Toxicology Program)	
None of the ingredients is listed.	
· OSHA-Ca (Occupational Safety & Health Administration)	
None of the ingredients is listed.	

12 Ecological information

- Persistence and degradability No further relevant information available.
 Other information: The product is easily biodegradable.
 Behavior in environmental systems:

- Bioaccumulative potential No data available. Mobility in soil No further relevant information available.
- · Additional ecological information: The product is non-rapid degradable, and low or not highly bioaccumulative.
- Additional ecological information: The product is non-rapid degradable, and low or not highly bloaccume. General notes:
 Water hazard class 3 (Self-assessment): extremely hazardous for water
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 Danger to drinking water if even extremely small quantities leak into the ground.
 Results of PBT and vPvB assessment
 PBT: None of the ingredients is listed.
 vPvB: None of the ingredients is listed.
 Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· RCRA	waste:		
111-40-0	Diethylenetriamine	D002	≥0.1-<1%
108-95-2	Phenol	U188	0-0.1%

Recommendation:

Must be specially treated adhering to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Dispose of according to your local waste regulations.

14 Transport information	
· UN-Number · DOT · IMDG, IATA	Not regulated in packages less than 5L. UN3082
· UN proper shipping name · DOT · IMDG	not regulated ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4-Nonylphenol, branched, 2,4,6-tris(dimethylamino-
· IATA	methyl)phenol), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4-Nonylphenol, branched)

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(Contd. of page 6) · Transport hazard class(es) · DOT Class Not regulated in packages less than 5L. · IMDG, IATA Class 9 Miscellaneous dangerous substances and articles Label Packing group Not regulated in packages less than 5L. · ĪMDG, IATA · Environmental hazards: Product contains environmentally hazardous substances: 4-Nonylphenol, branched Special precautions for user
Danger code (Kemler):
EMS Number:
Segregation groups
Stowage Category Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F Alkalis Transport in bulk according to Annex II of MARPOL73/78 and the Not applicable. Transport/Additional information: **IMDG** 5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml · Limited quantities (LQ) · Excepted quantities (EQ) UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (4-NONYLPHENOL, BRANCHED), 9, III · UN "Model Regulation":

15 Regulatory information · Safety, health and environmental regulations/legislation specific for the substance or mixture SARA Section 355 (extremely hazardous substances): 108-95-2 Phenol SARA Section 313 (Specific toxic chemical listings): 84852-15-3 4-Nonylphenol, branched 5-10% 80-05-7 Bisphenol A ≥0.1-<1% 0-0.1% 108-95-2 Phenol Section 311/312 (Hazardous Chemical Inventory reporting) SARA Section 311/312 (Hazardous Chemical Inventory Reporting) Mixture of Alicyclic aliphatic polyamine, alkyletheramine and alkylphenol. 10-20% Α 84852-15-3 4-Nonylphenol, branched Α 5-10% 9046-10-0 Poly(oxypropylene)diamine Α ≥3-<5% 111-40-0 Diethylenetriamine ≥0.1-<1% A. C 90-72-2 2,4,6-tris(dimethylaminomethyl)phenol Α ≥0.1-<1% 80-05-7 Bisphenol A ≥0.1-<1% 112-57-2 Tetraethylenepentamine 0-0.1% Α 108-95-2 Phenol 0-0.1% · Hazard Abbreviations for SARA 311/312 Hazard Abbreviations for SARA 311/31 A - Acute Health Hazard C - Chronic Health Hazard F - Fire Hazard R - Reactive Hazard S - Sudden Release of Pressure Hazard

O Gudden Nelease of Fressure Frazara				
· TS	· TSCA 8 (b) Inventory:			
	Mixture of Alicyclic aliphatic polyamine, alkyletheramine and alkylphenol.			
	4-Nonylphenol, branched			
9046-10-0	Poly(oxypropylene)diamine			
	Diethylenetriamine			
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol			
	Bisphenol A			
	Tetraethylenepentamine			
108-95-2	Phenol			
8052-41-3	Stoddard solvent			
	· TSCA new (21st Century Act)			
84852-15-3	4-Nonylphenol, branched	ACTIVE/EXEMPT		



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9046-10-0 Poly(oxypropylene)diamine	ACTIVE/EXEMPT
111-40-0 Diethylenetriamine	ACTIVE/EXEMPT
90-72-2 2,4,6-tris(dimethylaminomethyl)phenol	ACTIVE/EXEMPT
80-05-7 Bisphenol A	ACTIVE/EXEMPT
112-57-2 Tetraethylenepentamine	ACTIVE/EXEMPT
108-95-2 Phenol	ACTIVE/EXEMPT
8052-41-3 Stoddard solvent	ACTIVE/EXEMPT
Proposition 65	
· Chemicals known to cause cancer:	
None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for females:	
80-05-7 Bisphenol A	
· Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	
· Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	
· Carcinogenic categories	
· EPA (Environmental Protection Agency)	
108-95-2 Phenol	D, I
· TLV (Threshold Limit Value established by ACGIH)	
108-95-2 Phenol	A4
· NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
· International Regulation Lists · GHS label elements GHS label elements	
REACh - Substances of Very High Concern (SVHC) List:	
84852-15-3 4-Nonylphenol, branched	5-10%
80-05-7 Bisphenol A	≥0.1-<1%
· Restriction of Hazardous Substances Directive (RoHS) list:	
None of the ingredients is listed.	
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department Issuing (M)SDS: Product Development Department
 Contact: msds@resinlab.com
 Date of preparation / last revision 08/24/2018 / 4
 * Data compared to the previous version altered.

US