Epoxy Hardener

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
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SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Epoxy Hardener
Product code : AM1165, AM1168, AM1170

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Alpha Resources LLC
3090 Johnson Rd.
Stevensville, Michigan 49127
USA
T (269)465-5559
info@alpharesources.com - www.alpharesources.com

1.4. Emergency telephone number

Emergency number : CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Corrosive to metals Category 1	H290	May be corrosive to metals
Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
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. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) :
H290 - May be corrosive to metals
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H361 - Suspected of damaging fertility or the unborn child
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P234 - Keep only in original container.
P260 - Do not breathe 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.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
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.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material-damage.
P391 - Collect spillage.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
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

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Nonylphenols	CAS-No.: 84852-15-3	60 – 70	Acute Tox. 4 (Oral), H302
2-Methyl-1,5-pentanediamine	CAS-No.: 15520-10-2	20 – 30	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302
1-(2-aminoethyl)piperazine	CAS-No.: 140-31-8	10 – 20	Flam. Liq. 4, H227 Acute Tox. 3 (Dermal), H311

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. Remove/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.
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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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/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.

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. 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 : Wash contaminated clothing before reuse. 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 in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible materials : Metals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Epoxy Hardener

No additional information available

Nonylphenols (84852-15-3)

No additional information available

2-Methyl-1,5-pentanediamine (15520-10-2)

No additional information available

1-(2-aminoethyl)piperazine (140-31-8)

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/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. Information on basic physical and chemical properties

Physical state : Liquid
Color : Pale yellow
Odor : Pungent
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
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 : 0.94
Solubility : Material nearly insoluble in water.
Partition coefficient n-octanol/water (Log Pow) : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : No data available

9.2. Other information

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

metals.

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
Acute toxicity (inhalation) : Not classified

Epoxy Hardener	
ATE US (oral)	1246 mg/kg body weight

Nonylphenols (84852-15-3)	
LD50 oral rat	1246 mg/kg Source: ECHA
LD50 dermal rabbit	3160 mg/kg Source: ChemIDPlus
ATE US (oral)	1246 mg/kg body weight
ATE US (dermal)	3160 mg/kg body weight

2-Methyl-1,5-pentanediamine (15520-10-2)	
LD50 oral rat	1690 mg/kg
ATE US (oral)	1690 mg/kg body weight

1-(2-aminoethyl)piperazine (140-31-8)	
LD50 oral rat	2108 mg/kg Source: OECD Screening Information Data Set
LD50 dermal rabbit	886 mg/kg Source: OECD Screening Information Data Set
ATE US (oral)	2108 mg/kg body weight
ATE US (dermal)	886 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Assumed to cause serious eye damage
Respiratory or skin sensitization : Not classified
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
Viscosity, kinematic : No data available

Symptoms/effects after skin contact : Burns.
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 with long lasting effects.

Epoxy Hardener	
LC50 - Fish [1]	0.05 mg/l
EC50 - Crustacea [1]	0.13 mg/l
ErC50 algae	0.027 mg/l
NOEC chronic crustacea	0.018 mg/l

Nonylphenols (84852-15-3)	
LC50 - Fish [1]	0.05 mg/l Source: EPA

2-Methyl-1,5-pentanediamine (15520-10-2)	
LC50 - Fish [1]	409.672 mg/l Source: ECOSAR
EC50 96h - Algae [1]	25.122 mg/l Source: ECOSAR

1-(2-aminoethyl)piperazine (140-31-8)	
LC50 - Fish [1]	368 mg/l Source: OECD Screening Information Data Set
EC50 - Crustacea [1]	32 mg/l Source: OECD Screening Information Data Set

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Nonylphenols (84852-15-3)	
Partition coefficient n-octanol/water (Log Pow)	5.4 Source: ECHA

2-Methyl-1,5-pentanediamine (15520-10-2)	
Partition coefficient n-octanol/water (Log Pow)	≤ 7.9 Source: ECHA

1-(2-aminoethyl)piperazine (140-31-8)	
Partition coefficient n-octanol/water (Log Pow)	-1.48 Source: National Institute of Technology and Evaluation

12.4. Mobility in soil

No additional information available

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

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN2735

UN-No. (TDG) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Polyamines, liquid, corrosive, n.o.s.
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : 8
Hazard labels (DOT) : 8

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : II
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
UN-No.(DOT) : UN2735

DOT Special Provisions (49 CFR 172.102)	:	B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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. T11 - 6 178.274(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. TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	154
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	202
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	30 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	:	52 - Stow ‘‘separated from’’ acids

TDG

Emergency Response Guide (ERG) Number : 153

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency’s Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Nonylphenols	84852-15-3	Present	Active	SP
2-Methyl-1,5-pentanediamine	15520-10-2	Present	Active	
1-(2-aminoethyl)piperazine	140-31-8	Present	Active	

Nonylphenols (84852-15-3)
Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA

Nonylphenols (84852-15-3)
Listed on the Canadian DSL (Domestic Substances List)

2-Methyl-1,5-pentanediamine (15520-10-2)
Listed on the Canadian DSL (Domestic Substances List)

1-(2-aminoethyl)piperazine (140-31-8)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Nonylphenols (84852-15-3)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

2-Methyl-1,5-pentanediamine (15520-10-2)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

1-(2-aminoethyl)piperazine (140-31-8)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

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

Revision date : 9/27/2024

Full text of H-phrases	
H227	Combustible liquid
H290	May be corrosive to metals
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H361	Suspected of damaging fertility or the unborn child
H410	Very toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

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