

SECTION 1: Identification

1.1. Identification

Product form : Substance
 Trade name : Armstrong Activator A

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

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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

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Acute toxicity (inhalation:dust,mist) Category 2	H330	Fatal if inhaled
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Specific target organ toxicity (single exposure) Category 2	H371	May cause damage to organs (nervous system)
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

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) :
 H302+H312 - Harmful if swallowed or in contact with skin
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H330 - Fatal if inhaled
 H335 - May cause respiratory irritation
 H371 - May cause damage to organs (nervous system)

Precautionary statements (GHS US) :
 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.
 P270 - Do not eat, drink or smoke when using this product.
 P271 - Use only outdoors or in a well-ventilated area.
 P272 - Contaminated work clothing must not be allowed out of the workplace.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P284 - [In case of inadequate ventilation] wear respiratory 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.
 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.

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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+P311 - If exposed or concerned: Call a poison center or doctor.
P310 - Immediately call a poison center or doctor.
P312 - Call a poison center or doctor if you feel unwell.
P320 - Specific treatment is urgent (see supplemental first aid instruction on this label).
P322 - Specific treatment (see supplemental first aid instruction on this label)
P330 - Rinse mouth.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
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

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Diethylenetriamine

Name	Product identifier	%
Diethylenetriamine	(CAS-No.) 111-40-0	75 – 100

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

3.2. Mixtures

Not applicable

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 victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician immediately.
First-aid measures after skin contact : Rinse immediately with plenty of water for 15 minutes. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
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. 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 inhalation : May cause respiratory irritation.
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

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

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Do not breathe dust/fume/gas/mist/vapors/spray. Only qualified personnel equipped with suitable protective equipment may intervene.

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

Methods for cleaning up : Take up liquid spill into absorbent material.
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

Additional hazards when processed : When using a spray gun or other means to aerosolize the material, respiratory protection is recommended.
Precautions for safe handling : Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment.
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 container tightly closed. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diethylenetriamine (111-40-0)		
ACGIH	Local name	Diethylenetriamine
ACGIH	ACGIH OEL TWA	1 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: URT & eye irr. Notations: Skin
ACGIH	Regulatory reference	ACGIH 2023

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.
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:

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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	: Amber
Odor	: 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	: > 93 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Density	: 0.95 g/cm³
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
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

Aluminum. copper. Copper alloys. zinc. zinc alloys. Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Harmful in contact with skin.
Acute toxicity (inhalation)	: Inhalation:dust,mist: Fatal if inhaled.

ATE US (oral)	625 mg/kg body weight
ATE US (dermal)	1375 mg/kg body weight
ATE US (dust, mist)	0.063 mg/l/4h

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 [ppm]	16.4 ppm/4h
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.5 mg/l/4h
ATE US (dust, mist)	0.05 mg/l/4h

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	: Not classified
STOT-single exposure	: May cause damage to organs (nervous system). May cause respiratory irritation.

Diethylenetriamine (111-40-0)

STOT-single exposure	May cause respiratory irritation.
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STOT-repeated exposure	: Not classified
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Diethylenetriamine (111-40-0)

LOAEL (oral,rat,90 days)	530 – 620 mg/kg body weight Animal: rat, Guideline: other:
NOAEL (oral,rat,90 days)	70 – 80 mg/kg body weight Animal: rat, Guideline: other:

Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause respiratory irritation.
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.
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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]	65 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, Pseudokirchneriella subcapitata, 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'

12.2. Persistence and degradability

Diethylenetriamine (111-40-0)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
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12.3. Bioaccumulative potential

Diethylenetriamine (111-40-0)	
BCF - Fish [1]	0.3 – 6.3 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-1.6 (Estimated value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Diethylenetriamine (111-40-0)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.4 – 4.6 (log Koc, EPA OTS 796.2750: Sediment and Soil Adsorption Isotherm, Experimental value, GLP)
Ecology - soil	Low potential for mobility in soil. Soil contaminant.

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) : UN2079 Diethylenetriamine, 8, II
UN-No.(DOT) : UN2079
Proper Shipping Name (DOT) : Diethylenetriamine
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : II - Medium Danger
Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
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.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

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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.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters", 52 - Stow "separated from" acids
Emergency Response Guide (ERG) Number	: 154
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG)	: UN 2079 DIETHYLENETRIAMINE, 8, II
UN-No. (IMDG)	: 2079 DIETHYLENETRIAMINE
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: II - substances presenting medium danger
Limited quantities (IMDG)	: 1 L

Air transport

Transport document description (IATA)	: UN 2079 Diethylenetriamine, 8, II
UN-No. (IATA)	: 2079
Proper Shipping Name (IATA)	: Diethylenetriamine
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: II - Medium danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Diethylenetriamine (111-40-0)

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

15.2. International regulations

CANADA

Diethylenetriamine (111-40-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Diethylenetriamine (111-40-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Diethylenetriamine (111-40-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

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

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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

SECTION 16: Other information

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

Revision date : 04/25/2024

Full text of H-phrases:

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H330	Fatal if inhaled
H335	May cause respiratory irritation
H371	May cause damage to organs

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.