

SECTION 1: Identification

1.1. Identification

Trade name : Armstrong A-1

1.2. Recommended use and restrictions on use

Recommended use : Epoxy resin
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

Skin sensitisation, Category 1 H317 May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2 H341 Suspected of causing genetic defects.

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) : Warning

Hazard statements (GHS US) : H317 - May cause an allergic skin reaction.
H341 - Suspected of causing genetic defects.

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P308+P313 - If exposed or concerned: Get medical advice/attention.
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

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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Name	Product identifier	%	GHS US classification
Polymer of Epoxy resin and Bisphenol-A	(CAS-No.) 25036-25-3	30 – 50	Skin Sens. 1, H317
aluminum oxide	(CAS-No.) 1344-28-1	10 – 30	Not classified
2,3-Epoxypropyl neodecanoate	(CAS-No.) 26761-45-5	1 – 5	Skin Sens. 1, H317 Muta. 2, H341
Quartz	(CAS-No.) 14808-60-7	0.1 – 0.5	Not classified

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. Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: 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. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth out with water. If you feel unwell, seek medical advice.

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

- Symptoms/effects after skin contact : May cause an allergic skin reaction.

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 breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

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. 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.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. 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 locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Polymer of Epoxy resin and Bisphenol-A (25036-25-3)		
Not applicable		
Quartz (14808-60-7)		
ACGIH	Local name	Silica crystalline - quartz
ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (Respirable fraction)
ACGIH	Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2019
OSHA	Remark (OSHA)	Table Z-3. For OSHA PEL (TWA) use formula: (30 mg/m ³ / (%SiO ₂ +2)) for mg/m ³ . CAS No. source: eCFR Table Z-1.
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
2,3-Epoxypropyl neodecanoate (26761-45-5)		
Not applicable		
aluminum oxide (1344-28-1)		
ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³ (Respirable fraction)
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station, curing ovens must be ventilated 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.

Personal protective equipment symbol(s):

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: brown
Odour	: Faint Mild epoxy odor
Odour threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 93.33 °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	: 1.43 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
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising 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

Oxidizing agent. Acids. Bases (Alkalis). Amines. Fluorine. ammonium salts. Mercury.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). calcium oxide. Phenolic compounds. Toxic fumes may be released. irritating vapours.

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

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Polymer of Epoxy resin and Bisphenol-A (25036-25-3)	
LD50 oral rat	> 2000 mg/kg (Rat, Oral)
2,3-Epoxypropyl neodecanoate (26761-45-5)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 420: Acute Oral toxicity – Acute Toxic Class Method, Rat, Male / female, Experimental value, Oral, 15 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 240 mg/m ³ (4 h, Rat, Expert judgement, Inhalation (vapours))
aluminum oxide (1344-28-1)	
LD50 oral rat	> 15900 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LC50 inhalation rat (mg/l)	7.6 mg/l air (Equivalent or similar to OECD 403, 1 h, Rat, Male, Experimental value, Inhalation (aerosol))

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: Not classified

Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after skin contact	: May cause an allergic skin reaction.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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Polymer of Epoxy resin and Bisphenol-A (25036-25-3)	
LC50 fish 1	> 100 mg/l (Pisces, Estimated value)
EC50 Daphnia 1	> 100 mg/l (Invertebrata, Estimated value)
2,3-Epoxypropyl neodecanoate (26761-45-5)	
LC50 fish 1	5 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1	4.8 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 (algae)	2.9 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

Polymer of Epoxy resin and Bisphenol-A (25036-25-3)	
Persistence and degradability	Not readily biodegradable in water.
Quartz (14808-60-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
2,3-Epoxypropyl neodecanoate (26761-45-5)	
Persistence and degradability	Not readily biodegradable in water.

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aluminum oxide (1344-28-1)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

Polymer of Epoxy resin and Bisphenol-A (25036-25-3)	
Partition coefficient n-octanol/water (Log Pow)	3.9 – 6 (Calculated)
Bioaccumulative potential	Not bioaccumulative.

Quartz (14808-60-7)	
Bioaccumulative potential	No bioaccumulation data available.

2,3-Epoxypropyl neodecanoate (26761-45-5)	
BCF fish 1	371.6 l/kg (BCFBAF v3.00, QSAR)
Partition coefficient n-octanol/water (Log Pow)	4.4 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Potential for bioaccumulation ($4 \geq \text{Log Kow} \leq 5$).

aluminum oxide (1344-28-1)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

Quartz (14808-60-7)	
Ecology - soil	No (test)data on mobility of the substance available.

2,3-Epoxypropyl neodecanoate (26761-45-5)	
Surface tension	0.0789 N/m (21 °C, 0.063 g/l)
Partition coefficient n-octanol/water (Log Koc)	2.16 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Ecology - soil	Low potential for adsorption in soil.

aluminum oxide (1344-28-1)	
Ecology - soil	No (test)data on mobility of the substance 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

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polymer of Epoxy resin and Bisphenol-A), 9, III

UN-No. (IMDG) : 3082
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

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Class (IMDG)	: Polymer of Epoxy resin and Bisphenol-A
Packing group (IMDG)	: 9 - Miscellaneous dangerous substances and articles
Limited quantities (IMDG)	: III - substances presenting low danger
	: 5 L

Air transport

Transport document description (IATA)	: UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Polymer of Epoxy resin and Bisphenol-A), 9, III
UN-No. (IATA)	: 3082
Proper Shipping Name (IATA)	: Environmentally hazardous substance, liquid, n.o.s. Polymer of Epoxy resin and Bisphenol-A
Class (IATA)	: 9 - Miscellaneous Dangerous Goods
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.

aluminum oxide	CAS-No. 1344-28-1	10 – 30%
Polymer of Epoxy resin and Bisphenol-A (25036-25-3)		
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).	
Quartz (14808-60-7)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
2,3-Epoxypropyl neodecanoate (26761-45-5)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
EPA TSCA Regulatory Flag	TP - TP - indicates a substance that is the subject of a proposed TSCA section 4 test rule.	
aluminum oxide (1344-28-1)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313		

15.2. International regulations

CANADA

Polymer of Epoxy resin and Bisphenol-A (25036-25-3)	
Listed on the Canadian DSL (Domestic Substances List)	
Quartz (14808-60-7)	
Listed on the Canadian DSL (Domestic Substances List)	
2,3-Epoxypropyl neodecanoate (26761-45-5)	
Listed on the Canadian DSL (Domestic Substances List)	
aluminum oxide (1344-28-1)	
Listed on the Canadian DSL (Domestic Substances List)	


EU-Regulations

Contains no substance on the REACH candidate list

National regulations

Quartz (14808-60-7)	
Listed on IARC (International Agency for Research on Cancer)	

15.3. US State regulations

 **WARNING:** This product can expose you to Quartz, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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Component	State or local regulations
Quartz(14808-60-7)	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
aluminum oxide(1344-28-1)	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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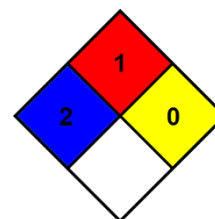
Full text of H-statements:

H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual 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 : 2 Moderate Hazard - Temporary or minor injury may occur

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.

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.