

SAFETY DATA SHEET**5114 Epoxy Hardener**

Version Number 1.0
Revision Date 10/28/2024

Page 1 of 16
Print Date 10/29/2024

SAFETY DATA SHEET**5114 Epoxy Hardener****Section 1. Identification**

GHS product identifier : 5114 Epoxy Hardener
Chemical name : Mixture
CAS number : Mixture
Other means of identification : FO20051084
Product type : liquid

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications. Plastics.

Supplier's details : **AVIENT CORPORATION**
 33587 Walker Road, Avon Lake, OH 44012
 1 (440) 930-1000 or 1 (844) 4AVIENT

Emergency telephone number (with hours of operation) : CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).

Section 2. Hazards identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 3
 EYE IRRITATION - Category 2A

GHS label elements

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 2 of 16
 Print Date 10/29/2024

- Hazard pictograms** : 
- Signal word** : Danger
- Hazard statements** : Toxic if swallowed.
 Causes serious eye irritation.

Precautionary statements

- Prevention** : Not applicable.
 : Wear eye or face protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
- Response** : IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : None known.
- Hazards not otherwise classified** : None known.
 Not available.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Chemical name** : Mixture
- Other means of identification** : FO20051084

CAS number/other identifiers

Ingredient name	%	CAS number
Cyclohexanamine	>= 5 - < 10	108-91-8
3-Aminopropyldimethylamine	>= 5 - <= 10	109-55-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 3 of 16
 Print Date 10/29/2024

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Toxic if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 4 of 16
 Print Date 10/29/2024

- watering
- redness
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without

SAFETY DATA SHEET**5114 Epoxy Hardener**

Version Number 1.0
Revision Date 10/28/2024

Page 5 of 16
Print Date 10/29/2024

- suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage
--

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
Revision Date 10/28/2024

Page 6 of 16
Print Date 10/29/2024

also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

- : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in a well-ventilated place. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Cyclohexanamine	ACGIH TLV (1996-05-18) TWA 41 mg/m ³ 10 ppm NIOSH REL (1994-06-01) TWA 40 mg/m ³ 10 ppm OSHA PEL 1989 (1989-03-01) TWA 40 mg/m ³ 10 ppm
3-Aminopropyldimethylamine	None.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
Revision Date 10/28/2024

Page 7 of 16
Print Date 10/29/2024

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : liquid [liquid]
Color : NO PIGMENT
Odor : Not available.
Odor threshold : Not available.
pH : Not available.
Melting point : Not available.
Boiling point : Not available.
Flash point : Not available.
Burning time : Not available.
Burning rate : Not available.
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Lower and upper explosive : **Lower:** Not available.

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 9 of 16
 Print Date 10/29/2024

Cyclohexanamine	Eyes - Severe irritant	Rabbit	-	0.083 hrs	-
	Skin - Severe irritant	Human	-	48 hrs	-
	Skin - Severe irritant	Rabbit	-	24 hrs	-
	Skin - Severe irritant	Rabbit	-		-
	Eyes - Severe irritant	Rabbit	-	24 hrs	-
1,3-Propanediamine, N1,N1-dimethyl-	Eyes - Moderate irritant	Rabbit	-		-

Conclusion/Summary

- Skin** : Mixture.Not fully tested.
- Eyes** : Mixture.Not fully tested.
- Respiratory** : Mixture.Not fully tested.

Sensitization

Conclusion/Summary

- Skin** : Mixture.Not fully tested.
- Respiratory** : Mixture.Not fully tested.

Mutagenicity

Conclusion/Summary

- : Mixture.Not fully tested.

Carcinogenicity

Conclusion/Summary

- : Mixture.Not fully tested.

Classification

Product/ingredient name	OSHA	IARC	NTP
Cyclohexanamine	-	3	-

Reproductive toxicity

Conclusion/Summary

- : Mixture.Not fully tested.

Teratogenicity

Conclusion/Summary

- : Mixture.Not fully tested.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

SAFETY DATA SHEET**5114 Epoxy Hardener**

Version Number 1.0
Revision Date 10/28/2024

Page 10 of 16
Print Date 10/29/2024

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain or irritation, watering, redness
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : Mixture. Not fully tested.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : Not available.
Developmental effects : Not available.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity**Acute toxicity estimates**

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
Revision Date 10/28/2024

Page 11 of 16
Print Date 10/29/2024

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
5114 Epoxy Hardener	123 mg/kg	N/A	N/A	N/A	N/A
Cyclohexanamine	11 mg/kg	N/A	N/A	N/A	N/A
1,3-Propanediamine, N1,N1-dimethyl-	1870 mg/kg	N/A	N/A	N/A	N/A

Other information : This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Cyclohexanamine	Acute LC50 0.47 Mg/l Fresh water	Fish - Danio rerio	96 h

Conclusion/Summary : Not available.

Persistence and degradability

Conclusion/Summary : Not available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Cyclohexanamine	3.7	3.16	low
1,3-Propanediamine, N1,N1-dimethyl-	-0.352	-	low

Mobility in soil

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 12 of 16
 Print Date 10/29/2024

Soil/water partition coefficient (KOC) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

Section 14. Transport information

U.S.DOT 49CFR Ground/Air/Water : UN2735, AMINES, LIQUID, CORROSIVE, N.O.S.(3-Aminopropyldimethylamine), 8, PG III

International Air ICAO/IATA : UN2735, AMINES, LIQUID, CORROSIVE, N.O.S.(3-Aminopropyldimethylamine), 8, PG III

International Water IMO/IMDG : UN2735, AMINES, LIQUID, CORROSIVE, N.O.S.(3-Aminopropyldimethylamine), 8, PG III

Section 15. Regulatory information

U.S. Federal regulations : **United States - TSCA 12(b) - Chemical export notification:** None of the components are listed.
United States - TSCA 4(a) - Final Test Rules: Not listed

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 13 of 16
 Print Date 10/29/2024

United States - TSCA 4(a) - ITC Priority list: Not listed
United States - TSCA 4(a) - Proposed test rules: Not listed
United States - TSCA 4(f) - Priority risk review: Not listed
United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed
United States - TSCA 6 - Final risk management: Not listed
United States - TSCA 6 - Proposed risk management: Not listed
United States - TSCA 8(a) - Chemical risk rules: Not listed
United States - TSCA 8(a) - Dioxin/Furane precursor: Not listed
United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined
United States - TSCA 8(a) - Preliminary assessment report (PAIR): Not listed
United States - TSCA 8(c) - Significant adverse reaction (SAR): Not listed
United States - TSCA 8(d) - Health and safety studies: Not listed
United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed
United States - EPA Clean water act (CWA) section 311 - Hazardous substances: Not listed
United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances: Not listed
United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances: Listed Cyclohexanamine

United States - Department of commerce - Precursor chemical: Not listed

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed
Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

SARA 311/312

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 14 of 16
 Print Date 10/29/2024

Classification : ACUTE TOXICITY - oral - Category 3
 EYE IRRITATION - Category 2A

Composition/information on ingredients

Name	%	Classification
Cyclohexanamine	>= 5 - < 10	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY - oral - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
1,3-Propanediamine, N1,N1-dimethyl-	>= 5 - <= 10	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY - oral - Category 4 EYE IRRITATION - Category 2A

Not applicable.

State regulations

- Massachusetts** : The following components are listed:
 Cyclohexanamine
 3-Aminopropyldimethylamine
- New York** : The following components are listed:
 Cyclohexanamine
- New Jersey** : The following components are listed:
 Cyclohexanamine
 3-Aminopropyldimethylamine
- Pennsylvania** : The following components are listed:
 Cyclohexanamine

 3-Aminopropyldimethylamine

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

United States inventory (TSCA 8b) : All components are active or exempted.

Canada inventory : Not determined.

International regulations

Inventory list

- Australia** : Not determined.
- Canada** : Not determined.
- China** : Not determined.

SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
 Revision Date 10/28/2024

Page 15 of 16
 Print Date 10/29/2024

- Eurasian Economic Union** : **Russian Federation inventory:** Not determined.
- Japan** : **Japan inventory (CSCL):** Not determined.
Japan inventory (ISHL): Not determined.
- New Zealand** : Not determined.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : Not determined.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : All components are active or exempted.
- Viet Nam** : Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	2
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

History

- Date of printing** : 10/29/2024
- Date of issue/Date of revision** : 10/28/2024
- Date of previous issue** : 10/25/2024
- Version** : 1.0

Key to abbreviations

- : ATE = Acute Toxicity Estimate
- : BCF = Bioconcentration Factor
- : GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- : IATA = International Air Transport Association
- : IBC = Intermediate Bulk Container
- : IMDG = International Maritime Dangerous Goods
- : LogPow = logarithm of the octanol/water partition coefficient
- : MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- : UN = United Nations

- References** : Not available.



SAFETY DATA SHEET

5114 Epoxy Hardener

Version Number 1.0
Revision Date 10/28/2024

Page 16 of 16
Print Date 10/29/2024

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.