



SAFETY DATA SHEET EPO-TEK E4110-LV Part A

1. Identification

Product identifier

Product name EPO-TEK E4110-LV Part A

Product number E4110-LV/A

Recommended use of the chemical and restrictions on use

Application Adhesive.

Details of the supplier of the safety data sheet

Supplier Epoxy Technology, Inc.
14 Fortune Drive
Billerica, MA 01821
USA
(978) 667-3805
(978) 663-9782
www.epotek.com

Emergency telephone number

Emergency telephone +1 (800) 255-3924, +1 (813) 248-0585

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 2 - H411

Label elements

Pictogram



Signal word

Danger

Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with plenty of water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P501 Dispose of contents/container in accordance with national regulations.

EPO-TEK E4110-LV Part A

Contains Silver, Epoxy Phenol Novolac

Other hazards

Harmful dust may be released during cutting or grinding process.

3. Composition/information on ingredients

Mixtures

Silver	60-100%
CAS number: 7440-22-4	
Classification	
Not Classified	
Epoxy Phenol Novolac	10-30%
CAS number: 9003-36-5	
Classification	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Skin Sens. 1 - H317	
Aquatic Chronic 2 - H411	
Reactive Diluent	5-10%
CAS number: Proprietary	
Classification	
Acute Tox. 4 - H302	
Acute Tox. 4 - H312	
Acute Tox. 4 - H332	
Skin Irrit. 2 - H315	
Eye Dam. 1 - H318	
Skin Sens. 1 - H317	

The Full Text for all Hazard Statements are Displayed in Section 16.

4. First-aid measures

Description of first aid measures

Inhalation	Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues.
Skin Contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

Most important symptoms and effects, both acute and delayed

Inhalation	Vapors may cause headache, fatigue, dizziness and nausea. Inhalation of dusts during cutting, grinding or sanding of this product may cause irritation of the respiratory tract.
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Ingestion	May cause discomfort if swallowed.
Skin contact	Skin irritation. Allergic rash.
Eye contact	May cause severe eye irritation.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Extinguish with the following media: Dry chemicals. Foam. Water spray.

Special hazards arising from the substance or mixture

Hazardous combustion products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapors.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions Avoid discharge to the aquatic environment.

Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

Reference to other sections For personal protection, see Section 8.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Keep away from heat, sparks and open flame. Do not eat, drink or smoke when using the product. Avoid inhalation of vapors. Provide adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage precautions Store at room temperature. Keep container tightly sealed when not in use.

Storage class Chemical storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters

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Occupational exposure limits

Silver

Long-term exposure limit (8-hour TWA): 0.1

Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield.

Hand protection

Wear protective gloves.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Paste.
Color	Silver.
Odor	Mild.
Flash point	> 93°C
Bulk density	3.1 kg/l
Solubility(ies)	Insoluble in water.
Other information	None.

10. Stability and reactivity

Reactivity	The following materials may react violently with the product: Strong oxidizing agents. Strong reducing agents. Acids. Alkalis. Heavy metals.
Stability	Stable at normal ambient temperatures.
Possibility of hazardous reactions	Will not polymerize.
Conditions to avoid	Avoid heat, flames and other sources of ignition.
Materials to avoid	Strong acids. Strong alkalis. Strong oxidizing agents. Strong reducing agents. Other metals or alloys.

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Hazardous decomposition products Fire creates: Carbon monoxide (CO). Carbon dioxide (CO₂).

11. Toxicological information

Information on toxicological effects

Inhalation Gas or vapor in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.

Ingestion May cause discomfort if swallowed.

Skin Contact Irritating to skin.

Eye contact Irritating to eyes.

12. Ecological Information

Ecotoxicity Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Persistence and degradability

Persistence and degradability No data available.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Mobility in soil

Mobility The product is insoluble in water.

Other adverse effects

Other adverse effects Not known.

13. Disposal considerations

Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

UN Number

UN No. (DOT) 3082

EPO-TEK E4110-LV Part A

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN proper shipping name**Proper shipping name (DOT)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Epoxy Phenol Novolac, Silver)**Proper shipping name (IMDG)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Epoxy Phenol Novolac, Silver)**Proper shipping name (ICAO)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Epoxy Phenol Novolac, Silver)**Transport hazard class(es)****IMDG Class** 9**ICAO class/division** 9**Transport labels****Packing group****DOT pack group** III**IMDG packing group** III**ICAO packing group** III**Environmental hazards****Environmentally Hazardous Substance****Special precautions for user****EmS** F-A, S-F**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.**15. Regulatory information****US Federal Regulations****SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

None of the ingredients are listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The following ingredients are listed:

Silver

1,000 lbs (454 Kg)

EPO-TEK E4110-LV Part A

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed.

SARA 313 Emission Reporting

The following ingredients are listed:

Silver

CAA Accidental Release Prevention

None of the ingredients are listed.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed:

Silver

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed.

Massachusetts "Right To Know" List

The following ingredients are listed:

Silver

Rhode Island "Right To Know" List

The following ingredients are listed:

Silver

Minnesota "Right To Know" List

The following ingredients are listed:

Silver

New Jersey "Right To Know" List

The following ingredients are listed:

Silver

Pennsylvania "Right To Know" List

The following ingredients are listed:

Silver

Inventories

EU - EINECS/ELINCS

Some of the ingredients are listed or exempt.

EPO-TEK E4110-LV Part A

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed.

Australia - AICS

All the ingredients are listed or exempt.

Japan - MITI

Some of the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines - PICCS

All the ingredients are listed or exempt.

16. Other information

Revision date	10/29/2015
Revision	2
Supersedes date	7/15/2014
Hazard statements in full	H302 Harmful if swallowed. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H411 Toxic to aquatic life with long lasting effects.

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Epoxy Technology, Inc. gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Epoxy Technology, Inc. accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.



SAFETY DATA SHEET EPO-TEK E4110-LV Part B

1. Identification

Product identifier

Product name EPO-TEK E4110-LV Part B

Product number E4110-LV/B

Recommended use of the chemical and restrictions on use

Application Adhesive.

Details of the supplier of the safety data sheet

Supplier Epoxy Technology, Inc.
14 Fortune Drive
Billerica, MA 01821
USA
(978) 667-3805
(978) 663-9782
www.epotek.com

Emergency telephone number

Emergency telephone +1 (800) 255-3924, +1 (813) 248-0585

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318

Environmental hazards Not Classified

Label elements

Pictogram



Signal word Danger

Hazard statements H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statements P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
P501 Dispose of contents/container in accordance with national regulations.

EPO-TEK E4110-LV Part B

Contains Polyoxypropylenediamine

3. Composition/information on ingredients

Mixtures

Polyoxypropylenediamine	60-100%
CAS number: 9046-10-0	

Classification

Acute Tox. 4 - H302

Skin Corr. 1B - H314

Eye Dam. 1 - H318

The Full Text for all Hazard Statements are Displayed in Section 16.

4. First-aid measures

Description of first aid measures

Inhalation	Remove affected person from source of contamination. Keep affected person warm and at rest. Get medical attention immediately.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention immediately.
Skin Contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

Most important symptoms and effects, both acute and delayed

Inhalation	Vapors may cause headache, fatigue, dizziness and nausea.
Ingestion	May cause stomach pain or vomiting.
Skin contact	Burning pain and severe corrosive skin damage.
Eye contact	Severe irritation, burning and tearing. Corneal damage.

Indication of immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Extinguish with the following media: Dry chemicals. Foam. Carbon dioxide (CO₂).

Special hazards arising from the substance or mixture

Hazardous combustion products Carbon monoxide (CO). Carbon dioxide (CO₂).

Advice for firefighters

Protective actions during firefighting Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

EPO-TEK E4110-LV Part B

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions Avoid release to the environment.

Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with sand or other inert absorbent. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate.

Reference to other sections For personal protection, see Section 8.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

Storage precautions Store at room temperature. Keep container tightly sealed when not in use.

Storage class Corrosive storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Ingredient comments No exposure limits known for ingredient(s).

Exposure controls

Protective equipment



Appropriate engineering controls Provide adequate ventilation.

Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

Other skin and body protection Wear appropriate clothing to prevent any possibility of skin contact.

EPO-TEK E4110-LV Part B

Hygiene measures	Provide eyewash station and safety shower. Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap and water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.
Respiratory protection	No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid.
Color	Clear liquid.
Odor	Mild.
Flash point	>121°C
Evaporation rate	<BuAc
Vapour density	>1
Solubility(ies)	Soluble in water.
Other information	None.

10. Stability and reactivity

Reactivity	The following materials may react with the product: Strong oxidizing agents. Strong reducing agents.
Stability	Stable at normal ambient temperatures.
Possibility of hazardous reactions	Will not polymerize.
Conditions to avoid	Avoid excessive heat for prolonged periods of time.
Materials to avoid	Strong oxidizing agents. Strong reducing agents.
Hazardous decomposition products	Fire creates: Carbon monoxide (CO). Carbon dioxide (CO ₂).

11. Toxicological information

Information on toxicological effects

Inhalation	Gas or vapor in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.
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EPO-TEK E4110-LV Part B

Ingestion	Harmful if swallowed. May cause stomach pain or vomiting. May cause internal injury.
Skin Contact	Causes burns. Harmful in contact with skin.
Eye contact	Causes burns.

12. Ecological Information

Ecotoxicity Not regarded as dangerous for the environment.

Toxicity

Toxicity Not considered toxic to fish.

Persistence and degradability

Persistence and degradability The product is biodegradable.

Bioaccumulative potential

Bio-Accumulative Potential The product is not bioaccumulating.

Mobility in soil

Mobility Mobile.

Other adverse effects

Other adverse effects Not known.

13. Disposal considerations

Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

UN Number

UN No. (DOT) 2735

UN No. (IMDG) 2735

UN No. (ICAO) 2735

UN proper shipping name

Proper shipping name (DOT) AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS Polyoxypropylenediamine)

Proper shipping name (IMDG) AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS Polyoxypropylenediamine)

Proper shipping name (ICAO) AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS Polyoxypropylenediamine)

Transport hazard class(es)

DOT hazard class 8

DOT hazard label Corrosive

IMDG Class 8

ICAO class/division 8

EPO-TEK E4110-LV Part B

Transport labels



Packing group

DOT pack group III

IMDG packing group III

ICAO packing group III

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

EmS F-A, S-B

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed.

SARA 313 Emission Reporting

None of the ingredients are listed.

CAA Accidental Release Prevention

None of the ingredients are listed.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-I)

None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed.

Massachusetts "Right To Know" List

None of the ingredients are listed.

EPO-TEK E4110-LV Part B

Rhode Island "Right To Know" List

None of the ingredients are listed.

Minnesota "Right To Know" List

None of the ingredients are listed.

New Jersey "Right To Know" List

None of the ingredients are listed.

Pennsylvania "Right To Know" List

None of the ingredients are listed.

Inventories

EU - EINECS/ELINCS

None of the ingredients are listed.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed.

Australia - AICS

All the ingredients are listed or exempt.

Japan - MITI

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines - PICCS

All the ingredients are listed or exempt.

16. Other information

Revision date	10/29/2015
Revision	2
Supersedes date	7/15/2014
Hazard statements in full	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Epoxy Technology, Inc. gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Epoxy Technology, Inc. accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.