



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120A
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Type:	Adhesive	Emergency Contact:	Chemtrec
Product Name:	GC POTTING EPOXY, PART A (RESIN)	Phone:	(800) 424-9300
Part Number(s):	19-823-1R 19-824-1R 19-824-2G		

SECTION 2. HAZARDS IDENTIFICATION

Potential Physical Effects: No potential physical effects.

Potential Health Effects:

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.

Potential Environmental Effects: Toxic to aquatic life with long lasting effects.

Hazard Rating System

NFPA System

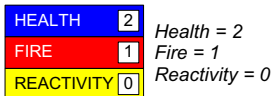
NFPA Ratings (scale 0 - 4)



NFPA special hazards (water reactivity and oxidizing property): None

HMIS System

HMIS Ratings (scale 0 - 4)



SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Mixtures

Composition/Information on Ingredients

CAS: 25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin	90-100%
NLP: 500-033-5		
CAS: 1333-86-4	Carbon black (Wetted form)	0.1-1%
EINECS: 215-609-9		



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120A
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 4. FIRST AID MEASURES

Description of First Aid Measures

General Information

Ensure medical personnel are aware of exposure and take precautions for their personal protection; see Section 8 for the information of personal protection.

After Inhalation

Remove victim from exposure.
Supply fresh air; consult doctor in case of complaints.

After Skin Contact

Remove all contaminated clothing and wash before reuse.
Wash contaminated skin with water and soap and rinse thoroughly.
Seek immediate medical advice.

After Eye Contact

Immediately rinse opened eyes for several minutes under running water.
Immediately remove contact lenses if present. Continue rinsing.
Seek immediate medical advice.

After Swallowing

If victim is unconscious; never give anything by mouth.
If victim is conscious; rinse out mouth and give victim plenty of water to drink.
Seek medical treatment in case of complaints.

After Exposure

Seek medical treatment in case of complaints.

Information for Doctor

Have chemical containers, labels and/or (M)SDS ready when calling or visiting a medical center.

Indication of any Immediate Medical Attention and Special Treatment Needed

After frequent or high intense exposure, the following medical tests are recommended:

eye tests
skin tests

Check section 11 Toxicological Information for further relevant information.

Additional Information

No further relevant information.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120A
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 5. FIRE FIGHTING MEASURES

· **Extinguishing Media**

· **Suitable Extinguishing Agent(s)**

Use fire fighting measures and extinguishing agents that suit the environment.

In case of fire, suitable extinguishing agents are:

Alcohol resistant foam.

Dry chemical or fire-extinguishing powder.

Carbon dioxide (CO₂).

Water spray or water fog.

· **Unsuitable Extinguishing Agent(s)** Water with full jet

· **Firefighting Procedures**

Isolate fire and deny unnecessary entry.

Immediately withdraw all personnel from the area in case of rising sound from venting safety device.

Eliminate all ignition sources if safe to do so.

Do not extinguish fire unless flow can be stopped.

Fight fire remotely due to the risk of explosion.

Burning liquids may be moved by flushing with water; protect personnel and minimize property damage.

Contain fire water runoff if possible to prevent environmental pollution.

Fight fire from protected location or safe distance.

· **Special Hazards Arising in Fire**

Will not burn unless preheated.

In case of fire, followings can be released:

Carbon dioxide (CO₂) and Carbon monoxide (CO)

· **Advice for Firefighters**

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).

As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.

· **Additional Information** Ensure adequate and functional fire fighting facilities equipped in working area at all times.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120A
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 6. ACCIDENTAL RELEASE MEASURES

· **Personal Precautions**

*Avoid contact with skin, eyes, and clothing.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.
Ensure personnel take precautions for their personal protection during clean up; see Section 8 for the specific requirements.*

· **Environmental Precautions**

*Keep away from sewage system or other water courses; do not penetrate ground/soil.
Inform respective authorities in case of any seepage to the environment.*

· **Cleaning Up Methods**

*Ensure adequate ventilation.
Eliminate all ignition sources.
Keep unauthorized personnel away.
For large spills:
Shut off source of leak if safe to do so.
Dike and contain.
Remove with vacuum trucks or pump to storage/salvage vessels.
Absorb residues with liquid-binding materials.
For small spills:
Use absorbent paper to pick up spills.
Ventilate and wash area after clean-up is complete.
Collect spills in suitable and properly labeled containers.
Do not use solvents unless following safe handling practices and within the recommended exposure guidelines.
Dispose contaminated chemicals as waste according to Section 13.*

· **Additional Information** *No further relevant information.*

SECTION 7. HANDLING AND STORAGE

· **Handling**

· **Precautions for Safe Handling**

*Obtain special instruction before use; do not handle until all safety precautions have been read and understood.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during handling.
Keep away from incompatible material(s).
Avoid any release to the environment.
Observe all the personal protection requirements in Section 8.*

· **Information about Protection Against Explosions and Fires**

*Will not burn unless preheated.
Keep away from heat, sparks, open flame and other ignition sources during handling.*

· **Storage**

· **Requirements to be Met by Storerooms and Receptacles**

*Store in a well-ventilated place; provide ventilation for receptacles.
Keep stored in accordance with local, regional, national, and international regulations.*

· **Information about Storage in One Common Storage Facility**

*Store away from incompatible material(s).
Store away from foodstuffs.
Avoid release to the environment.*

· **Additional Information** *No further relevant information.*

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

· **Engineering Measures or Controls**

· **Exposure Limit Values that Require Monitoring at the Workplace**

The substance/mixture does not contain any relevant quantities of substances with critical values that have to be monitored at the workplace.

· **Other Engineering Measures or Controls**

Ventilation rates should be matched to conditions.

If applicable, use process enclosure(s), local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

· **Personal Protective**

· **General Protective and Hygienic Measures**

Avoid any contact with eye.

Do not eat, drink or smoke during work.

Keep food, drink or feed away from working area.

Contaminated work clothing is not allowed out of workplace.

Clean hands and exposed skin thoroughly after work and before breaks.

· **Personal Protective Equipment (PPE)**

· **Breathing Equipment**

Caution! Improper use of respirators is dangerous.

In case of brief exposure or low pollution, use a respiratory filter device.

In case of intensive or longer exposure, use a positive-pressure respiratory protective device that is independent of circulating air.

· **Hand Protection**



Protective gloves

Selection of glove material should take into consideration the penetration times, rates of diffusion, and the degradation.

Suggested glove type(s):

Nitrile Gloves

Butyl Rubber Gloves

· **Eye Protection**



Tightly sealed goggles

· **Body Protection** *No relevant information.*

· **Additional Information**

The PPE recommendations are only guidelines and may not apply to every situation.

All protective clothing (suits, gloves, footwear, headgear) should be clean, available every day, and put on before work.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120A
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Appearance:

- Form: Liquid
- Color: Black
- Odor: Mild epoxy odor

PH-Value: Not determined.

Change in Condition:

- Melting Point: Not determined.
- Boiling Point: > 260°C (> 500 °F) (Estimated)
- Flash Point: 249°C (480 °F) (Estimated)
- Auto-ignition Temperature: Not determined.
- Explosion Limits:
 - Lower: Not determined.
 - Upper: Not determined.

Vapor Pressure at 25°C (77 °F): < 0.01 hPa (Estimated)

Density at 25°C (77 °F): 1.16 g/cm³ (9.68 lbs/gal)

Bulk Density: Not determined.

Solubility in or Miscibility with

Water: Not miscible or difficult to mix.

Segregation coefficient

LogPow (n-octanol/water): 3.7 - 3.9 (Estimated)

Henry's Law Constant: < 6.94E-09 atm·m³/mol (Estimated)

Viscosity:

Dynamic at 25°C (77 °F): 16000 mPas

Kinematic: Not determined.

Additional Information: No further relevant information.

SECTION 10. STABILITY AND REACTIVITY

Physical Hazard(s) Not a regulated reactive or physical hazard.

Hazardous Reactivity and Chemical Stability Stable under normal conditions of use, storage and temperatures.

Thermal Decomposition and Conditions to be Avoided

Keep away from incompatible material(s).

Thermally decomposes during fire or high heat; keep away from heat, sparks, open flame and other ignition sources.

Possibility of Other Hazardous Reaction(s) No further relevant information available.

Incompatible Material(s) Oxidizing agents, Acids, Bases

Hazardous Decomposition Product(s)

Thermally decomposes during fire or very high heat. See Section 5 for fire hazards evolved during thermal decomposition.

Hazardous Polymerization Product(s) No relevant information.

Additional Information No further relevant information.

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 11. TOXICOLOGICAL INFORMATION

For detailed Toxicological Information, please email the Product Safety Department.

SECTION 12. ECOLOGICAL INFORMATION

For detailed Ecological Information, please email the Product Safety Department.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazardous Waste List

Description: It may be necessary to contain and dispose of the substance/mixture as a hazardous waste.

Waste Treatment Recommendation:

Generation of waste should be avoided or minimized wherever possible.

Chemical waste, even small quantities, is neither allowed to be poured down drains, sewage system or waterways; nor disposed with household garbage. Dispose of contents/containers in accordance with local, regional, national, and international regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, ADR, IMDG, IATA UN3082

UN Proper Shipping Name

DOT, ADR, IMDG, IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Bisphenol-A-(epichlorohydrin) epoxy resin)

Transport hazard class(es)

DOT, IMDG, IATA



Class

9 Miscellaneous dangerous substances and articles.

Label

9

ADR



Class

9 (M6) Miscellaneous dangerous substances and articles

Label

9

Packing group

DOT, ADR, IMDG, IATA III



1801 Morgan Street
 Rockford, IL 61102
 Phone: (815) 968-9661
 Fax: (815) 968-9731
 www.gcelectronics.com

MSDS Number: 120A
 Revision Date: 02/15/2013
 Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 14. TRANSPORT INFORMATION (CONTINUED)

- **Environmental Hazards:**
 - **Marine Pollutant:** Yes
Symbol (fish and tree)
 - **Special Marking (ADR):** Symbol (fish and tree)
 - **Special Marking (IATA):** Symbol (fish and tree)
- **Special Precautions:** Warning: Miscellaneous dangerous substances and articles
 - **Danger Code (Kemler):** 90
 - **EMS Number:** F-A,S-F
- **Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A-(epichlorohydrin) epoxy resin), 9, III

SECTION 15. REGULATORY INFORMATION

- **USA Regulation Lists**
 - **SARA (Superfund Amendments and Reauthorization Act of 1986)**
 - **Section 302 (Extremely Hazardous Substances)**
None of the ingredients is listed.
 - **Section 313 (Toxics Release Inventory (TRI) reporting)**
None of the ingredients is listed.
 - **Section 311/312 (Hazardous Chemical Inventory Reporting)**

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin	A, C 90-100%
1333-86-4 Carbon black (Wetted form)	A, C 0.1-1%
 - **Hazard Abbreviations for SARA 311/312**
 - A - Acute Health Hazard
 - C - Chronic Health Hazard
 - F - Fire Hazard
 - R - Reactive Hazard
 - S - Sudden Release of Pressure Hazard
- **TSCA (Toxic Substances Control Act)**
All ingredients are listed.
- **Proposition 65**
 - **Chemicals Known to Cause Cancer**
None of the ingredients is listed.
 - **Chemicals Known to Cause Reproductive Toxicity for Females**
None of the ingredients is listed.
 - **Chemicals Known to Cause Reproductive Toxicity for Males**
None of the ingredients is listed.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120A
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 15. REGULATORY INFORMATION (CONTINUED)

· **Chemicals Known to Cause Developmental Toxicity**

None of the ingredients is listed.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value Established by ACGIH)**

1333-86-4 Carbon black (Wetted form)

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety and Health Administration)**

None of the ingredients is listed.

· **International Regulation Lists**

· **Canadian Domestic Substance Listings:**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

· **Chinese Chemical Inventory of Existing Chemical Substances:**

All ingredients are listed.

· **Japanese Existing and New Chemical Substance List:**

All ingredients are listed.

· **Korean Existing Chemical Inventory:**

All ingredients are listed.

· **European Commission (EC) Inventory:**

All ingredients are listed.

· **REACH - Substances of Very High Concern (SVHC) List:**

None of the ingredients is listed.

· **REACH - Chemical Safety Assessment (CSA):**

None of the ingredients is listed.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120A
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART A (RESIN)

SECTION 16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DOT: US Department of Transportation
HMIS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System
IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)
ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)
IMDG: International Maritime Dangerous Goods; the principal international rules for International Carriage of Dangerous Goods by SEA under the Recommendations on the Transport of Dangerous Goods by United Nations (RTDG)
LC50/LD50: Lethal Concentration/Dose, 50 percent
N/a: Not available or Not applicable
NFPA: US National Fire Protection Association
NIOSH: US National Institute of Occupational Safety and Health
OSHA: US Occupational Safety and Health Administration
P: Marine Pollutant
RCRA: Resource Conservation and Recovery Act (USA)
REACH: EU Registry, Evaluation and Authorisation of Chemicals
SARA: US Superfund Amendments and Reauthorization Act
TEEL: Temporary Emergency Exposure Limit developed by US Subcommittee on Consequence Assessment and Protective Actions (SCAPA) of US Department of Energy (DOE)
TSCA: US Toxic Substance Control Act

SECTION 17. DISCLAIMER

GC Electronics believes that the information contained herein is accurate and reliable as of the date of this material safety data sheet, but no representation guarantee or warranty, express or implied, is made as to the accuracy, reliability or completeness of the information. Persons receiving information are encouraged to make their own determination as to the information's suitability and completeness for their particular application. NO INFORMATION CONTAINED HEREIN CONSTITUTES A PRODUCT WARRANTY OF ANY KIND, WHETHER EXPRESS OR IMPLIED; AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY GC ELECTRONICS.



1801 Morgan Street
 Rockford, IL 61102
 Phone: (815) 968-9661
 Fax: (815) 968-9731
 www.gcelectronics.com

MSDS Number: 120B
 Revision Date: 02/15/2013
 Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Type:	Adhesive	Emergency Contact:	Chemtrec
Product Name:	GC POTTING EPOXY, PART B (HARDNER)	Phone:	(800) 424-9300
Part Number(s):	19-823-2R 19-824-2R 19-824-2G		

SECTION 2. HAZARDS IDENTIFICATION

Potential Physical Effects: No potential physical effects.

Potential Health Effects:

Harmful if swallowed.
 Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 Additional hazards, if any, may be found in Section 11.

Potential Environmental Effects: Very toxic to aquatic life with long lasting effects.

Hazard Rating System

NFPA System

NFPA Ratings (scale 0 - 4)



NFPA special hazards (water reactivity and oxidizing property): None

HMIS System

HMIS Ratings (scale 0 - 4)



SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition/Information on Ingredients

CAS: 68410-23-1	Polyamide Resin	40-50%
EC number: 614-452-7		
CAS: 100-51-6	Benzyl alcohol	10-20%
EINECS: 202-859-9		
CAS: 2855-13-2	Isophorone diamine	10-20%
EINECS: 220-666-8		
	Modified Aliphatic Amines	10-20%
CAS: 84852-15-3	4-Nonylphenol, branched	10-20%
EINECS: 284-625-5		
CAS: 112-24-3	Triethylenetetramine	2.5-5%
EINECS: 203-950-6		



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120B
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 4. FIRST AID MEASURES

Description of First Aid Measures

General Information

Symptoms may be delayed several hours after exposure; victims should be medically observed for at least 48 hours after exposure. Ensure medical personnel are aware of exposure and take precautions for their personal protection; see Section 8 for the information of personal protection.

After Inhalation

Remove victim from exposure.
Do not use mouth to mouth or mouth to nose resuscitation.
Seek immediate medical advice.

After Skin Contact

Immediately remove all contaminated clothing and put them in a tightly sealed bag.
Immediately wash contaminated skin with water and soap and rinse them thoroughly.
Seek immediate medical advice even if no symptoms develop.

After Eye Contact

Immediately rinse opened eyes for at least 15 minutes under running water.
Immediately remove contact lenses if present. Continue rinsing.
Do not put any ointments, oils or medication in eyes without specific instructions.
IMMEDIATELY transport victim to a hospital even if no symptoms develop.

After Swallowing

If victim is unconscious; never give anything by mouth.
If victim is conscious; rinse out mouth and give victim plenty of water to drink.
Do NOT induce vomiting.
If vomiting occurs spontaneously, keep victim's head below hips to prevent aspiration of liquid into lungs.
Seek immediate medical advice.

After Exposure

Move to fresh air at once.
Get medical advice/attention at once.

Information for Doctor Have chemical containers, labels and/or (M)SDS ready when calling or visiting a medical center.

Indication of any Immediate Medical Attention and Special Treatment Needed

After frequent or high intense exposure, the following medical tests are recommended:
Skin, Eye, Kidney, and Reproductive system tests

Additional Information No further relevant information.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120B
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 5. FIRE FIGHTING MEASURES

· **Extinguishing Media**

· **Suitable Extinguishing Agent(s)**

Use fire fighting measures and extinguishing agents that suit the environment.

In case of fire, suitable extinguishing agents are:

Alcohol resistant foam.

Dry chemical or fire-extinguishing powder.

Carbon dioxide (CO₂).

Water spray or water fog.

· **Unsuitable Extinguishing Agent(s)** *Water with full jet*

· **Firefighting Procedures**

Isolate fire and deny unnecessary entry.

Eliminate all ignition sources if safe to do so.

Do not extinguish fire unless flow can be stopped.

Fight fire remotely due to the risk of explosion.

Use water spray or water fog to cool fire-exposed containers.

Solid stream of water may spread fire; use water spray or water fog.

Cool all affected containers with flooding quantities of water.

Runoff from fire control or dilution water may be corrosive and/or toxic; protect personnel and minimize property damage.

Contain fire water runoff if possible to prevent environmental pollution.

Fight fire from protected location or safe distance.

· **Special Hazards Arising in Fire**

Will not burn unless preheated.

In case of fire, followings can be released:

Carbon oxides, Nitrogen oxides, Hydrogen if mixed with metals

· **Advice for Firefighters**

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).

As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.

· **Additional Information** *Ensure adequate and functional fire fighting facilities equipped in working area at all times.*



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120B
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Do not touch damaged containers or spills unless wearing appropriate protective equipment.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.
Ensure personnel take precautions for their personal protection during clean up; see Section 8 for the specific requirements.

Environmental Precautions

Keep away from sewage system or other water courses; do not penetrate ground/soil.
Inform respective authorities in case of any seepage to the environment.

Cleaning Up Methods

Ensure adequate ventilation.
Eliminate all ignition sources.
Keep unauthorized personnel away.
For large spills:
Shut off source of leak if safe to do so.
Dike and contain.
Remove with vacuum trucks or pump to storage/salvage vessels.
Absorb residues with liquid-binding materials.
For small spills:
Use absorbent paper to pick up spills.
Ventilate and wash area after clean-up is complete.
Collect spills in suitable and properly labeled containers.
Do not use solvents unless following safe handling practices and within the recommended exposure guidelines.
Dispose contaminated chemicals as waste according to Section 13.

Additional Information No further relevant information.

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for Safe Handling

Obtain special instruction before use; do not handle until all safety precautions have been read and understood.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during handling.
Avoid any body contact of containers or contents unless wearing appropriate personal protective equipment.
Ensure good ventilation and/or exhaustion at workplace.
Keep away from incompatible material(s).
Avoid any release to the environment.
Observe all the personal protection requirements in Section 8.

Information about Protection Against Explosions and Fires

Will not burn unless preheated.
Keep away from heat, sparks, open flame and other ignition sources during handling.

Storage

Requirements to be Met by Storerooms and Receptacles

Store in a well-ventilated place; provide ventilation for receptacles.
Keep stored in accordance with local, regional, national, and international regulations.

Information about Storage in One Common Storage Facility

Store away from incompatible material(s).
Store away from foodstuffs.
Avoid release to the environment.

Additional Information No further relevant information.

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures or Controls

Exposure Limit Values that Require Monitoring at the Workplace

100-51-6 Benzyl alcohol

TEEL-1 (USA) Short-term value: 260 mg/m³, 60.0 ppm
TEEL-2 (USA) Short-term value: 660 mg/m³, 150.0 ppm
TEEL-3 (USA) Short-term value: 660 mg/m³, 150.0 ppm
WEEL (USA) 10 ppm

84852-15-3 4-Nonylphenol, branched

TEEL-1 (USA) Short-term value: 20 mg/m³
TEEL-2 (USA) Short-term value: 125 mg/m³
TEEL-3 (USA) Short-term value: 500 mg/m³

112-24-3 Triethylenetetramine

WEEL (USA) (Skin) 6 mg/m³, 1 ppm

Other Engineering Measures or Controls

Ventilation rates should be matched to conditions.

If applicable, use process enclosure(s), local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Personal Protective

General Protective and Hygienic Measures

Avoid any contact with skin or eye.

Do not eat, drink or smoke during work.

Keep food, drink or feed away from working area.

Contaminated work clothing is not allowed out of workplace.

Pregnant women should avoid any inhalation or body contact with the substance/mixture.

Clean hands and exposed skin thoroughly after work and before breaks.

Personal Protective Equipment (PPE)

Breathing Equipment

Caution! Improper use of respirators is dangerous.

In case of brief exposure or low pollution, use a respiratory filter device.

In case of intensive or longer exposure, use a positive-pressure respiratory protective device that is independent of circulating air.

Hand Protection



Protective gloves

Selection of glove material should take into consideration the penetration times, rates of diffusion, and the degradation.

Suggested glove type(s):

Nitrile Gloves

Butyl Rubber Gloves

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONTINUED)

Eye Protection



Brief or short term use: Tightly sealed goggles



Intensive or long term use: Tightly sealed goggles and Face Shields

Body Protection



Intensive or long term use: Protective Clothing

Where the potential for over-exposure exists, the following protective work clothing is recommended:

Tychem® BR Coveralls

Responder® Coveralls

TK Coveralls

Trellchem® HPS and VPS Coveralls

Additional Information

The PPE recommendations are only guidelines and may not apply to every situation.

All protective clothing (suits, gloves, footwear, headgear) should be clean, available every day, and put on before work.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Appearance:

- Form: Liquid
- Color: Amber
- Odor: Amine-like

PH-Value: Not determined.

Change in Condition:

- Melting Point: Not determined.
- Boiling Point: Not determined.
- Flash Point: > 100°C (> 212 °F)
- Auto-ignition Temperature: Not determined.
- Explosion Limits:
 - Lower: Not determined.
 - Upper: Not determined.

Vapor Pressure: Not determined.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120B
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

- **Vapor Pressure:** Not determined.
- **Density at 25°C (77 °F):** 0.98 g/cm³ (8.178 lbs/gal)
- **Bulk Density:** Not determined.
- **Solubility in or Miscibility with**
 - **Water:** Not miscible or difficult to mix.
- **Viscosity:**
 - **Dynamic at 25°C (77 °F):** 3000 mPas
 - **Kinematic:** Not determined.
- **Additional Information** No further relevant information.

SECTION 10. STABILITY AND REACTIVITY

- **Physical Hazard(s)** Not a regulated reactive or physical hazard.
- **Hazardous Reactivity and Chemical Stability** Stable under normal conditions of use, storage and temperatures.
- **Thermal Decomposition and Conditions to be Avoided**
Keep away from incompatible material(s).
Thermally decomposes during fire or high heat; keep away from heat, sparks, open flame and other ignition sources.
- **Possibility of Other Hazardous Reaction(s)**
May slowly corrode Copper, Aluminum, Nickel, Cobalt, Zinc and Galvanized surfaces.
May react with strong reducing agents generating flammable hydrogen (H₂).
May potentially cause an explosion when in contact with concentrated sulfuric acid and strong hydrogen peroxide.
- **Incompatible Material(s)** Oxidizing agents, Cyanides, Acids, Chlorinated hydrocarbons
- **Hazardous Decomposition Product(s)**
Ammonia (NH₃) and/or Amines.
Thermally decomposes during fire or very high heat. See Section 5 for fire hazards evolved during thermal decomposition.
- **Hazardous Polymerization Product(s)** No relevant information.
- **Additional Information** No further relevant information.

SECTION 11. TOXICOLOGICAL INFORMATION

- **Reproductive Toxicity**
84852-15-3 4-Nonylphenol, branched
Reproductive Toxi. positive (rat) (NOAEL (oral) = 15 mg/kg/day)
There were adverse effects on pups observed at the non-maternally toxic doses; the substance was therefore classified as a suspected reproductive hazard by EU.
Reference: EPA HPVIS (2010) and REACH CLP (2012).
- **Potential Health Effect(s):** Suspected of damaging fertility or the unborn child.
- **Specific Target Organ Toxicity - Repeated Exposure**
84852-15-3 4-Nonylphenol, branched
STOT-Repeated (rat) (Target: Kidney via Oral routes)
NOAEL (oral, 90 days) = 50 mg/kg/day; there were renal tubular epithelial degeneration and renal tubular dilatation observed from the test animals.
Reference: Huntsman (M)SDS (2009), EPA HPVIS (2010), IUCLID Dataset (2000) and GHS-J (2006).



1801 Morgan Street
 Rockford, IL 61102
 Phone: (815) 968-9661
 Fax: (815) 968-9731
 www.gcelectronics.com

MSDS Number: 120B
 Revision Date: 02/15/2013
 Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

Potential Health Effect(s):

May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.

Additional Information For additional detailed Toxicological Information, please email the Product Safety Department.

SECTION 12. ECOLOGICAL INFORMATION

For detailed Ecological Information, please email the Product Safety Department.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazardous Waste List

Description:

The product has not been evaluated for its hazards when disposed as a waste by RCRA. However, it is necessary to contain and dispose of the product as a hazardous waste based on the Hazard Identification in Section 2.

Waste Treatment Recommendation:

Generation of waste should be avoided or minimized wherever possible. Chemical waste, even small quantities, is neither allowed to be poured down drains, sewage system or waterways; nor disposed with household garbage. Dispose of contents/containers in accordance with local, regional, national, and international regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, ADR, IMDG, IATA UN3267

UN Proper Shipping Name

DOT, ADR, IMDG, IATA CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ISOPHORONEDIAMINE, 4-Nonylphenol, branched)

Transport hazard class(es)

DOT



Class 8 Corrosive substances.

Label 8

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 14. TRANSPORT INFORMATION (CONTINUED)

· **ADR**



· **Class** 8 (C7) Corrosive substances
· **Label** 8

· **IMDG**



· **Class** 8 Corrosive substances.
· **Label** 8

· **IATA**



· **Class** 8 Corrosive substances.
· **Label** 8

· **Packing group**

· **DOT, ADR, IMDG, IATA** III

· **Environmental Hazards:**

· **Marine Pollutant:** Yes
Symbol (fish and tree)

· **Special Precautions:**

Warning: Corrosive substances

· **Danger Code (Kemler):** 80
· **EMS Number:** F-A,S-B
· **Segregation Groups** Alkalis

· **Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
(ISOPHORONEDIAMINE, 4-Nonylphenol, branched), 8, III



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120B
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 15. REGULATORY INFORMATION

· USA Regulation Lists

· SARA (Superfund Amendments and Reauthorization Act of 1986)

· Section 302 (Extremely Hazardous Substances)

None of the ingredients is listed.

· Section 313 (Toxics Release Inventory (TRI) reporting)

None of the ingredients is listed.

· Section 311/312 (Hazardous Chemical Inventory Reporting)

2855-13-2 Isophorone diamine

84852-15-3 4-Nonylphenol, branched

112-24-3 Triethylenetetramine

A, C 10-20%

A 10-20%

A 2.5-5%

· Hazard Abbreviations for SARA 311/312

A - Acute Health Hazard

C - Chronic Health Hazard

F - Fire Hazard

R - Reactive Hazard

S - Sudden Release of Pressure Hazard

· TSCA (Toxic Substances Control Act)

All ingredients are listed.

· Proposition 65

· Chemicals Known to Cause Cancer

None of the ingredients is listed.

· Chemicals Known to Cause Reproductive Toxicity for Females

None of the ingredients is listed.

· Chemicals Known to Cause Reproductive Toxicity for Males

None of the ingredients is listed.

· Chemicals Known to Cause Developmental Toxicity

None of the ingredients is listed.

· Carcinogenic Categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· TLV (Threshold Limit Value Established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120B
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 15. REGULATORY INFORMATION (CONTINUED)

· OSHA-Ca (Occupational Safety and Health Administration)

None of the ingredients is listed.

· International Regulation Lists

· Canadian Domestic Substance Listings:

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

112-24-3 Triethylenetetramine

· Canadian Ingredient Disclosure list (limit 1%)

100-51-6 Benzyl alcohol
2855-13-2 Isophorone diamine

· Chinese Chemical Inventory of Existing Chemical Substances:

All ingredients are listed.

· Japanese Existing and New Chemical Substance List:

All ingredients are listed.

· Korean Existing Chemical Inventory:

All ingredients are listed.

· European Commission (EC) Inventory:

All ingredients are listed.

· REACh - Substances of Very High Concern (SVHC) List:

None of the ingredients is listed.

· REACh - Chemical Safety Assessment (CSA):

None of the ingredients is listed.

SECTION 16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstracts Service (division of the American Chemical Society)
CCR: Canadian Categorization Results
ChV: Chronic Value
DOT: US Department of Transportation
ECHA: European Chemicals Agency's Dissemination portal with information on chemical substances registered under REACH



1801 Morgan Street
Rockford, IL 61102
Phone: (815) 968-9661
Fax: (815) 968-9731
www.gcelectronics.com

MSDS Number: 120B
Revision Date: 02/15/2013
Supersedes Date: 02/04/2010

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC POTTING EPOXY, PART B (HARDNER)

SECTION 16. OTHER INFORMATION (CONTINUED)

HMIS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System
HPVIS: US EPA High Production Volume Information System
IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)
ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)
IMDG: International Maritime Dangerous Goods; the principal international rules for International Carriage of Dangerous Goods by SEA under the Recommendations on the Transport of Dangerous Goods by United Nations (RTDG)
IUCLID: EU REACH International Uniform Chemical Information Database
LC50/LD50: Lethal Concentration/Dose, 50 percent
N/a: Not available or Not applicable
NFPA: US National Fire Protection Association
NIOSH: US National Institute of Occupational Safety and Health
NLM TOXNET: US National Library of Medicine Toxicology Data Network
OSHA: US Occupational Safety and Health Administration
P: Marine Pollutant
RCRA: Resource Conservation and Recovery Act (USA)
REACH: EU Registry, Evaluation and Authorisation of Chemicals
SARA: US Superfund Amendments and Reauthorization Act
TEEL: Temporary Emergency Exposure Limit developed by US Subcommittee on Consequence Assessment and Protective Actions (SCAPA) of US Department of Energy (DOE)
TSCA: US Toxic Substance Control Act

*** Data compared to the previous version altered.**

SECTION 17. DISCLAIMER

GC Electronics believes that the information contained herein is accurate and reliable as of the date of this material safety data sheet, but no representation guarantee or warranty, express or implied, is made as to the accuracy, reliability or completeness of the information. Persons receiving information are encouraged to make their own determination as to the information's suitability and completeness for their particular application. NO INFORMATION CONTAINED HEREIN CONSTITUTES A PRODUCT WARRANTY OF ANY KIND, WHETHER EXPRESS OR IMPLIED; AND ALL IMPLIED WARRANTIES OF MERCHANT ABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY GC ELECTRONICS.