Material Safety Data Sheet 115-3302

CircuitMedic, 22 Parkridge Road, Haverhill, MA 01835 USA
Phone: 978-373-1600 | Website: http://www.circuitmedic.com
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Revision Date: Jun 6, 2014

Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Circuit Bond**

Product Number: **115-3302**

Distributor: **CircuitMedic**
22 Parkridge Road, Haverhill, MA 01835 USA
PHONE: 978-373-1600, FAX: 978-372-5700

Emergency Response: **For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident**
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN4877
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

This adhesive is packaged in a 2 part plastic package including a "Resin" and "Hardener". The components are mixed just prior to use.

HMIS Rating:

Health: 3 **Flammability:** 1

Physical Hazard: 0 **Personal Protection:** B

Section 2. COMPOSITION, INFORMATION OR INGREDIENTS

Component	Chemical Name	C.A.S. Number	EINECS	Classification	% by Weight
Hardener	Amine - Epoxy Resin Adduct	Proprietary	Proprietary	Not established	60-100
Hardener	2,2'-iminodiethylamine	111-40-0	203-865-4	Xn,C;R21/22,R34,R43 *	10-30
Resin	Bisphenol A/epichlorohydrin Resin	25068-38-6	500-033-5	Xi,N; R36/38,R43,R51/53 *	85-90
Resin	N-butyl Glycidyl Ether	002426-08-6	-	-	10-15

*See Section 16

Section 3. HAZARD IDENTIFICATION

Emergency Overview:

Immediate Concerns: Corrosive. Will cause eye burns and permanent tissue damage.

Potential Health Effects:

Eyes: Corrosive to the eyes and may cause severe damage including blindness.

Skin: Causes skin burns, irritation and possible allergic reaction.

Ingestion: Can burn mouth, throat and stomach.

Inhalation: Prolonged or repeated inhalation may cause lung damage and/or central nervous system disturbances.

Signs and Symptoms of Overexposure:

Eyes: Eyes may become irritated, red or itchy.

Skin: Skin may become itchy, red or irritated.

Ingestion: Ingestion of this material can cause mouth, throat, esophageal, and gastrointestinal tract irritation.

Acute Toxicity: Symptoms of overexposure include: tearing of eyes, burning sensation in the throat, cough, chest discomfort or skin burning.

Chronic Effects: Corrosive and may cause severe and permanent damage to mouth, throat and stomach.

Sensitization: May cause allergic skin reaction.

Health Hazards: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Comments: Keep container closed when not in use. Keep away from heat and flame. Keep out of reach of children.

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Section 4. FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

Skin: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Section 5. FIRE-FIGHTING MEASURES

Hardener - Flash Point & Method: > 212 °F

Resin - Flash Point & Method: (168 &geg;F) Setaflash CC Tester-ASTM D 3828

Extinguishing Media: Use foam, dry chemical, carbon dioxide, or fine water spray when fighting fires involving this material.

Hazardous Combustion Products: Oxides of carbon, aldehydes, amines, aniline, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Fire Fighting Procedures: Firefighters / rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities are involved, evacuate area and fight fire from a safe distance.

Section 6. ACCIDENTAL RELEASE MEASURES

Small Spill: Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with paper towels or other absorbent material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with Federal, State and local regulations.

Large Spill: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on adsorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including ignitible vapors, have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Release Notes: Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Section 7. HANDLING AND STORAGE

General Procedures: Minimize contact with unprotected skin and eyes and ensure that adequate ventilation is provided in the work area. Store material in a cool, dry place.

Handling: Keep container closed when not in use, avoid contact with eyes and prolonged or repeated contact with skin. Maintain good housekeeping practices.

Storage: Keep container closed when not in use, store in a cool dry place away from heat and flames. Keep out of the reach of children and do not re-use this container.

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Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Guidelines

OSHA Hazardous Components (29 CFR1910.1200)

Hardener - Chemical Name	Exposure Limits OSHA PEL ppm	Exposure Limits OSHA PEL mg/m3	Exposure Limits ACGIH TLV ppm	Exposure Limits ACGIH TLV mg/m3
2,2'-iminodiethylamine TWA	Not established	Not established	Not established	4.2

Resin - Chemical Name	Exposure Limits OSHA PEL ppm	Exposure Limits OSHA PEL mg/m3	Exposure Limits ACGIH TLV ppm	Exposure Limits ACGIH TLV mg/m3
Bisphenol A/epichlorohydrin Resin TWA	Not established	Not established	Not established	Not established
Bisphenol A/epichlorohydrin Resin STEL	Not established	Not established	Not established	Not established
N-butyl Glycidyl Ether STEL	50		25	

Personal Protective Equipment

Eyes and Face: Wear safety glasses with side shields (or goggles) and a face shield.

Skin: Wear impervious gloves and appropriate protective clothing or equipment to prevent prolonged or repeated contact with skin. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using restroom facilities. Promptly remove contaminated clothing and launder thoroughly before reuse.

Respiratory: Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation, especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 chemicals below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Work Hygienic Practices: Maintain good housekeeping practices, minimize contact with skin and eyes, and provide appropriate ventilation.

Other Use Precautions: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Odor: Amine-like
Appearance: Clear
Color: Amber
Hardener Boiling Point: >374°F
Hardener Flashpoint: >212°F
Resin Flashpoint: 168°F
Hardener Specific Gravity: 1.090
Resin Specific Gravity: 1.130 gm/cm3

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Section 10. STABILITY AND REACTIVITY

Stable:	Yes
Hazardous Polmerization:	No
Stability:	Stable under normal handling and storage conditions.
Polymerization:	It will not vigorously polymerize, decompose, condense or not become self-reactive under conditions of shocks, pressure, or temperature. Uncontrolled mixing with resins may cause hazardous polymerization.
Conditions to Avoid:	Contact with acidic, basic, or oxidizing materials. Avoid storage in open containers, exposure to open flame or uncontrolled heat, uncontrolled mixing or exposure to incompatible substances.
Hazardous Decomposition Products:	Oxides of carbon, aldehydes, amines, aniline, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition byproducts will vary widely depending on the conditions of combustion.

Section 11. TOXICOLOGICAL INFORMATION

Acute

Hardener - Chemical Name	ORAL LD50(rat)	DERMAL LD50(rabbit)
2,2'- iminodiethylamine	1080 mg/kg	1090 mg/kg

Acute

Resin - Chemical Name	ORAL LD50 (rat)	DERMAL LD50 (rabbit)	INHALATION LC50 (rat)
Bisphenol A/epichlorohydrin Resin	> 2000 mg/kg	> 2000 mg/kg	-
N-butyl Glycidyl Ether	2260 mg/kg	788 mg/kg	1030 ppm

Eye Effects: Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Effects: Contains materials that cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization / allergic skin reactions that may be severe in certain individuals. Symptoms include rash, itching, hives, swelling.

Section 12. ECOLOGICAL INFORMATION

Environmental Data: Do not flush to sewer.

Section 13. DISPOSAL CONSIDERATIONS

Disposal Method: Dispose of container and unused contents in accordance with federal, state, and local requirements.

Empty Container: Do not re-use this container. Keep away from heat, flames or sparks. Do not cut,puncture or weld on or near this container.

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Section 14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Proper Shipping Name:	Amines, Liquid, Corrosive, N.O.S.
Technical Name:	Diethylenetriamine
Primary Hazard Class/Division:	8
UN/NA Number:	2735
Packaging Group:	III

Road and Rail (ADR/RID):

Proper Shipping Name:	Amines, Liquid, Corrosive, N.O.S.
Primary Hazard Class/Division:	8
UN/NA Number:	2735
Packaging Group:	III

Air (ICAO/IATA):

Shipping Name:	Amines, Liquid, Corrosive, N.O.S.
Technical Name:	Diethylenetriamine
Primary Hazard Class/Division:	8
UN/NA Number:	2735
Packaging Group:	III

Vessel (IMO/IMDG):

Shipping Name:	Amines, Liquid, Corrosive, N.O.S.
Technical Name:	Diethylenetriamine
Primary Hazard Class/Division:	8
UN/NA Number:	2735
Packaging Group:	III

Section 15. REGULATORY INFORMATION

United States SARA Title III (Superfund Amendments and Reauthorization Act):

Acute: Yes

Chronic: Yes

California Proposition 65: Phenyl Glycidyl Ether (CAS# 122-60-1) is present at <6 ppm. This material is known to the State of California to cause cancer.

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Section 16. OTHER INFORMATION

Relevant R-Phrases:

R21/22: Harmful in contact with skin and if swallowed.

R34: Causes burns.

R36/38: Irritating to eyes and skin.

R43: May cause sensitization by skin contact.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

REACH Compliance
This product is compliant with REACH - Registration, Evaluation, Authorization and Restriction of Chemical substances. For more information visit: http://www.circuitmedic.com/general/reach.shtml

RoHS Compliance
This product is compliant with RoHS Directive 2011/65/EU of the European Parliament and the Council from 08/06/2011 on restriction of the use of certain hazardous substances in electrical and electronic appliances. For more information visit: http://www.circuitmedic.com/general/rohs.shtml

To the best of our knowledge, the information contained herein is accurate. However, neither Circuit Technology Center, Inc., 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 which exist.

Material Safety Data Sheet 235-1000-5/235-1000-50

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Revision Date: Dec 2, 2013

Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**Self-Saturating Foam Tipped Swabs filled with 99% IPA**
Product Number:	**235-1000-5/235-1000-50**
Distributor:	**CircuitMedic 22 Parkridge Road, Haverhill, MA 01835 USA PHONE: 978-373-1600, FAX: 978-372-5700**
Emergency Response:	**For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 CCN4877 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)**

Section 2. COMPOSITION, INFORMATION OR INGREDIENTS

HMIS Rating	
Health:	2
Flammability:	4
Reactivity:	1

Section 3. HAZARD IDENTIFICATION

Ingredients	EPA Toxic	CAS #	%wt OSHA-PEL	Vapor Pressure
Isopropyl alcohol	400ppmTWA	Y	67-63-0 91%	500ppmSTEL 33 mm Hg

Section 4. FIRST AID MEASURES

Primary Route(s) of Exposure:	Swallowing, Skin Contact, Inhalation, and Eye Contact.
Signs and Symptoms of Overexposure:	
Acute Effects:	
Swallowing:	Slightly toxic. May cause abdominal discomfort, nausea, vomiting, diarrhea, loss of consciousness, and drowsiness.
Inhalation:	Vapor causes irritation of the respiratory tract, with coughing and chest discomfort.
Skin Contact:	May cause minor irritation with itching and possible slight local redness. Prolonged or repeated contact may cause defatting and drying of the skin.
Eye Contact:	Causes irritation, experienced as stinging and discomfort or pain. Corneal injury may occur.
Chronic Effects:	No adverse effects anticipated from available information.
Emergency and First Aid Procedures:	Swallowing: If patient is fully conscious, give two glasses of water. Induce vomiting and seek medical attention.
Skin:	Remove contaminated clothing. Wash skin with soap and water. If irritation persists or if contact has been prolonged, obtain medical attention.
Inhalation:	Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.
Eyes:	Immediately flush eyes with water and continue washing for several minutes. Obtain medical attention.
Notes to Physician:	There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

Material Safety Data Sheet 235-1000-5/235-1000-50

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Section 5. FIRE-FIGHTING MEASURES

Flash Point:	63 F, 17 C (Tag Open Cup ASTM D 1310
Extinguishing Media:	CO2, Foam, Dry Chemical
Unusual Fire Hazards:	Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point. Vapors from this material may settle in low or confined areas or travel a long distance to an ignition source and flash back explosively. This material may produce a floating fire hazard.

Section 6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled:	Extinguish and do not turn on any ignition source until the area is determined to be free from fire or explosion hazard. Wear suitable protective equipment. Avoid contact with eyes. Small spills can be flushed with large amounts of water; larger spills should be collected for disposal.

Section 7. HANDLING AND STORAGE

Precautions in Handling and Storage:	Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "auto ignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in the elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors."

Material Safety Data Sheet 235-1000-5/235-1000-50

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Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Respiratory Protection:	Use self-contained breathing apparatus in high vapor concentrations.
Ventilation:	General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled in closed equipment. Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.
Gloves:	Use plastic or rubber material gloves.
Eye Protection:	Monogoggles
Other:	Eye wash, safety shower.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	180.07 F
Percent Volatile:	100%
Vapor Density:	2.07
Evaporation Rate:	2.88 (Butyl Acetate = 1)

Section 10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	None Known
Incompatibility (materials to avoid):	Strong oxidizing agents, halogens, strong inorganic acids, strong inorganic acids, aldehydes, and halogen compounds.

Section 11. TOXICOLOGICAL INFORMATION

Section 12. ECOLOGICAL INFORMATION

Section 13. DISPOSAL CONSIDERATIONS

Incinerate in a furnace where permitted under Federal, State and local regulations. At very low concentrations in water, this product is biodegradable in biological wastewater treatment plant.

Section 14. TRANSPORT INFORMATION

Section 15. REGULATORY INFORMATION

Section 16. OTHER INFORMATION