

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

Product Name: GC Bond
MSDS Number: 114
Revision Date: 4/13/06
Supersedes Date: 1/27/03

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Solvent Release Adhesive
Product Name: **GC Bond**
Part Number(s): **10-4302**
10-4308

Emergency Contact: **Chemtrec**
Phone: **(800) 424-9300**

Section 1 – Identification of Product

Common Name: GC Bond
Product Name: General Purpose Industrial Adhesive
General or Generic ID – Nitrile Rubber/Resin in Solvent

| | | |
|-----------------|----------|---|
| NFPA Rating: | Least | 0 |
| Health: 1 | Slight | 1 |
| Flammability: 3 | Moderate | 2 |
| Reactivity: 0 | High | 3 |
| | Extreme | 4 |

Gloves, Safety Glasses B

Section 2 – Hazardous Ingredients

| Ingredient(s) | CAS Number | % (by Weight) |
|---------------------|--------------|---------------|
| Methyl Ethyl Ketone | 78-93-3 | 79.0 – 79.0 |
| Nitrile Rubber | Trade Secret | 9.0 – 13.0 |
| Alkylphenolic Resin | Trade Secret | 4.0 – 8.0 |
| Calcium Carbonate | 471-34-1 | 1.0 – 5.0 |
| Formaldehyde | 50-00-0 | 0.1 – 0.1 |

Section 3 – Physical Data

Boiling Point (for product): 176.0°F (80.0°C) @ 760 mmHg
Vapor Pressure (for product): 71.000 mmHg @ 68.00 F
Specific Vapor Density: 2.500 @ AIR = 1
Specific Gravity: .862 @ 77.00 F
Liquid Density: 7.180 lbs/gal @ 77.00 F
.862 kg/1 @ 25.00 C

Percent Volatiles: 78.0% – 82.0%
Evaporation Rate: SLOWER THAN ETHYL ETHER
Appearance: No data
State: LIQUID
Physical Form: No data
Color: TAN COLORED LIQUID
Odor: No data
pH: Not applicable

Section 4 – Fire and Explosion Hazard Data

| | |
|-----------------------------------|---|
| Flash Point: | 23.0°F (-5.0 C) TOC |
| Explosive Limit (for product): | Lower 2.0% Upper 12.0% |
| Autoignition Temperature: | No data |
| Hazardous Products of Combustion: | May form: carbon dioxide and carbon monoxide, hydrogen cyanide, nitrogen compounds, phenols, various hydrocarbons. |
| Fire and Explosion Hazards: | Material is volatile and readily gives off vapors which may travel along the ground or may be removed by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. |
| Extinguishing Media: | Regular foam, water fog, carbon dioxide, dry chemical. |
| Fire Fighting Instruction: | No data |

Section 5 – Health Hazard Data

| | |
|--------------------------|--|
| Potential Health Effects | |
| Eye: | May cause mild eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes |
| Skin: | Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Additional symptoms of skin contact may include: allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects) |
| Swallowing: | Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury. |
| Inhalation: | Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms usually occur at air concentrations higher than the recommended exposure limits (see section 8). |
| Symptoms of Exposure: | Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), stomach or intestinal upset (nausea, vomiting, diarrhea). |

GCElectronics

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

Product Name: GC Bond

MSDS Number: 114
Revision Date: 4/13/06
Supersedes Date: 1/27/03

Target Organ Effects: Based on animal studies, exposure to methyl ethyl ketone (MEK) increases the onset of peripheral neuropathy caused by exposure to methyl butyl ketone (MBK), and/or n-hexane, and/or ethyl butyl ketone. MEK alone has not been shown to cause peripheral neuropathy. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects, mild, reversible kidney effects.

Developmental Information: This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. The relevance of these findings to humans is uncertain.

Cancer Information: Human studies have associated nasopharyngeal cancers (area of the upper throat behind the nose) and possibly other respiratory cancers (nasal cavity and sinuses) with the formaldehyde exposure in the workplace. Although the evidence is not conclusive, some studies suggest an association between workplace formaldehyde exposure and leukemia. In studies in rats, inhalation of formaldehyde has caused nasal tumors, while ingestion in drinking water has caused leukemia and gastrointestinal tract tumors. Formaldehyde is listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) and the Occupational Safety and Health Administration (OSHA).

Other Health Effects: No data.

Primary Routes of Entry: Inhalation, skin contact, eye contact and ingestion.

First Aid Measures:

Eyes: If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

Skin: Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physicians: This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (see Potential Health Effects in section 5 – Swallowing) when deciding whether to induce vomiting. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions).

Section 6 – Reactivity Data

| | |
|---------------------------|--|
| Hazardous Polymerization: | Product will not undergo hazardous polymerization. |
| Hazardous Decomposition: | May form: carbon dioxide and carbon monoxide, hydrogen cyanide, nitrogen compounds, phenols, various hydrocarbons. |
| Chemical Stability: | Stable |
| Incompatibility: | Avoid contact with: strong oxidizing agents. |

Section 7 – Spill or Leak Procedure

| | |
|--------------|--|
| Small Spill: | Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Absorb liquid on vermiculite, floor absorbent or other absorbent material. |
| Large Spill: | Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. |

Section 8 – Special Protection Information

| | |
|-------------------------|--|
| Eye Protection: | Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative. |
| Skin Protection: | Wear resistant gloves such as: natural rubber, to prevent repeated or prolonged skin contact, wear impervious clothing and boots. |
| Respiratory Protection: | If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure. |
| Engineering Controls: | Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s). |
| Exposure Guidelines: | Component Methyl Ethyl Ketone (78-93-3) OSHA PEL 200.00ppm -TWA OSHA VPEL 200.000 ppm – TWA OSHA VPEL 300.000 ppm – STEL ACGIH TLV 200.000 ppm – TWA ACGIH TLV 300.000 ppm – STEL |
| Nitrile Rubber: | No exposure limits established. |

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

Product Name: GC Bond
 MSDS Number: 114
 Revision Date: 4/13/06
 Supersedes Date: 1/27/03

Alkylphenolic Resin: No exposure limits established.
 Calcium Carbonate (471-34-1): No exposure limits established.
 OSHA PEL 0.750ppm TWA
 OSHA PEL 2.000ppm STEL
 Formaldehyde (50-00-0): OSHA VPEL 0.750 ppm – TWA
 OSHA VPEL 2.000 ppm – STEL
 ACGIH TLV 0.300 ppm – Ceiling

Section 9 – Special Precautions

Handling: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Waste Management Information: Destroy by liquid incineration in accordance with applicable regulations.

Section 10 – Regulatory Information

US Federal Regulations
 TSCA (Toxic Substances Control Act) Status: TSCA (United States) The intentional ingredients of this product are listed.

| | | |
|------------------------------|---------------------|----------|
| CERCLA RQ – 40 CFR 302.4(a): | Component | RQ (lbs) |
| | METHYL ETHYL KETONE | 5000 |
| | FORMALDEHYDE | 100 |

CERCLA RQ – 40 CFR 302.4(b): Materials without a “listed” RQ may be reportable as an “unlisted hazardous substance”. See 40 CFR 302.5 (b)

| | | | |
|--|--------------------------|-----------|----------|
| SARA 302 Components – 40 CFR 355 Appendix A: | Section 302 Component(s) | TPQ (lbs) | RQ (lbs) |
| | FORMALDEHYDE | 500 | 100 |

| | | | |
|--|--------------------|------------------|-----------------------|
| Section 311/312 Hazard Class – 40 CFR 370.2: | <u>4</u> Immediate | <u>4</u> Delayed | <u>4</u> Fire |
| | — Reactive | — Sudden | — Release of Pressure |

| | | | |
|--------------------------------------|--------------------------|------------|-------|
| SARA 313 Components – 40 CFR 372.65: | Section 313 Component(s) | CAS Number | % |
| | METHYL ETHYL KETONE | 78-93-3 | 79.42 |
| | FORMALDEHYDE | 50-00-0 | .10 |

| | | | |
|---|------------------|-----------|----------|
| OSHA Process Safety Management – 29 CFR 1910: | PSM Component(s) | Condition | TQ (lbs) |
| | FORMALDEHYDE | | 1000 |

| | | | |
|--|-------------------------|-----------|----------|
| EPA Accidental Release Prevention – 40 CFR 68: | RMP Component(s) | Condition | TQ (lbs) |
| | FORMALDEHYDE (SOLUTION) | | 15000 |

International Regulations:
 Inventory Status
 DSL (Canada) The intentional ingredients of this product are listed.

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

Product Name: GC Bond
MSDS Number: 114
Revision Date: 4/13/06
Supersedes Date: 1/27/03

ECL (South Korea) The intentional ingredients of this product are listed.
EIWECS (Europe) The intentional ingredients of this product are listed.
IECSC (China) The intentional ingredients of this product are listed.

State and Local Regulations:

California Proposition 65
The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause cancer.
FORMALDEHYDE (GAS)
1, 3-BUTADIENE
ACRYLONITRILE

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1988: This product contains the following substance(s) known to the State of California to cause reproductive harm.
1,3-BUTADIENE
FORMALDEHYDE 50-00-0

New Jersey RTK Label Information:
Pennsylvania RTK Label Information:

METHYL ETHYL KETONE 78-93-3
2-BUTANONE 78-93-3

Section 11-Other Information

Available only in 2 oz or 8 oz bottles.

| | |
|--------------------|-----------|
| DOT Shipping Name: | Adhesives |
| Hazard Class: | 3 |
| NA or UN#: | UN1133 |
| Packing Group: | II |
| NOS Component: | None |

RQ (Reportable Quantity): 49 CFR 172.101

| Product Quantity (lbs) | Component |
|------------------------|---------------------|
| 6295 | METHYL ETHYL KETONE |
| 6296 | |

The transport information may vary with the container and mode of shipment.

GCElectronics

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

Product Name: GC Bond

MSDS Number: 114
Revision Date: 4/13/06
Supersedes Date: 1/27/03

| |
|-------------------|
| 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 this 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.**