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SDS Number: 322
Revision Date: 08/18/2015
Supersedes Date: 03/14/2014

SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC BOND

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 2	Carcinogenicity	:	Category 1B
Skin irritation	:	Category 2	Specific target organ systemic toxicity - single exposure	:	Category 3 (Central nervous system)
Eye irritation	:	Category 2A			
Skin sensitization	:	Category 1	Specific target organ systemic toxicity - repeated exposure	:	Category 2 (Skin, Nervous system, Liver, Kidney)

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Highly flammable liquid and vapor.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause cancer.
May cause damage to organs (Skin, Nervous system, Liver, Kidney) through prolonged or repeated exposure.

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SECTION 2. HAZARDS IDENTIFICATION (CONTINUED)

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

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SECTION 3. COMPOSITION / INFORMATION OF INGREDIENTS

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
ACETONE	67-64-1	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	71.76
METHYL ETHYL KETONE	78-93-3	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	4.75
CALCIUM CARBONATE	471-34-1		2.89
PHENOL	108-95-2	Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1; H314 Eye Dam. 1; H318 STOT RE 2; H373	1.02
FORMALDEHYDE	50-00-0	Flam. Liq. 4; H227 Acute Tox. 3; H301	0.12

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SECTION 3. COMPOSITION / INFORMATION OF INGREDIENTS (CONTINUED)

		Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Carc. 1B; H350	

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
If unconscious place in recovery position and seek medical advice.
Consult a physician after significant exposure.

In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.

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SECTION 4. FIRST AID MEASURES (CONTINUED)

If swallowed	:	Obtain medical attention. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting. Phenol concentrations greater than 1.5% produce irritation and greater than 5% are corrosive; vomiting can cause further damage to the mouth and throat. Do not dilute the swallowed material, since this may enhance its absorption. Seek immediate medical attention. If possible, do not leave the individual unattended. Vomiting and diarrhea may occur spontaneously.
Most important symptoms and effects, both acute and delayed	:	This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion. Ingestion of large amounts or other significant exposure to this material (or a component) may cause alkalosis. Excessive calcium intake may cause gastrointestinal symptoms, hypertension, hypercalcemia, kidney stones, and may inhibit absorption of iron, zinc, and possibly other trace elements. Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Pulmonary edema may be delayed. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Cough low body temperature irregular heartbeat cyanosis (causes blue coloring of the skin and nails from lack of oxygen) lung edema (fluid buildup in the lung tissue) Convulsions respiratory failure Difficulty in breathing Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness.

SECTION 4. FIRST AID MEASURES (CONTINUED)

May cause cancer.
May cause damage to organs through prolonged or repeated exposure.

Notes to physician : Phenol adsorbs to activated charcoal, and it maybe preferable to ipecac-induced emesis because seizures or coma may onset rapidly and because of the corrosive effects of phenol. A usual activated charcoal dose in adults is 30-100 g and in children is 15-30 g. Activated charcoal should be administered with, or followed by, a cathartic. If endoscopy is planned, charcoal may obscure visualization of affected areas. Gastric lavage may be indicated if it is performed soon after ingestion or in patients who are comatose or at risk of seizures. Monitor for seizures, metabolic acidosis and ventricular dysrhythmias.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide
Hydrogen cyanide (hydrocyanic acid)
nitrogen oxides (NOx)
calcium oxide
acid vapors

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SECTION 5. FIRE-FIGHTING MEASURES (CONTINUED)

Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Other information	:	Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

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SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Open drum carefully as content may be under pressure.
Avoid formation of aerosol.
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours/dust.
Do not smoke.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Container hazardous when empty.
Take precautionary measures against static discharges.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

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SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION (CONTINUED)

ACETONE	67-64-1	TWA	500 ppm	ACGIH
		STEL	750 ppm	ACGIH
		REL	250 ppm 590 mg/m3	NIOSH/GUIDE
		PEL	1,000 ppm 2,400 mg/m3	OSHA_TRANS
		TWA	250 ppm	ACGIHLIS_P
		STEL	500 ppm	ACGIHLIS_P
		TWA	750 ppm 1,800 mg/m3	Z1A
		STEL	1,000 ppm 2,400 mg/m3	Z1A
METHYL ETHYL KETONE	78-93-3	TWA	200 ppm	ACGIH
		STEL	300 ppm	ACGIH
		REL	200 ppm 590 mg/m3	NIOSH/GUIDE
		STEL	300 ppm 885 mg/m3	NIOSH/GUIDE
		PEL	200 ppm 590 mg/m3	OSHA_TRANS
CALCIUM CARBONATE	471-34-1	PEL	5 mg/m3 Respirable fraction.	OSHA_TRANS
		PEL	15 mg/m3 Total dust.	OSHA_TRANS
		REL	5 mg/m3 Respirable.	NIOSH/GUIDE
		REL	10 mg/m3 Total	NIOSH/GUIDE
PHENOL	108-95-2	TWA	5 ppm	ACGIH
		REL	5 ppm 19 mg/m3	NIOSH/GUIDE
		Ceil_Time	15.6 ppm 60 mg/m3	NIOSH/GUIDE
		PEL	5 ppm 19 mg/m3	OSHA_TRANS
		TWA	5 ppm 19 mg/m3	TN OEL

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SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION (CONTINUED)

FORMALDEHYDE	50-00-0	Ceiling	0.3 ppm	ACGIH
		REL	0.016 ppm	NIOSH/GUIDE
		Ceil_Time	0.1 ppm	NIOSH/GUIDE
		TWA	0.75 ppm	OSHASP
		STEL	2 ppm	OSHASP
		OSHA_ACT	0.5 ppm	OSHASP
		Ceiling	0.3 ppm	ACGIHLIS_P

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
ACETONE	67-64-1	acetone	Urine	Sampling time: End of shift.	50 mg/l	
Remarks:	Nonspecific					
METHYL ETHYL KETONE	78-93-3	methylEthyl Ketone	Urine	Sampling time: End of shift.	2 mg/l	ACGIH BEI
Remarks:	Nonspecific					
PHENOL	108-95-2	Phenol with hydrolysis	Creatinine in urine	Sampling time: End of shift.	250 mg/g	
Remarks:	Background, Nonspecific					

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION (CONTINUED)

otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Colour	:	tan
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	-4 °F / -20 °C Method: Seta closed cup
Evaporation rate	:	1 Ethyl Ether
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	0.8577 (77.00 °F)
Density	:	0.8577 g/cm3 (77.00 °F)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	600 mPa.s
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air. Formaldehyde reacts with peroxides, phenol, strong acids, amines and strong oxidizing agents. Formaldehyde reacts violently with nitrogen dioxide, nitromethane, perchloric acid, perchloric acid-aniline mixtures, or peroxyformic acid to yield explosive compounds.It reacts with hydrochloric acid or to organic chlorides to form the carcinogen, bis(chloromethyl)ether.

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SECTION 10. STABILITY AND REACTIVITY (CONTINUED)

Conditions to avoid	:	Heat, flames and sparks. excessive heat	Hazardous decomposition products	acid vapors calcium oxide carbon dioxide and carbon monoxide
Incompatible materials	:	1,3-butadiene Acids alkalis ammonium salts aluminum aluminum salts Amines Ammonia Copper Copper alloys halogenated hydrocarbons halogens Iron Lead magnesium peroxides Reducing agents strong alkalis Strong oxidizing agents Zinc		

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Eye Contact Ingestion

Acute toxicity
Not classified based on available information.
Components:
ACETONE:

Acute oral toxicity	:	LD 50 (Rat, female): 5,800 mg/kg
Acute inhalation toxicity	:	LC 50 (Rat, female): 76 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD 50 (Rabbit): > 7,426 mg/kg

METHYL ETHYL KETONE:

Acute oral toxicity	:	LD 50 (Rat): 2,300 - 3,500 mg/kg

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

Acute dermal toxicity	:	LD 50 (Rabbit): > 5 g/kg
CALCIUM CARBONATE:		
Acute oral toxicity	:	LD 50 (Rat): 6,450 mg/kg
Acute inhalation toxicity	:	LC 50 (Rat): > 3 mg/l Exposure time: 4 h Method: OECD Test Guideline 403 Assessment: Not classified as acutely toxic by inhalation under GHS. Remarks: Aerosol
Acute dermal toxicity	:	LD 50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402
PHENOL:		
Acute oral toxicity	:	LD 50 (Rat): 317 mg/kg LD 50 (Mouse): 270 mg/kg Assessment: The component/mixture is classified as acute oral toxicity, category 3.
Acute inhalation toxicity	:	Assessment: The component/mixture is classified as acute inhalation toxicity, category 3.
Acute dermal toxicity	:	LD 50 (Rabbit): 850 mg/kg LD50 (Rat, females): 660 mg/kg Method: OECD Test Guideline 402
FORMALDEHYDE:		
Acute oral toxicity	:	LD 50 (Guinea pig): 260 mg/kg LD 50 (Rat): 100 mg/kg LD 50 (Rat, Male): 800 mg/kg Assessment: The component/mixture is classified as acute oral toxicity, category 3.
Acute inhalation toxicity	:	LC 50 (Rat): 588 mg/m3 Exposure time: 4 h Test atmosphere: gas Assessment: The component/mixture is classified as acute inhalation toxicity, category 3.
Acute dermal toxicity	:	LD 50 (Rabbit): 288 mg/kg

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SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

Skin corrosion/irritation
Causes skin irritation.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Remarks: May cause skin irritation and/or dermatitis.

Components:
ACETONE:
Result: Mildly irritating to skin

Result: Repeated exposure may cause skin dryness or cracking.

METHYL ETHYL KETONE:
Result: Not irritating to skin

CALCIUM CARBONATE:
Result: Not irritating to skin

PHENOL:
Result: Corrosive to skin

FORMALDEHYDE:
Result: Causes burns.

Serious eye damage/eye irritation
Causes serious eye irritation.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin., Causes serious eye irritation.

Components:
ACETONE:
Result: Irritating to eyes

METHYL ETHYL KETONE:
Result: Irritating to eyes

CALCIUM CARBONATE:
Result: Not irritating to eyes

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

PHENOL**:**
Result: Corrosive to eyes

FORMALDEHYDE**:**
Result: Corrosive to eyes

Respiratory or skin sensitisation
Skin sensitisation: May cause an allergic skin reaction.
Respiratory sensitisation: Not classified based on available information.
Components:
FORMALDEHYDE**:**
Result: Does not cause respiratory sensitisation.

Result: May cause sensitisation by skin contact.

Germ cell mutagenicity
Not classified based on available information.
Components:
PHENOL**:**

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Test species: Chinese hamster ovary cells Metabolic activation: with metabolic activation Method: OECD Test Guideline 473 Result: positive
	:	Test Type: Micronucleus test Test species: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 487 Result: positive
Genotoxicity in vivo	:	Test Type: Micronucleus test Test species: Mouse (male and female) Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: positive

FORMALDEHYDE**:**

Genotoxicity in vitro	:	Test Type: Ames test Test species: Salmonella typhimurium Metabolic activation: without metabolic activation Result: positive

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

: Test Type: Chromosome aberration test in vitro
Test species: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: positive

: Test Type: In vitro mammalian cell gene mutation test
Test species: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Result: negative

: Test Type: in vitro assay
Test species: Human lymphocytes
Metabolic activation: with and without metabolic activation
Result: Conflicting results have been seen in different studies.

Genotoxicity in vivo : Test Type: Micronucleus test
Test species: Mouse
Application Route: Oral
Result: negative

Test Type: Micronucleus test
Test species: Mouse
Application Route: inhalation (gas)
Result: negative

Test Type: in vivo assay
Test species: Rat
Application Route: inhalation (gas)
Result: negative

Test Type: Mouse specific locus test
Test species: Mouse
Application Route: inhalation (gas)
Result: negative

Test Type: Mammalian bone marrow sister chromatid exchange
Test species: Rat
Application Route: inhalation (gas)
Result: negative

Test Type: comet assay
Test species: Rat
Application Route: inhalation (gas)
Result: negative

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

Carcinogenicity
May cause cancer.
Components:
FORMALDEHYDE**:**
Species: Rat

Application Route: Ingestion
Result: negative

Species: Mouse
Application Route: Dermal
Result: negative

Species: Rat
Application Route: Inhalation
Result: positive
Carcinogenicity - Assessment : Presumed to have carcinogenic potential for humans

Reproductive toxicity
Not classified based on available information.
Components:
FORMALDEHYDE**:**
Effects on fertility : Remarks: No data available
Effects on foetal development : Species: Rat
Result: No teratogenic effects

STOT - single exposure
May cause drowsiness or dizziness.
Components:
ACETONE**:**
Exposure routes: Inhalation
Target Organs: Nervous system
Assessment: May cause drowsiness or dizziness.

METHYL ETHYL KETONE**:**
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
May cause damage to organs (Skin, Nervous system, Liver, Kidney) through prolonged or repeated exposure.

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

Components:
PHENOL**:**
Target Organs: Skin
Assessment: May cause damage to organs through prolonged or repeated exposure.

Target Organs: Nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Target Organs: Liver
Assessment: May cause damage to organs through prolonged or repeated exposure.

Target Organs: Kidney
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity
Components:

FORMALDEHYDE**:**
Species: Rat
No observed adverse effect level: 82 mg/kg
Application Route: Ingestion

Species: Rat
No observed adverse effect level: 1.2 mg/m3
Application Route: inhalation (gas)
Target Organs: Nose, Upper respiratory tract

Aspiration toxicity
Not classified based on available information.
Product:
No aspiration toxicity classification

Components:
ACETONE**:**
May be harmful if swallowed and enters airways.

METHYL ETHYL KETONE**:**
May be harmful if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

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SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

Components:

METHYL ETHYL KETONE:
Remarks: Central nervous system

PHENOL:
Remarks: Central nervous system

Remarks: Blood

Carcinogenicity:

IARC	Group 1: Carcinogenic to humans	
	FORMALDEHYDE	50-00-0
OSHA	OSHA specifically regulated carcinogen	
	FORMALDEHYDE	50-00-0
NTP	Known to be human carcinogen	
	FORMALDEHYDE	50-00-0

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

ACETONE:

Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 4,740 - 6,330 mg/l Exposure time: 96 h Test Type: static test LC 50 (Fathead minnow (Pimephales promelas)): 8,733 - 9,482 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to algae	:	NOEC (Microcystis aeruginosa): 530 mg/l Exposure time: 8 d Test Type: static test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 2,112 mg/l Exposure time: 28 d Test Type: flow-through test

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SAFETY DATA SHEET

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Product Name: GC BOND

SECTION 12. ECOLOGICAL INFORMATION (CONTINUED)

METHYL ETHYL KETONE:

Toxicity to fish	:	LC 50 (Fathead minnow (Pimephales promelas)): 3,130 - 3,320 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 4,025 - 6,440 mg/l Exposure time: 48 h Test Type: static test Remarks: Intoxication

CALCIUM CARBONATE:

Toxicity to fish	:	LC 50 (Gambusia affinis (Mosquito fish)): > 56,000 mg/l Exposure time: 96 h Test Type: static test

PHENOL:

Toxicity to fish	:	LC 50 (Oncorhynchus mykiss (rainbow trout)): 7.5 - 14 mg/l Exposure time: 96 h Test Type: static test LC 50 (Fathead minnow (Pimephales promelas)): 67.5 mg/l Exposure time: 96 h Test Type: flow-through test LC 50 (Danio rerio (zebra fish)): 27.8 mg/l Exposure time: 96 h Method: Static Remarks: Mortality
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Water flea (Ceriodaphnia dubia)): 3.1 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 61.1 mg/l Exposure time: 96 h Test Type: static test
Toxicity to fish (Chronic toxicity)	:	NOEC (Fish): 0.077 mg/l Exposure time: 60 d Test Type: semi-static test

SECTION 12. ECOLOGICAL INFORMATION (CONTINUED)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Daphnia magna)): 0.16 mg/l
Exposure time: 16 d
Test Type: semi-static test

FORMALDEHYDE**:**

Toxicity to fish : LC 50 (Danio rerio (zebra fish)): 41 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

LC 50 (Striped bass (Morone saxatilis)): 6.7 mg/l
Exposure time: 96 h
Method: Static

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 29 mg/l
Exposure time: 48 h
Method: Static
Remarks: Intoxication

EC 50 (Water flea (Daphnia pulex)): 5.8 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Desmodesmus subspicatus): 4.89 mg/l
Exposure time: 72 h

Toxicity to bacteria : EC 50 (activated sludge): 19 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition

Persistence and degradability

Components:

ACETONE**:**

Biodegradability : Result: Readily biodegradable
Biodegradation: 90.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

PHENOL**:**

Biodegradability : Result: Readily biodegradable
Biodegradation: 62 %
Exposure time: 100 h
Method: OECD Test Guideline 301C

SECTION 12. ECOLOGICAL INFORMATION (CONTINUED)

FORMALDEHYDE:

Biodegradability	:	aerobic Result: Readily biodegradable Biodegradation: 90 % Exposure time: 28 d Method: OECD Test Guideline 301D aerobic Result: Readily biodegradable Biodegradation: > 90 % Exposure time: 2 Weeks Method: OECD Test Guideline 301C
Photodegradation	:	

Bioaccumulative potential

Components:

ACETONE:

Partition coefficient: n-octanol/water	:	log Pow: -0.24

METHYL ETHYL KETONE:

Partition coefficient: n-octanol/water	:	log Pow: 0.29

PHENOL:

Partition coefficient: n-octanol/water	:	log Pow: 1.46

FORMALDEHYDE:

Bioaccumulation	:	Remarks: No bioaccumulation is to be expected (log Pow <= 4).
Partition coefficient: n-octanol/water	:	log Pow: 0.35 (25 °C)

Mobility in soil

Components:

No data available

Other adverse effects

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SECTION 12. ECOLOGICAL INFORMATION (CONTINUED)

Product:

Additional ecological information : No data available

Components:

FORMALDEHYDE:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	1133	Adhesives	3	II

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SECTION 14. TRANSPORT INFORMATION (CONTINUED)

U.S. DOT - RAIL

UN	1133	Adhesives	3	II

U.S. DOT - INLAND WATERWAYS

UN	1133	Adhesives	3	II

TRANSPORT CANADA - ROAD

UN	1133	ADHESIVES	3	II

TRANSPORT CANADA - RAIL

UN	1133	ADHESIVES	3	II

TRANSPORT CANADA - INLAND WATERWAYS

UN	1133	ADHESIVES	3	II

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1133	ADHESIVES	3	II

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1133	Adhesives	3	II

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1133	Adhesives	3	II

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1133	ADHESIVOS	3	II

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SECTION 14. TRANSPORT INFORMATION (CONTINUED)

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ACETONE	67-64-1	5000	6967.670011

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard
Fire Hazard

SARA 313 Component(s)

PHENOL	108-95-2	1.02 %
FORMALDEHYDE	50-00-0	0.12 %

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

FORMALDEHYDE	50-00-0
VINYLCYCLOHEXENE, 4-	100-40-3
BENZENE	71-43-2
ACRYLONITRILE	107-13-1
1,3, BUTADIENE	106-99-0

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Product Name: GC BOND

SECTION 15. REGULATORY INFORMATION (CONTINUED)

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

VINYLCYCLOHEXENE, 4-	100-40-3
BENZENE	71-43-2
1,3, BUTADIENE	106-99-0

The components of this product are reported in the following inventories:

TSCA	:	On TSCA Inventory
DSL	:	All components of this product are on the Canadian DSL.
AUSTR	:	On the inventory, or in compliance with the inventory
NZIOC	:	On the inventory, or in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECL	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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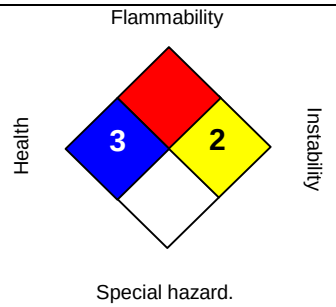
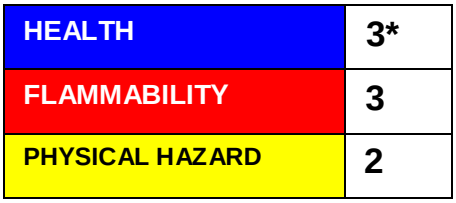
SECTION 16. OTHER INFORMATION

Further information

Revision Date: 05/26/2015

NFPA:	HMIS III:
	

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification

not determined

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapor.
H227	Combustible liquid.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

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SECTION 16. OTHER INFORMATION (CONTINUED)

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

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SECTION 16. OTHER INFORMATION (CONTINUED)

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.
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Discontinued

MSDS Number: 315
Revision Date:05/25/2012
Supersedes Date: 05/01/2009

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC BOND

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Type: Solvent Release Adhesive
Product Name: **GC BOND**
Part Number(s): ~~10-4302-A~~ ~~10-4308-A~~ being Discontinued, changing to 10-4302-B

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

HMIS RATINGS		NFPA RATINGS	
Health:	3	Health:	3
Flammability:	3	Flammability:	3
Physical Hazards:	2	Instability:	2
Specific Hazard:	--	Specific Hazard:	--

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, tan

WARNING! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. CAUSES EYE IRRITATION. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE DERMATITIS AND BURNS. MAY BE HARMFUL IF SWALLOWED. MAY BE HARMFUL IF INHALED. MAY CAUSE ALLERGIC RESPIRATORY REACTION.

Potential Health Effects

Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

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SECTION 2. HAZARDS IDENTIFICATION (CONTINUED)

Eye contact

Can cause severe eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure eye tissue.

Skin contact

Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage.

Ingestion

This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation

Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.). May cause allergic respiratory reaction.

Aggravated Medical Condition

Pre-existing disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions), blood-forming system, liver, kidney, central nervous system, gastrointestinal tract, heart, nervous system, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias., Individuals with pre-existing heart disorders may be more susceptible to arrhythmias (irregular heartbeats) if exposed to high concentrations of this material.

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Product Name: GC BOND

SECTION 2. HAZARDS IDENTIFICATION (CONTINUED)

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: abnormal coloring of the skin, allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects), stomach or intestinal upset (nausea, vomiting, diarrhea), thirst, irritation (nose, throat, airways), cough, lung irritation, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, sleep disturbances, low body temperature, lowered blood pressure, abdominal pain, effects on heart rate, respiratory depression (slowing of the breathing rate), difficulty in breathing, irregular heartbeat, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), high blood sugar, pneumonia, allergic reaction (causes narrowing of the air passages of the lungs, sweating, flushing, hives, rapid heart rate, and lowered blood pressure), lung edema (fluid buildup in the lung tissue), shock, convulsions, respiratory failure, coma.

Target Organs

This material (or a component) shortens the time of onset or worsens the liver and kidney damage induced by other chemicals. 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 butylketone. MEK alone has not been shown to cause peripheral neuropathy. Chronic phenol poisoning is characterized by digestive disorders such as anorexia and weight loss, and by nervous disorders, with headache, fainting, vertigo, and mental disturbances. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: nervous system effects, blood abnormalities, kidney damage, liver damage, heart damage and lung damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: central nervous system effects, effects on lung function.

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SECTION 2. HAZARDS IDENTIFICATION (CONTINUED)

Carcinogenicity

Human studies have associated nasopharyngeal cancers (area of the upper throat behind the nose) and possibly other respiratory cancers (nasal cavity and sinuses) with 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).

Reproductive hazard

This material (or a component) may be harmful to the human fetus based on positive test results with laboratory animals.

Other information

Formaldehyde has been positive in tests which measure permanent changes to the DNA in germ cells of mammals. Changes in these cells can be passed on to future generations. The relevance of this finding to human health is uncertain.

SECTION 3. COMPOSITION / INFORMATION OF INGREDIENTS

Hazardous Components	CAS-No.	Concentration
ACETONE	67-64-1	>=70-<80%
METHYL ETHYL KETONE	78-93-3	>=1.5-<5%
CALCIUM CARBONATE	471-34-1	>=1.5-<5%
PHENOL	108-95-2	>=1-<1.5%
ORTHO CRESOL	95-48-7	>=0.1-<0.5%
FORMALDEHYDE	50-00-0	>=0.1-<0.5%

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SECTION 4. FIRST AID MEASURES

Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate 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.

Ingestion

Do not induce vomiting. Phenol concentrations greater than 1.5% produce irritation and greater than 5% are corrosive; vomiting can cause further damage to the mouth and throat. Do not dilute the swallowed material, since this may enhance its absorption. Seek immediate medical attention. If possible, do not leave the individual unattended. Vomiting and diarrhea may occur spontaneously.

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.

Notes to physician

Hazards: This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion. Ingestion of large amounts or other significant exposure to this material (or a component) may cause alkalosis. Excessive calcium intake may cause gastrointestinal symptoms, hypertension, hypercalcemia, kidney stones, and may inhibit absorption of iron, zinc, and possibly other trace elements. Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Pulmonary edema may be delayed. Formaldehyde ingestion can cause a reduction in body temperature, jaundice, acidosis, and hematuria; and may also cause albuminuria and anuria. Metabolic acidosis and hyperlactatemia may occur as a result of acute inhalation exposure.

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Product Name: GC BOND

SECTION 4. FIRST AID MEASURES (CONTINUED)

Treatment: Phenol adsorbs to activated charcoal, and it may be preferable to ipecac-induced emesis because seizures or coma may onset rapidly and because of the corrosive effects of phenol. A usual activated charcoal dose in adults is 30-100 g and in children is 15-30 g. Activated charcoal should be administered with, or followed by, a cathartic. If endoscopy is planned, charcoal may obscure visualization of affected areas. Gastric lavage may be indicated if it is performed soon after ingestion or in patients who are comatose or at risk of seizures. Monitor for seizures, metabolic acidosis and ventricular dysrhythmias.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, Carbon dioxide (CO2), Water spray

Hazardous combustion products

Carbon dioxide and carbon monoxide, calcium oxide, acid vapors

Precautions for fire-fighting

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Water may be ineffective for extinguishment unless used under favorable conditions by experienced fire fighters. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Ensure adequate ventilation. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind.

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SECTION 6. ACCIDENTAL RELEASE MEASURES (CONTINUED)

Environmental precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Other information

Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapors/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

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.

Storage

Store in a cool, dry, ventilated area, away from incompatible substances.

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MSDS Number: 315
Revision Date:05/25/2012
Supersedes Date: 05/01/2009

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: GC BOND

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Guidelines

ACETONE		**67-64-1**	
ACGIH	time weighted average	500 ppm	
ACGIH	Short term exposure limit	750 ppm	
NIOSH	Recommended exposure limit (REL):	250 ppm	
NIOSH	Recommended exposure limit (REL):	590 mg/m3	
OSHA Z1	Permissible exposure limit	1,000 ppm	
OSHA Z1	Permissible exposure limit	2,400 mg/m3	
METHYL ETHYL KETONE		**78-93-3**	
ACGIH	time weighted average	200 ppm	
ACGIH	Short term exposure limit	300 ppm	
NIOSH	Recommended exposure limit (REL):	200 ppm	
NIOSH	Recommended exposure limit (REL):	590 mg/m3	
NIOSH	Short term exposure limit	300 ppm	
NIOSH	Short term exposure limit	885 mg/m3	
OSHA Z1	Permissible exposure limit	200 ppm	
OSHA Z1	Permissible exposure limit	590 mg/m3	
CALCIUM CARBONATE		**471-34-1**	
NIOSH	Recommended exposure limit (REL):	10 mg/m3	Total
NIOSH	Recommended exposure limit (REL):	5 mg/m3	Respirable.
OSHA Z1	Permissible exposure limit	5 mg/m3	Respirable fraction.
OSHA Z1	Permissible exposure limit	15 mg/m3	Total dust.
PHENOL		**108-95-2**	
ACGIH	time weighted average	5 ppm	
NIOSH	Recommended exposure limit (REL):	5 ppm	
NIOSH	Recommended exposure limit (REL):	19 mg/m3	
NIOSH	Ceiling Limit Value and Time Period (if specified):	15.6 ppm	
NIOSH	Ceiling Limit Value and Time Period (if specified):	60 mg/m3	
OSHA Z1	Permissible exposure limit	5 ppm	
OSHA Z1	Permissible exposure limit	19 mg/m3	

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FORMALDEHYDE		50-00-0
ACGIH	Ceiling Limit Value:	0.3 ppm
NIOSH	Recommended exposure limit (REL):	0.016 ppm
NIOSH	Recommended exposure limit (REL):	0.016 ppm
NIOSH	Ceiling Limit Value and Time Period (if specified):	0.1 ppm
NIOSH	Ceiling Limit Value and Time Period (if specified):	0.1 ppm
OSHA	time weighted average	0.75 ppm
OSHA	Short term exposure limit	2 ppm
OSHA	OSHA Action level:	0.5 ppm

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye protection

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist. Maintain eye wash station near work area.

Skin and body protection

Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.
Wear resistant gloves (consult your safety equipment supplier).
Discard gloves that show tears, pinholes, or signs of wear.

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SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION (CONTINUED)

Respiratory protection

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	no data available
Color	tan
Odor	no data available
Boiling point/boiling range	no data available
Melting point/range	no data available
Sublimation point	no data available
pH	no data available
Flash point	-4 °F / -20 °C Seta closed cup
Ignition temperature	no data available
Evaporation rate	1 Ethyl Ether
Lower explosion limit/Upper explosion limit	no data available
Particle size	no data available
Vapor pressure	no data available
Relative vapor density	no data available
Density	0.8577 g/cm3 @ 77.00 °F / 25.00 °C 7.1534 lb/gal @ 77.00 °F / 25.00 °C
Bulk density	No data
Water solubility	no data available
Solubility(ies)	no data available
Partition coefficient: n-octanol/water	no data available
log Pow	no data available
Autoignition temperature	no data available

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

Viscosity, dynamic	600 mPa.s
Viscosity, kinematic	no data available
Solids in Solution	no data available
Decomposition temperature	no data available
Burning number	no data available
Dust explosion constant	no data available
Minimum ignition energy	no data available

SECTION 10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

Excessive heat, flames and sparks.

Incompatible products

1,3-butadiene, acids, alkalis, ammonium salts, aluminum, aluminum salts, amines, ammonia, copper, copper alloys, halogenated hydrocarbons, halogens; iron, lead, magnesium, peroxides, reducing agents, strong oxidizing agents, zinc

Hazardous decomposition products

Carbon dioxide and carbon monoxide, calcium oxide, acid vapors

Hazardous reactions

Formaldehyde reacts with peroxides, phenol, strong acids, amines and strong oxidizing agents. Formaldehyde reacts violently with nitrogen dioxide, nitromethane, perchloric acid, perchloric acid-aniline mixtures, or peroxyformic acid to yield explosive compounds.It reacts with hydrochloric acid or to organic chlorides to form the carcinogen, bis(chloromethyl)ether.

Thermal decomposition

No data

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

ACETONE	:	LD 50 Rat: 5,800 mg/kg
METHYL ETHYL KETONE	:	LD 50 Rat: 2,300 - 3,500 mg/kg
CALCIUM CARBONATE	:	LD 50 Rat: 6,450 mg/kg
PHENOL	:	LD 50 Rat: 317 mg/kg
ORTHO CRESOL	:	LD 50 Rat: 121 mg/kg
FORMALDEHYDE	:	LD 50 Rat: 100 mg/kg LD 50 Mouse: 42 mg/kg LD 50 Rat: 2,020 mg/kg

Acute inhalation toxicity

ACETONE	:	LC 50 Rat: > 16000 ppm; 4 h
METHYL ETHYL KETONE	:	LC 50 Rat: 11,700 mg/l; 4 h
CALCIUM CARBONATE	:	no data available
PHENOL	:	LC 50 Rat: 316 mg/m3; 4 h
ORTHO CRESOL	:	LC 50 Rat: (>) 1,220 mg/m3; 1 h LC 50 Mouse: 0.179 mg/l; 2 h
FORMALDEHYDE	:	LC 50 Rat: 203 mg/m3; 2 h

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SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

Acute dermal toxicity

ACETONE	:	LD 50 Rabbit: > 20,000 mg/kg
METHYL ETHYL KETONE	:	LD 50 Rabbit: > 5 g/kg
CALCIUM CARBONATE	:	no data available
PHENOL	:	LD 50 Rabbit: 850 mg/kg
ORTHO CRESOL	:	LD 50 Rabbit: 890 mg/kg
FORMALDEHYDE	:	LD 50 Rabbit: 288 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Biodegradability

ACETONE	:	no data available
METHYL ETHYL KETONE	:	no data available
CALCIUM CARBONATE	:	no data available
PHENOL	:	no data available
ORTHO CRESOL	:	no data available
FORMALDEHYDE	:	no data available

Bioaccumulation

ACETONE	:	no data available
METHYL ETHYL KETONE	:	no data available
CALCIUM CARBONATE	:	no data available
PHENOL	:	no data available
ORTHO CRESOL	:	no data available
FORMALDEHYDE	:	no data available

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SECTION 12. ECOLOGICAL INFORMATION (CONTINUED)

Ecotoxicity effects

Toxicity to fish

ACETONE	:	96 h static test LC 50 Rainbow trout, Donaldson trout (Oncorhynchus mykiss): 4,740.00 - 6,330.00 mg/l 96 h static test LC 50 Bluegill (Lepomis macrochirus): 8,300.00 mg/l 96 h flow-through test LC 50 Fathead minnow (Pimephales promelas): 8,733.00 - 9,482.00 mg/l
METHYL ETHYL KETONE	:	96 h flow-through test LC 50 Fathead minnow (Pimephales promelas): 3,130.00 - 3,320.00 mg/l ; Mortality
CALCIUM CARBONATE	:	96 h LC 50 Gambusia affinis (Mosquito fish): > 56,000.00 mg/l Method: Static; Mortality
PHENOL	:	96 h LC 50 Rainbow trout, Donaldson trout (Oncorhynchus mykiss): 7.50 - 14.00 mg/l Method: Static; Mortality 96 h LC 50 Danio rerio (zebra fish): 27.80 mg/l Method: Static; Mortality
ORTHO CRESOL	:	96 h LC 50 Fathead minnow (Pimephales promelas): 9.72 - 15.92 mg/l Method: Static; Mortality 96 h LC 50 Rainbow trout, Donaldson trout (Oncorhynchus mykiss): 8.40 mg/l Method: Flow through; Mortality
FORMALDEHYDE	:	96 h LC 50 Danio rerio (zebra fish): 41.00 mg/l Method: Static; Mortality

Toxicity to daphnia and other aquatic invertebrates.

ACETONE	:	no data available
METHYL ETHYL KETONE	:	48 h static test EC 50 Water flea (Daphnia magna): 4,025.00 - 6,440.00 mg/l Intoxication
CALCIUM CARBONATE	:	no data available

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SECTION 12. ECOLOGICAL INFORMATION (CONTINUED)

Ecotoxicity effects

Toxicity to daphnia and other aquatic invertebrates:

PHENOL	:	48 h EC 50 Water flea (Daphnia magna): 4.24 - 10.70 mg/l Method: Static Intoxication
ORTHO CRESOL	:	48 h EC 50 Water flea (Daphnia magna): 15.80 mg/l Method: Static Intoxication
FORMALDEHYDE	:	48 h EC 50 Water flea (Daphnia magna): 29.00 mg/l Method: Static Intoxication

Toxicity to algae

ACETONE	:	no data available
METHYL ETHYL KETONE	:	no data available
CALCIUM CARBONATE	:	no data available
PHENOL	:	no data available
ORTHO CRESOL	:	72 h Duckweed (Lemna minor): 750.00 mg/l Method: Static Mortality
FORMALDEHYDE	:	no data available

Toxicity to bacteria

ACETONE	:	no data available
METHYL ETHYL KETONE	:	no data available
CALCIUM CARBONATE	:	no data available
PHENOL	:	no data available
ORTHO CRESOL	:	no data available
FORMALDEHYDE	:	no data available

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SECTION 12. ECOLOGICAL INFORMATION (CONTINUED)

Ecotoxicity effects

Biochemical Oxygen Demand (BOD)

ACETONE	:	no data available
METHYL ETHYL KETONE	:	no data available
CALCIUM CARBONATE	:	no data available
PHENOL	:	no data available
ORTHO CRESOL	:	no data available
FORMALDEHYDE	:	no data available

Chemical Oxygen Demand (COD)

ACETONE	:	no data available
METHYL ETHYL KETONE	:	no data available
CALCIUM CARBONATE	:	no data available
PHENOL	:	no data available
ORTHO CRESOL	:	no data available
FORMALDEHYDE	:	no data available

Additional ecological information

ACETONE	:	no data available
METHYL ETHYL KETONE	:	no data available
CALCIUM CARBONATE	:	no data available
PHENOL	:	no data available
ORTHO CRESOL	:	no data available
FORMALDEHYDE	:	no data available

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SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Destroy by liquid incineration in accordance with applicable regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

SECTION 14. TRANSPORT INFORMATION

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
U.S. DOT - ROAD					
UN 1133	Adhesives	3		II	
Label: Flammable Liquid					
Description: Nitrite Rubber, Resin Adhesive					
Shipping Information For Less Than One Gallon:					
DOT Shipping Name: Consumer Commodity					
DOT Hazard Class: ORM-D					
U.S. DOT - RAIL					
UN 1133	Adhesives	3		II	
U.S. DOT - INLAND WATERWAYS					
UN 1133	Adhesives	3		II	
TRANSPORT CANADA - ROAD					
UN 1133	ADHESIVES	3		II	
TRANSPORT CANADA - RAIL					
UN 1133	ADHESIVES	3		II	
TRANSPORT CANADA - INLAND WATERWAYS					
UN 1133	ADHESIVES	3		II	
INTERNATIONAL MARITIME DANGEROUS GOODS					
UN 1133	ADHESIVES	3		II	
INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO					
UN 1133	Adhesives	3		II	

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SECTION 14. TRANSPORT INFORMATION (CONTINUED)

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1133	Adhesives	3	II

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1133	ADHESIVOS	3	II

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

California Prop. 65

WARNING! This product contains a chemical known to the State of California to cause cancer.	FORMALDEHYDE QUARTZ (SiO2) VINYLCYCLOHEXENE, 4- BENZENE ACRYLONITRILE 1,3, BUTADIENE
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.	VINYLCYCLOHEXENE, 4- BENZENE 1,3, BUTADIENE

SARA Hazard Classification

Fire Hazard
Acute Health Hazard
Chronic Health Hazard

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SECTION 15. REGULATORY INFORMATION (CONTINUED)

SARA 313 Component(s)

PHENOL	1.02 %
FORMALDEHYDE	0.12 %

New Jersey RTK Label Information

ACETONE	67-64-1
SYNTHETIC RUBBER	800986-5046P
PHENOLIC RESIN	254504001-5605
METHYL ETHYL KETONE	78-93-3
CALCIUM CARBONATE	471-34-1
PHENOL	108-95-2
FORMALDEHYDE	50-00-0

Pennsylvania RTK Label Information

ACETONE	67-64-1
SYNTHETIC RUBBER	800986-5046P
PHENOLIC RESIN	254504001-5605
METHYL ETHYL KETONE	78-93-3
CALCIUM CARBONATE	471-34-1
PHENOL	108-95-2
FORMALDEHYDE	50-00-0

Notification status

US. Toxic Substances Control Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	n (Negative listing)
Japan. Kashin-Hou Law List	n (Negative listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)

Reportable quantity - Product

US. EPA CERCLA Hazardous Substances (40 CFR 302)	6967 lbs

Reportable quantity-Components

ACETONE	67-64-1	5000 lbs

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SECTION 16. OTHER INFORMATION

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.
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Discontinued

Changed to 10-4302-A
MSDS 315

Product Name: GC Bond
MSDS Number: 114
Revision Date: 5/01/09
Supersedes Date: 4/13/06

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**	**Emergency Contact:**	**Chemtrec**
	10-4308	**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:			
Health:	1	Least	0
Flammability:	3	Slight	1
Reactivity:	0	Moderate	2
		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).

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 nasopharyhgeal 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.

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: X Immediate X Delayed X 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.

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: METHYL ETHYL KETONE 78-93-3
Pennsylvania RTK Label Information: 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.

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Discontinued

Product Name: GC Bond
MSDS Number: 114
Revision Date: 5/01/09
Supersedes Date: 4/13/06

Disclaimer

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