

## NATIONAL STARCH AND CHEMICAL

MSDS ID: EC343000

MSDS DATE 15-February-2006



### \*\*\* MATERIAL SAFETY DATA SHEET \*\*\*

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS ID: EC343000  
PRODUCT NAME: ECCOBOND® G-500  
Epoxy Adhesive  
Manufacturer: Emerson & Cuming  
A National Starch & Chemical Company  
46 Manning Road  
Billerica, MA 01821

##### EMERGENCY CONTACT NUMBERS:

MEDICAL: 866-359-5657 (Health & Safety Call Center-24 hours)

TRANSPORT: CHEMTREC: 800.424.9300 (24 hours)

CHEMTREC International: 703.527.3887 (call collect)

Corporate Emergency Phone: 978.436.9781 (8AM-5PM, Mon-Fri EST)

MSDS Requests/Cust. Service: 781.828.3300 (8AM-5PM, Mon-Fri EST)

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY	Formulated Epoxy Resin		
COMPONENT	CAS NUMBER	CONCENTRATION	
		(% by weight)	
Epoxy Resin	PROPRIETARY	35 - 50	
Talc	14807-96-6	5 - 10	
Trimethyloethane triglycidyl ether	68460-21-9	1 - 5	
Bisphenol A-epichlorohydrin polymer	25068-38-6	1 - 5	
Trade Secret - 10004	TS ref# 10004	1 - 5	
Silica, crystalline	14808-60-7	<1	

#### 3. HAZARDS IDENTIFICATION

##### EMERGENCY OVERVIEW

WARNING.  
Possible cancer hazard.  
EYE IRRITANT.

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SKIN IRRITANT.  
SKIN SENSITIZER.  
Gray Paste Slight odor

EYE	Irritating, but does not injure eye tissue.
SKIN CONTACT	Irritating to the skin. Repeated and/or prolonged contact may cause skin sensitization.
INHALATION	Unlikely to be hazardous by inhalation because of the low vapor pressure of the material at ambient temperature. If the cured product is to be sanded or ground, wet sanding is recommended to eliminate airborne dust. Appropriate respiratory protection is suggested. Vapor or aerosol, if generated, can cause irritation of the eyes, nose and respiratory tract. Avoid breathing vapors or mists.
INGESTION	Ingestion may cause irritation of the gastrointestinal tract.

### 4. FIRST-AID MEASURES

EYE	Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain medical attention.
SKIN CONTACT	Remove grossly contaminated clothing, including shoes, and launder before re-use. Discard shoes. Wash skin with soap and water. If symptoms develop, obtain medical attention.
INHALATION	Remove to fresh air. Administer oxygen to aid breathing. Get medical attention.
INGESTION	DO NOT attempt to give anything by mouth to an unconscious person. If individual is conscious, give water to dilute stomach contents. Get prompt medical attention.

### 5. FIREFIGHTING MEASURES

AUTOIGNITION	Not available
FLASH POINT	> 200 °F
EXTINGUISHING MEDIA	Dry Chemical; CO2; Foam; Do not use direct water stream on burning liquid.
SPECIAL FIREFIGHTING PROCEDURES	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.; Cool exposed equipment with water spray.
FIRE & EXPLOSION HAZARDS	Combustible at high temperatures. Combustion will evolve toxic and irritant vapors. Prolonged exposure to elevated temperatures may cause uncontrolled exothermic reactions resulting in decomposition and charring of the material.
HAZARDOUS COMBUSTION PRODUCTS	Carbon monoxide, carbon dioxide, chlorine compounds, hydrocarbons of indeterminate nature (depending on conditions).
	May evolve hydrogen chloride.
LOWER EXPLOSION LIMIT (%)	Not applicable
UPPER EXPLOSION LIMIT (%)	Not applicable

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### 6. ACCIDENTAL RELEASE MEASURES

**SPILL AND LEAK PROCEDURES** Ventilate area. May cause allergic skin reaction. Use suitable protective clothing. Absorb spillages onto sand, earth or any suitable absorbent material. Do not allow to enter drains, sewers or watercourses. Scrape absorbed material into proper waste containers. Wash area with soap and water; prevent entry of wash water into drains or other waterways. Dispose of wastes and water in accordance with all applicable federal, state and local regulations.

For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

### 7. HANDLING AND STORAGE

STORAGE TEMPERATURE	25 °C
SHELF LIFE, (Days)	120
HANDLING/STORAGE	Keep in original containers until point of use. Keep containers properly sealed when not in use.
SENSITIVITY TO STATIC ELECTRICITY	No
SPECIAL SENSITIVITY	Avoid excessive heat.
SENSITIVITY TO MECHANICAL IMPACT	No
OTHER PRECAUTIONS	This material should not be spilled, dumped, or flushed into sewers or public waterways.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT	EXPOSURE LIMITS		
	<u>ACGIH</u>	<u>OSHA</u>	<u>Mfg Working Standard</u>
Talc	ACGIH-TWA: 2 mg/m3		
Silica, crystalline	0.05 mg/m3 TWA (respirable fraction)		
VENTILATION REQUIREMENTS	Provide local exhaust ventilation system to meet published exposure limits.		
EYE PROTECTION REQUIREMENTS	Wear safety glasses with side shields.		
GLOVE REQUIREMENTS	Employee must wear appropriate protective gloves to prevent contact with this substance. Nitrile rubber or Viton™ gloves are recommended. Cotton or other absorbent gloves should not be worn.		
CLOTHING REQUIREMENTS	Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.		
CHANGE/REMOVAL OF CLOTHING	Remove contaminated clothing and launder before reuse.		
WASH REQUIREMENTS	Wash exposed areas with soap and water.		

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RESPIRATOR REQUIREMENTS	None required under normal handling conditions. NIOSH approved respirator if required. Self-contained breathing apparatus in emergency and non-routine situations.
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### 9. PHYSICAL AND CHEMICAL PROPERTIES

PURE SUBSTANCE OR MIXTURE	Mixture
PHYSICAL FORM	Paste
COLOR	Gray
ODOR	Slight
ODOR THRESHOLD	Not available
PH AS IS	Not applicable
pH IN (1%) SOLUTION	Not applicable
OXIDIZING PROPERTIES	Not applicable
BOILING POINT	Polymerizes
MELTING/FREEZING POINT	Not determined.
SOLUBILITY IN WATER	Insoluble
PARTITION COEFFICIENT (n-octanol/water)	Not determined.
SPECIFIC GRAVITY (WATER=1)	1.45
BULK DENSITY	Not available
EVAPORATION RATE	Not applicable
VAPOR PRESSURE (mmHg)	< 0.1 mm Hg
VAPOR DENSITY (air = 1)	> 1.0
VOLATILES	< 5 %/wt
VOLATILE ORGANIC COMPOUNDS	0.2 g/liter
AUTOIGNITION	Not available
FLASH POINT	> 200 °F

### 10. STABILITY AND REACTIVITY

STABILITY	Stable
STABILITY DETAIL	Material is stable under recommended storage temperatures and pressures.
MATERIALS TO AVOID	Strong acids, Strong bases, Strong oxidizers, Amines, Mercaptans
CONDITIONS TO AVOID	Elevated temperatures
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon monoxide, carbon dioxide, chlorine compounds, hydrocarbons of indeterminate nature (depending on conditions). May evolve hydrogen chloride.
HAZARDOUS POLYMERIZATION CONDITIONS	Heat may cause hazardous polymerization.
REACTIVITY	May polymerize with amine compounds.

### 11. TOXICOLOGICAL INFORMATION

ROUTE OF ENTRY	Eye Contact; Skin Contact; Inhalation; Ingestion
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CARCINOGEN	<u>IARC</u>	<u>NTP</u>	<u>OSHA Substance</u>
COMPONENT	<u>(group)</u>		<u>Specific Regulation</u>
Silica, quartz	Yes (1)	No	Not Listed

## CHRONIC (LONG TERM) EFFECTS OF EXPOSURE

TARGET ORGANS

Skin

SKIN SENSITIZATION

Sensitizer. May cause allergic reaction.

## PRODUCT TOXICOLOGY

PRODUCT INFORMATION

This data sheet is based on a consideration of the properties of the constituents.

When heated, the vapor given off can cause irritation of the eyes, nose and respiratory tract.

COMPONENT	ORAL TOXICITY	NOTES ON ORAL TOXICITY
Epoxy Resin	Oral LD50: Rat > 5000 mg/kg	Unlikely to be hazardous if swallowed.
Talc	Oral LD50: Rat 920 mg/kg	Ingestion may cause irritation of the gastrointestinal tract.
Trimethyloethane triglycidyl ether		Low oral toxicity.
Bisphenol A-epichlorohydrin polymer	Oral LD50: Rat 11400 mg/kg Oral LD50: Mouse 15600 mg/kg	Ingestion may cause irritation of the gastrointestinal tract.
Trade Secret - 10004		Low oral toxicity.
Silica, crystalline		No hazard in normal industrial use.

COMPONENT	DERMAL TOXICITY	NOTES ON DERMAL TOXICITY
Epoxy Resin	Dermal LD50: Rabbit > 6000 mg/kg	Repeated or prolonged skin contact may result in moderate irritation. Repeated and/or prolonged contact may cause skin sensitization.
Talc		Repeated or prolonged skin contact may result in moderate irritation.
Trimethyloethane triglycidyl ether		Irritating to the skin. Repeated and/or prolonged contact may cause skin sensitization. Can be rapidly absorbed through skin.

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Bisphenol A- epichlorohydrin polymer	Dermal LD50: Rabbit > 20000 mg/kg	Irritating to the skin. Repeated and/or prolonged contact may cause skin sensitization.
Trade Secret - 10004		Repeated or prolonged skin contact may result in moderate irritation. Repeated and/or prolonged contact may cause skin sensitization.
Silica, crystalline		Non-irritant.
<b>COMPONENT</b> Epoxy Resin	<b>INHALATION TOXICITY</b>	<b>NOTES ON INHALATION TOXICITY</b> Unlikely to be hazardous by inhalation because of the low vapor pressure of the material at ambient temperature.
Talc	Inhalation LC50 (4hr): Rat > 22 mg/l	Dust is irritant to the respiratory tract. Exposure to high concentrations may produce lung damage. Dust generated during product use is in the respirable range.
Trimethyloethane triglycidyl ether		Vapors and/or aerosols which may be formed at elevated temperatures may be irritating to eyes and respiratory tract.
Bisphenol A- epichlorohydrin polymer		Vapors and/or aerosols which may be formed at elevated temperatures may be irritating to eyes and respiratory tract.
Trade Secret - 10004		Unlikely to be hazardous by inhalation.
Silica, crystalline		Dust is irritant to the respiratory tract. Exposure to high concentrations may produce lung damage. Dust generated during product use is in the respirable range.
<b>COMPONENT</b> Epoxy Resin		<b>NOTES ON EYE IRRITATION</b> May cause eye irritation.
Talc		Particulates may scratch eye surfaces and cause mechanical irritation.
Trimethyloethane triglycidyl ether		Will cause eye irritation. May cause permanent damage if eye is not immediately irrigated.
Bisphenol A- epichlorohydrin polymer		Irritating, but does not injure eye tissue.

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Trade Secret - 10004

Slight/mild irritant.

Silica, crystalline

Particulates may scratch eye surfaces and cause mechanical irritation.

### 12. ECOLOGICAL INFORMATION

POTENTIAL EFFECT ON ENVIRONMENT	May cause harm to aquatic organisms. Do not allow to enter drains, sewers or watercourses.
MOBILITY	Insoluble
PERSISTENCE AND DEGRADABILITY	Not readily biodegradable.
POTENTIAL TO BIOACCUMULATE	The product has low potential for bioaccumulation.
AQUATIC TOXICITY	None Established

### 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS	Disposal should be in accordance with local, state or national legislation.
EMPTY CONTAINER	Empty containers may contain product residue; follow MSDS and label
WARNINGS	warnings even after they have been emptied.

### 14. TRANSPORTATION INFORMATION

This section provided for general information only.

FOR NON-BULK SHIPMENTS.

FOR MORE COMPLETE TRANSPORTATION REGULATORY INFORMATION PLEASE REFER TO THE SHIPPING DOCUMENTS ACCOMPANYING THE SHIPMENT OF THIS PRODUCT.

**DOT CLASSIFICATION** Not Regulated

**ICAO/IATA CLASSIFICATION** Not classified as dangerous.

The information provided herein may not include the impact of additional regulatory requirements (eg, for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/of marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

### 15. REGULATORY INFORMATION

**TSCA** All components are on the TSCA inventory.

**SARA/TITLE III**

Contains no substances at or above the reporting threshold under Section 313.

**CAS NUMBER**

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### CALIFORNIA PROPOSITION 65

WARNING: This product contains the following chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm.

Unless a concentration is specified in Section 2 of the MSDS, the below chemical/s are present in trace amounts.

COMPONENT	CAS NUMBER
Diuron	330-54-1
Silica, crystalline	14808-60-7
Carbon black	1333-86-4
Epichlorohydrin	106-89-8
Phenyl glycidyl ether	122-60-1

## 16. OTHER INFORMATION

### HMIS® Hazard Ratings

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs by OSHA's 29 CFR 1910.1200, we choose to provide them as a service to our customers using HMIS®. These ratings are to be used only with a fully implemented HMIS® program. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

NPCA recommends that employers must determine appropriate PPE for the actual conditions under which this product is used in their workplace. For information on PPE codes, consult the HMIS® Implementation Manual.

HMIS® is a registered trademark of the National Paint and Coatings Association (NPCA).

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
2	1	1

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FOR INFORMATION CONTACT:

Emerson & Cuming Product Safety:

Tel: 978.436.9781

Fax: 978.436.9707

CHANGES SINCE PREVIOUS ISSUE

Entire Material Safety Data Sheet.

ADDITIONAL INFORMATION: The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.