

**Prod.Name:** TB1217F-GM  
**Manufacturer:** Three Bond International, Inc.  
**HMCS ID:** 355428  
**SUC:** 06 - Adhesives, Sealers - General

# MATERIAL SAFETY DATA SHEET

**Revision:** 29.Jan.2009  
**Effective:** 29.Jan.2009  
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## 1 PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT INFORMATION

**Product Name:** TB1217F-GM

**Product Code:** 1201-01-01

#### External Keys:

Engine Sealant Primary Tradename - Distributable Material  
PMRV0383 PMRV  
88861417 Distributable Material (Part #)  
12378521 Distributable Material (Part #)  
88864346 Distributable Material (Part #)  
10-2006 Distributable Material (Part #)

### MANUFACTURER INFORMATION

**Manufacturer:** Three Bond International, Inc.

#### Address:

6184 SCHUMACHER PARK USA OHIO 45069 WEST CHESTER MAILING  
DRIVE

#### Communication Lines:

Phone 800-424-9300 CHEMTREC  
Phone 513-779-7300 EMERGENCY

#### Comment:

INFORMATION CONTACT: (513) 779-7300, Regulatory Department

#### Comment:

PRODUCT DESCRIPTION: One component silicone rubber compound

## 2 INGREDIENT INFORMATION

### FORMULATION

#### Ingredients:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Prefix</u>	<u>Value</u>	<u>Unit</u>	<u>Exposure Limits</u>
SILOXANES AND SILICONES	989984-36-3	Range	40-60	% Wt	No
CARBONIC ACID, CALCIUM SALT (1:1)	471-34-1	Range	29 - 32	% Wt	Yes
SILICA, CRYSTALLINE - QUARTZ	14808-60-7	Range	14-17	% Wt	Yes
Silane, dichlorodimethyl-, reaction products with silica	68611-44-9	Range	4-7	% Wt	No
2-Butanone, O,O',O''-(ethenylsilylidyne)trioxime	2224-33-1	Range	2-5	% Wt	No
TITANIUM OXIDE	13463-67-7	<	1	% Wt	Yes
CARBON BLACK	1333-86-4	<	0.1	% Wt	Yes

## 3 HAZARDS IDENTIFICATION

#### Hazards Overview:

##### EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: Product generates MEKO upon contact with water or humid air. Irritating to eyes, respiratory system and skin. May cause sensitization. Possible cancer hazard.

#### Specific Hazards (Routes Of Exposure):

<u>Exposure Routes</u>	<u>Exposure Duration</u>	<u>Observation</u>
Skin Contact	Acute	Repeated or prolonged contact may cause slight irritation leading to dermatitis. Product contains oximes which are possible skin sensitizers.
Eye Contact	Acute	Direct contact may cause slight irritation with

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### 3 HAZARDS IDENTIFICATION

#### Specific Hazards (Routes Of Exposure):

<u>Exposure Routes</u>	<u>Exposure Duration</u>	<u>Observation</u>
Inhalation	Acute	redness and swelling. Overexposure to the vapor of the curing by-product, MEKO, can cause drowsiness, and may irritate nose and throat.
Ingestion	Acute	Not a likely route of entry. Swallowing small amounts should not cause injury. Swallowing large amounts may cause internal injury.

#### Effects Of Overexposure:

##### SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE TOXICITY: Overexposure to MEKO, a curing by-product, can cause drowsiness, blood and liver injury, and may irritate the nose and throat.

#### Medical Conditions Aggravated By Exposure:

Not provided.

#### Additional Health Hazard Data:

SENSITIZATION: Product contains oximes which are possible skin sensitizers.

### 4 FIRST AID MEASURES

#### First Aid By::

Inhalation	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. If signs or symptoms persist, seek medical attention.
Skin Contact	Remove product from skin. Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.
Ingestion	Rinse mouth well with water. Never give an unconscious person anything to ingest. Do not induce vomiting unless directed to do so by medical personnel. Seek immediate medical attention.

### 5 FIRE FIGHTING MEASURES

#### Extinguishing Media:

Use dry chemical powder, carbon dioxide, water fog, or foam.

#### Fire and Explosion Hazards:

HAZARDOUS COMBUSTION PRODUCTS: Carbon oxides. Traces of incompletely burned carbon compounds. Silicon dioxide. Nitrogen oxides. Formaldehyde. Metal oxides. May burn in the presence of sparks or open flames.

#### Special Fire Fighting Procedures:

As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHAINIOSH approved or equivalent) and full protective gear. Product generates MEKO upon contact with water or humid air.

### 6 ACCIDENTAL RELEASE MEASURES

#### PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

##### Personal Precautions:

LARGE SPILL: Wear proper protective equipment.

##### Environmental Precautions:

Keep spilled material from entering storm drains, sewers, or other environmental mediums.

#### SPILL OR LEAK PROCEDURES

##### Recovery:

SMALL SPILL: Use appropriate tools to put the spilled solid in a waste disposal container.

LARGE SPILL: Stop spill or leak at source. Use appropriate tools to put the spilled material in a waste container.

##### Disposal:

Disposal of clean-up materials may be governmentally regulated. Observe all applicable local, state, and federal waste management

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**6 ACCIDENTAL RELEASE MEASURES**

**SPILL OR LEAK PROCEDURES**

**Disposal:**  
regulations.

**7 HANDLING AND STORAGE**

**HANDLING**

**Safe Handling Procedures:**

Avoid contact with eyes and skin. This material is a potential skin sensitizer. Wear appropriate protective equipment. Use with adequate ventilation. Wash hands thoroughly with soap and water after handling.

**STORAGE**

**Storage Conditions:**

Keep container closed when not in use. Store in a dry, cool, well-ventilated area. Store away from heat, sources of ignition, water, or moisture.

**8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering Measures:**

Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**EXPOSURE LIMITS**

**Limit Values:**

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Type</u>	<u>Value</u>	<u>Specification</u>	<u>Source</u>
CARBONIC ACID, CALCIUM SALT (1:1)	471-34-1	TLV-TWA	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
CARBONIC ACID, CALCIUM SALT (1:1)	471-34-1	PEL-TWA	15mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
SILICA, CRYSTALLINE - QUARTZ	14808-60-7	TLV-TWA	50ug/m3	-	Threshold Limit Values (TLVs) - ACGIH
SILICA, CRYSTALLINE - QUARTZ	14808-60-7	State-TWA	100ug/m3	-	MICHIGAN
SILICA, CRYSTALLINE - QUARTZ	14808-60-7	State-TWA	100ug/m3	-	NEW YORK
SILICA, CRYSTALLINE - QUARTZ	14808-60-7	State-TWA	100ug/m3	-	TENNESSEE
SILICA, CRYSTALLINE - QUARTZ	14808-60-7	GM OEG -TWA	100ug/m3	-	GM Occupational Exposure Guidelines (OEG)
TITANIUM OXIDE	13463-67-7	PEL-TWA	15mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
TITANIUM OXIDE	13463-67-7	GM OEG -TWA	10mg/m3	-	GM Occupational Exposure Guidelines (OEG)
TITANIUM OXIDE	13463-67-7	TLV-TWA	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH

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### 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

#### EXPOSURE LIMITS

##### Limit Values:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Type</u>	<u>Value</u>	<u>Specification</u>	<u>Source</u>
TITANIUM OXIDE	13463-67-7	State-TWA	10mg/m3	-	MICHIGAN
TITANIUM OXIDE	13463-67-7	State-TWA	5mg/m3	-	NEW YORK
TITANIUM OXIDE	13463-67-7	State-TWA	10mg/m3	-	TENNESSEE
CARBON BLACK	1333-86-4	PEL-TWA	3.5mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
CARBON BLACK	1333-86-4	GM OEG -TWA	3.5mg/m3	-	GM Occupational Exposure Guidelines (OEG)
CARBON BLACK	1333-86-4	TLV-TWA	3.5mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
CARBON BLACK	1333-86-4	State-TWA	3.5mg/m3	-	MICHIGAN
CARBON BLACK	1333-86-4	State-TWA	3.5mg/m3	-	NEW YORK
CARBON BLACK	1333-86-4	State-TWA	3.5mg/m3	-	TENNESSEE

##### Comment:

Product generates methyl ethyl ketoxime (MEKO) upon contact with water or humid air. MEKO exposure limits: TWA, 3 ppm from Vendor Guide (United States)

ATEA TWA, 10 ppm, STEL, 10 ppm (Workplace Environmental Exposure Level, United States)

#### PERSONAL PROTECTIVE EQUIPMENT

##### Personal Protective Equipment (PPE):

Eye Protection Safety glasses.  
Skin Protection Chemically impervious clothing should be worn if potential for skin contact.  
Respiratory Protection In case of insufficient ventilation, wear suitable respiratory equipment.  
Hand Protection Gloves (chemically impervious).

##### Hygiene Measures:

Wash hands before eating, smoking, or using restroom. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

### 9 PHYSICAL AND CHEMICAL PROPERTIES

#### APPEARANCE

**Physical State:** Paste.

**Color:** Grey.

**Odor:** Oxime odor.

#### PHYSICAL PROPERTIES

##### Vapor Pressure:

Negligible

##### Vapor Density:

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### 9 PHYSICAL AND CHEMICAL PROPERTIES

#### PHYSICAL PROPERTIES

**Vapor Density:**

> 1

**Evaporation Rate:**

< 1

**Density:**

Density = 12.34 lb/gal

**Specific Gravity:**

= 1.48

**VOC:**

Analytical VOC (by wt.) = 0.42 lb/gl EPA Method 24, Weight Loss Determination.

### 10 STABILITY AND REACTIVITY

#### STABILITY INFORMATION

**Stability Under Normal Conditions:** Stable

**Conditions to Avoid:**

Contact with water, moisture, or humid air causes curing and MEKO vapors form gradually.

**Hazardous Polymerization:**

Will not occur.

#### HAZARDOUS DECOMPOSITION

**Reactions:**

Type of Reaction

Reaction Products

Thermal Decomposition

HAZARDOUS COMBUSTION PRODUCTS: Carbon oxides. Traces of incompletely burned carbon compounds. Silicon dioxide. Nitrogen oxides. Formaldehyde. Metal oxides.

Decomposition

Carbon oxides. Traces of incompletely burned carbon products. Formaldehyde. Metal oxides. Nitrogen oxides. Silicon dioxide.

Reaction with Water

Product generates MEKO upon contact with water or humid air.

### 11 TOXICOLOGICAL INFORMATION

#### SCIENTIFIC OBSERVATIONS

##### TOXICOLOGICAL EFFECTS

**Data By Chemical:**

Chemical Name

CAS Number

Comment

CARBON BLACK

1333-86-4

TARGET ORGANS: Carbon black-Target organs: Lungs. Effects include inflammation, fibrosis, tumors. Chronic toxicity found in rats. Tumors in the rat lung are related to the fine particle overload phenomenon rather than to a specific chemical effect of the dust particles in the lung. These effects in rats have been reported in studies on other inorganic insoluble particles and appear to be species specific. Tumors have not been observed in other species for carbon black under similar circumstances and study conditions. Exposure to airborne

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### 11 TOXICOLOGICAL INFORMATION

#### SCIENTIFIC OBSERVATIONS

##### TOXICOLOGICAL EFFECTS

###### Data By Chemical:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Comment</u>
		carbon black dust is unlikely due to product matrix.

##### LETHAL LIMIT VALUES

###### Data By Chemical:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Exposure Routes</u>	<u>Type</u>	<u>Prefix</u>	<u>Value</u>	<u>Unit</u>	<u>Species</u>
CARBONIC ACID, CALCIUM SALT (1:1)	471-34-1	Ingestion	LD50	=	6450	mg/kg	Rat
CARBONIC ACID, CALCIUM SALT (1:1)	471-34-1	Skin Contact	LD50	=	500	mg	Rabbit
TITANIUM OXIDE	13463-67-7	Ingestion	LD50	=	6450	mg/kg	Rat
CARBON BLACK	1333-86-4	Ingestion	LD50	>	8000	mg/kg	Rat

#### CLASSIFICATION OF INGREDIENTS

##### Carcinogenicity:

###### EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: Possible cancer hazard.

This product contains materials which are shown to be carcinogenic.

CHRONIC: MEKO- Liver carcinomas were observed in a lifetime inhalation study (ca. 2 years) in which mice and rats were exposed. These carcinomas were statistically increased in males at a MEKO concentration of 375 ppm. Relevance to humans is uncertain.

Degenerative effects on the olfactory epithelium of nasal passages occurred in male and female mice and rats at MEKO concentrations of 15, 75, and 375 ppm.

SUBCHRONIC: Quartz- Prolonged inhalation of quartz may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stages, loss of appetite, pleuritic pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Through use of this product, exposure to inhalable, airborne dust is unlikely because these particles as solid fillers are suspended, or wetted out, in the uncured product. Once the product is fully cured, solid particle fillers are contained within the polymer matrix and their dust will not be generated under normal conditions of use of this product. Therefore, the potential carcinogenic risks to humans using this product is considered to be small.

Quartz (14808-60-7): NTP Status: K. IARC Status: 1 ACGIH: A2

Titanium Dioxide (13463-67-7): IARC Status: 3. ACGIH: A4

Carbon Black (1333-86-4): IARC Status: 2B. ACGIH: A4

CALIFORNIA. PROPOSITION 65: Carbon Black (1333-86-4): < 0.1% Wt. Listed: Cancer

##### Mutagenicity:

MEKO- Mutagenic and tumorigenic effects have been observed in tests with laboratory animals. Relevance to humans is unknown.

Rat, inhalation, TC50: >4.8 mg/L (MEKO) Rat, oral, LD50: 4 ML/kg (MEKO)

### 12 ECOLOGICAL INFORMATION

#### ENVIRONMENTAL IMPACT

##### Comment:

Not Available

#### ECOTOXICITY

##### Comment:

Not Available

### 13 DISPOSAL CONSIDERATIONS

#### Waste Disposal Information:

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### 13 DISPOSAL CONSIDERATIONS

**Waste Disposal Information:**

Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Consult your licensed waste contractor for detailed recommendations.

### 14 TRANSPORT INFORMATION

**DOT Information:**

Not a DOT controlled material (United States).

**Comment:**

AIR (ICAO/IATA)

NOTE: Not an IATA controlled material.

VESSEL (IMO/INIDG)

NOTE: Not an IMDG controlled material.

### 15 REGULATORY INFORMATION

#### LABELLING

**Hazard Codes:**

HMIS Reactivity	1
HMIS Health	1
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	2
NFPA Reactivity	1

#### NATIONAL REGULATIONS

**SARA 311/312:** Yes

**SARA 313:** No

**Immediate Health:** Yes

**Delayed Health:** Yes

**Fire:** No

**Sudden Pressure Release:** No

**Reactive:** Yes

**Other Regulation:**

313 REPORTABLE INGREDIENTS:

No products were found above de minimis levels.

TSCA STATUS:

All ingredients in this mixture are in compliance with TSCA.

#### STATE/LOCAL REGULATIONS

**Comment:**

##### STATES WITH SPECIAL REQUIREMENTS

Quartz (14808-60-7): This product contains a component or components listed on the Massachusetts Right to Know list of hazardous substances. This product contains a component or components listed on the Pennsylvania Right to Know list of hazardous substances.  
Titanium Dioxide (13463-67-7): This product contains a component or components listed on the Massachusetts Right to Know list of hazardous substances. This product contains a component or components listed on the Pennsylvania Right to Know list of hazardous substances.

Carbon Black (1333-86-4): This product contains a component or components listed on the Massachusetts Right to Know list of hazardous substances. This product contains a component or components listed on the Pennsylvania Right to Know list of hazardous substances.

CALIFORNIA. PROPOSITION 65: Carbon Black (1333-86-4): < 0.1% Wt. Listed: Cancer

### 16 OTHER INFORMATION

**Comments:**

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State TWA's were provided by General Motors.