

# **Material Safety Data Sheet**

Copyright, 2003, 3M Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**PRODUCT NAME:** Scotch-Weld(TM) Epoxy Adhesive EC-2216, Gray

**MANUFACTURER:** 3M

**DIVISION:** Industrial Adhesives and Tapes

**ADDRESS:** 3M Center

St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 04/29/2003 **Supercedes Date:** Initial Issue

**Document Group:** 18-5119-5

#### **ID** Number(s):

62-2216-1430-8, 62-2216-1435-7

This product is a kit or a multipart product which consists of multiple, independently packaged components. An MSDS for each of these components is included. Please do not separate the component MSDSs from this cover page. The document numbers of the MSDSs for components of this product are:

10-9143-8, 10-9142-0

No revision information is available.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.



# **Material Safety Data Sheet**

Copyright, 2012, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M<sup>TM</sup> Scotch-Weld<sup>TM</sup> Epoxy Adhesive EC-2216, Gray, Part B

**MANUFACTURER:** 3M

**DIVISION:** Aerospace Aircraft Maintenance Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000

#### EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 01/18/12 **Supercedes Date:** 02/23/11

**Document Group:** 10-9142-0

**Product Use:** 

Intended Use: part B of 2 part adhesive

## **SECTION 2: INGREDIENTS**

 Ingredient
 C.A.S. No.
 % by Wt

 EPOXY RESIN
 25068-38-6
 70 - 80

 KAOLIN
 1332-58-7
 20 - 30

# **SECTION 3: HAZARDS IDENTIFICATION**

## 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** off-white, very slight epoxy odor.

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause allergic skin reaction.

### 3.2 POTENTIAL HEALTH EFFECTS

## **Eye Contact:**

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or

Page 1 of 8

hazy vision.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

#### **Skin Contact:**

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

#### **Inhalation:**

Vapors released during curing may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

#### **Ingestion:**

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

## **SECTION 4: FIRST AID MEASURES**

#### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

## **SECTION 5: FIRE FIGHTING MEASURES**

#### 5.1 FLAMMABLE PROPERTIES

**Autoignition temperature** No Data Available **Flash Point** No flash point Flammable Limits(LEL) Not Applicable Flammable Limits(UEL) Not Applicable

#### 5.2 EXTINGUISHING MEDIA

Material will not burn.

# 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

## 6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

#### 6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a closed container approved for transportation by appropriate authorities.

### Clean-up methods

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

### **SECTION 7: HANDLING AND STORAGE**

### 7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid breathing of vapors, mists or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining. Avoid contact with oxidizing agents.

### 7.2 STORAGE

Store away from acids. Keep container in well-ventilated area. Store away from oxidizing agents.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers. Use in an enclosed process area is recommended. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Provide appropriate local exhaust when product is heated.

### **8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

## 8.2.1 Eye/Face Protection

The following eye protection(s) are recommended: Safety Glasses with side shields Indirect Vented Goggles

.

#### 8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene

Nitrile Rubber

.

### 8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with P95 particulate filters Half facepiece or fullface air-purifying respirator with N95 particulate filters

. Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

#### 8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Not applicable.

#### 8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	Additional Information
KAOLIN	ACGIH	TWA, respirable	2 mg/m3	
		fraction		

## SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Odor, Color, Grade:** off-white, very slight epoxy odor.

General Physical Form: Liquid

Autoignition temperatureNo Data AvailableFlash PointNo flash pointFlammable Limits(LEL)Not ApplicableFlammable Limits(UEL)Not ApplicableBoiling Point>=250 °F

Vapor Density Not Applicable

Vapor Pressure <=27 psia [@ 131 °F]

Specific Gravity 1.330 [Ref Std: WATER=1]

pH Not ApplicableMelting point No Data Available

Solubility in Water Nil

**Evaporation rate** Not Applicable

Th. 4 6 0

**Volatile Organic Compounds** Kow - Oct/Water partition coef Percent volatile **VOC Less H2O & Exempt Solvents** Viscosity

0.8 g/l [Test Method: tested per EPA method 24A] No Data Available 0.06 % weight [Test Method: ASTM METHOD] 0.8 g/l [Test Method: tested per EPA method 24A]

75000 - 150000 centipoise

# **SECTION 10: STABILITY AND REACTIVITY**

Stability: Stable.

#### Materials and Conditions to Avoid:

#### 10.1 Conditions to avoid

Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature reaction (exothem) with production of intense heat and smoke.

#### 10.2 Materials to avoid

Strong acids

Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

## **Hazardous Decomposition or By-Products**

<u>Substance</u>	<u>Condition</u>
Aldehydes	During Combustion
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Ketones	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

# **SECTION 11: TOXICOLOGICAL INFORMATION**

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

## **SECTION 12: ECOLOGICAL INFORMATION**

## ECOTOXICOLOGICAL INFORMATION

Not determined.

## CHEMICAL FATE INFORMATION

Not determined.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

Waste Disposal Method: Dispose of completely cured (or polymerized) wastes in a sanitary landfill.

As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

## SECTION 14:TRANSPORT INFORMATION

#### **ID Number(s):**

62-2216-8540-7

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and <u>not</u> the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

## **SECTION 15: REGULATORY INFORMATION**

#### US FEDERAL REGULATIONS

Contact 3M for more information.

## 311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

#### STATE REGULATIONS

Contact 3M for more information.

## CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. Contact 3M for more information.

### INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## **SECTION 16: OTHER INFORMATION**

#### NFPA Hazard Classification

Health: 2 Flammability: 0 Reactivity: 1 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

#### **Revision Changes:**

Section 1: Product use information was modified.

Section 16: Disclaimer (second paragraph) was modified.

Section 5: Unusual fire and explosion hazard information was modified.

Section 8: Prevention of swallowing information was modified.

Section 10: Hazardous decomposition or by-products table was modified.

Section 8: Skin protection - recommended gloves information was modified.

Section 14: Transportation legal text was modified.

Section 9: Vapor density value was modified.

Section 9: Vapor pressure value was modified.

Section 9: Boiling point information was modified.

Section 5: Flammable limits (UE) information was modified.

Section 5: Flammable limits (LEL) information was modified.

Section 5: Autoignition temperature information was modified.

Section 5: Flash point information was modified.

Section 9: Property description for optional properties was modified.

Section 9: Specific gravity information was modified.

Section 9: pH information was modified.

Section 9: Melting point information was modified.

Section 9: Solubility in water text was modified.

Section 8: Respiratory protection - recommended respirators guide was modified.

Section 9: Flash point information was modified.

Section 9: Flammable limits (LEL) information was modified.

Section 9: Flammable limits (UEL) information was modified.

Section 9: Autoignition temperature information was modified.

Section 2: Ingredient table was modified.

Section 8: Exposure guidelines ingredient information was modified.

Section 6: Methods for cleaning up information was modified.

Section 16: Web address was added.

Section 1: Address was added.

Copyright was added.

Company logo was added.

Telephone header was added.

Company Telephone was added.

Section 1: Emergency phone information was added.

Section 1: Emergency phone information was deleted.

Company Logo was deleted.

Copyright was deleted.

Section 16: Web address heading was deleted.

Section 1: Address line 1 was deleted.

Section 1: Address line 2 was deleted.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M

ERIAL SAFETY DATA	SHEET 3MTM Scotch-W	Veld™ Epoxy Adhes	sive EC-2216, Gray	, Part B 01/18/12	
3M USA MSDSs are	available at www.3M.c	om			



## **Material Safety Data Sheet**

Copyright, 2012, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit

## **SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** 3M<sup>TM</sup> Scotch-Weld<sup>TM</sup> Epoxy Adhesive EC-2216, Gray, Part A

**MANUFACTURER:** 

**DIVISION:** Aerospace Aircraft Maintenance Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000

#### EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 01/18/12 **Supercedes Date:** 09/12/11

**Document Group:** 10-9143-8

**Product Use:** 

Intended Use: part A of 2 part adhesive

# **SECTION 2: INGREDIENTS**

<u>Ingredient</u>	<u>C.A.S. No.</u>	% by Wt
ALIPHATIC POLYMER DIAMINE	68911-25-1	40 - 70
KAOLIN	1332-58-7	30 - 60
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	7 - 13
TOLUENE	108-88-3	< 0.75

## **SECTION 3: HAZARDS IDENTIFICATION**

### 3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: gray, pungent odor.

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause chemical eye burns. May cause allergic skin reaction. May cause severe skin irritation. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

## 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:** 

### MATERIAL SAFETY DATA SHEET 3MTM Scotch-WeldTM Epoxy Adhesive EC-2216, Gray, Part A

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

#### **Skin Contact:**

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Severe Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

#### Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May be absorbed following inhalation and cause target organ effects.

#### **Ingestion:**

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

### **Target Organ Effects:**

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

## **SECTION 4: FIRST AID MEASURES**

## 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

If signs/symptoms develop, get medical attention. **Inhalation:** Remove person to fresh air.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

# **SECTION 5: FIRE FIGHTING MEASURES**

## 5.1 FLAMMABLE PROPERTIES

Autoignition temperatureNo Data AvailableFlash Point4 °C [Details: (Toluene)]

Flash PointNo flash pointFlammable Limits(LEL)Not ApplicableFlammable Limits(UEL)Not Applicable

## 5.2 EXTINGUISHING MEDIA

Material will not burn. Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

### 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** Closed containers exposed to heat from fire may build pressure and explode.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

### 6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a closed container approved for transportation by appropriate authorities.

## Clean-up methods

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Seal the container.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

## **SECTION 7: HANDLING AND STORAGE**

### 7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Avoid breathing of vapors. Avoid static discharge. Keep out of the reach of children. Avoid breathing of dust created by cutting, sanding, grinding or machining. Avoid contact with oxidizing agents.

### 7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area. Keep container tightly closed. Store away from oxidizing agents.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers. Use in an enclosed process area is recommended. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Provide appropriate local exhaust when product is heated. Do not use in a confined area or areas with little or no air movement.

## **8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

#### 8.2.1 Eye/Face Protection

The following eye protection(s) are recommended: Safety Glasses with side shields Indirect Vented Goggles

#### 8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene

Nitrile Rubber

Polyvinyl Chloride

•

#### 8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with P100 particulate filters Half facepiece or fullface air-purifying respirator with P95 particulate filters

. Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

### 8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

### 8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<b>Type</b>	<u>Limit</u>	<b>Additional Information</b>
KAOLIN	ACGIH	TWA, respirable	2 mg/m3	
		fraction		
TOLUENE	ACGIH	TWA	20 ppm	
TOLUENE	CMRG	STEL	75 ppm	Skin Notation*
TOLUENE	OSHA	TWA	200 ppm	
TOLUENE	OSHA	CEIL	300 ppm	

<sup>\*</sup> Substance(s) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

## SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

Page 4 of 8

### MATERIAL SAFETY DATA SHEET 3MTM Scotch-WeldTM Epoxy Adhesive EC-2216, Gray, Part A 01/18/12

CMRG: Chemical Manufacturer Recommended Guideline OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Odor, Color, Grade: gray, pungent odor.

General Physical Form: Liquid

Autoignition temperatureNo Data AvailableFlash Point4 °C [Details: (Toluene)]

Flash PointNo flash pointFlammable Limits(LEL)Not ApplicableFlammable Limits(UEL)Not Applicable

**Boiling Point** >=231 °F [Details: (Toluene)]

Vapor Density Not Applicable

Vapor Pressure <=27 psia [@ 131 °F]

Specific Gravity 1.260 [Ref Std: WATER=1]

pH No Data Available
Melting point No Data Available

Solubility in Water Nil

**Evaporation rate**Not Applicable

**Volatile Organic Compounds** Approximately 43 g/l [Test Method: tested per EPA method 24A]

**Kow - Oct/Water partition coef**No Data Available

Percent volatile 0.00 % weight [Details: CONDITIONS: @room temperature]
VOC Less H2O & Exempt Solvents Approximately 32 g/l [Test Method: tested per EPA method 24A]

Viscosity 40000 - 80000 centipoise

## **SECTION 10: STABILITY AND REACTIVITY**

Stability: Stable.

### Materials and Conditions to Avoid:

#### 10.1 Conditions to avoid

Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature reaction (exothem) with production of intense heat and smoke.

#### 10.2 Materials to avoid

Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

## **Hazardous Decomposition or By-Products**

SubstanceConditionAmine CompoundsDuring CombustionCarbon monoxideDuring Combustion

Carbon dioxide During Combustion

Oxides of Nitrogen Toxic Vapor, Gas, Particulate **During Combustion During Combustion** 

## **SECTION 11: TOXICOLOGICAL INFORMATION**

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

## **SECTION 12: ECOLOGICAL INFORMATION**

#### ECOTOXICOLOGICAL INFORMATION

Not determined.

#### CHEMICAL FATE INFORMATION

Not determined.

# **SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste Disposal Method:** Dispose of completely cured (or polymerized) wastes in a sanitary landfill. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

Since regulations vary, consult applicable regulations or authorities before disposal.

## **SECTION 14:TRANSPORT INFORMATION**

## **ID Number(s):**

62-2217-8540-5

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and <u>not</u> the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

## **SECTION 15: REGULATORY INFORMATION**

#### US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Page 6 of 8

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

#### STATE REGULATIONS

Contact 3M for more information.

#### **CALIFORNIA PROPOSITION 65**

Ingredient Classification **TOLUENE** \*Developmental Toxin

### CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. The components of this material are in compliance with the new chemical notification requirements for the Korean Existing Chemicals Inventory.

The components of this product are listed on the Australian Inventory of Chemical Substances.

The components of this product are listed on Japan's Chemical Substance Control Law List (also known as the Existing and New Chemical Substances List.)

All the components of this product are listed on China's Inventory of Chemical Substances.

The components of this product are in compliance with notification requirements in the Philippines.

The components of this product are listed on the Canadian Domestic Substances List.

Contact 3M for more information.

#### INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## **SECTION 16: OTHER INFORMATION**

#### **NFPA Hazard Classification**

Health: 3 Flammability: 0 Reactivity: 1 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**Revision Changes:** 

Section 8: Skin protection - recommended gloves information was modified. Copyright was modified.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY

<sup>\*</sup> WARNING: contains a chemical or chemicals which can cause birth defects or other reproductive harm.

OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M

3M USA MSDSs are available at www.3M.com

Page 8 of 8