



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M™ Aerospace Sealant AC-236 C-80 PMF  
**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:** 07/12/13  
**Supersedes Date:** Initial Issue

**Document Group:** 31-8081-7

**Product Use:**

Intended Use: Sealant

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
POLYSULFIDE RUBBER	68611-50-7	40 - 50
CALCIUM CARBONATE	471-34-1	30 - 40
MANGANESE DIOXIDE	1313-13-9	1 - 10
TOLUENE	108-88-3	1 - 8
TITANIUM DIOXIDE	13463-67-7	1 - 5
HYDROGENATED TERPHENYL	61788-32-7	1 - 5
PHENOL-FORMALDEHYDE POLYMER	9003-35-4	0.1 - 0.5
QUARTZ SILICA	14808-60-7	0 - 0.5
FORMALDEHYDE	50-00-0	< 0.03

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** Aromatic, gray paste

**General Physical Form:** Liquid

**Immediate health, physical, and environmental hazards:** Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. May cause allergic skin reaction. May cause target organ effects. Contains a

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

## 3.2 POTENTIAL HEALTH EFFECTS

### Eye Contact:

Mild Eye Irritation: Signs/symptoms may include redness, pain, and tearing.

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:

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

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

### Inhalation:

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

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.

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.

Prolonged or repeated exposure may cause:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

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:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

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

**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
FORMALDEHYDE	50-00-0	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
FORMALDEHYDE	50-00-0	Known human carcinogen	National Toxicology Program Carcinogens
FORMALDEHYDE	50-00-0	Cancer hazard	OSHA Carcinogens

**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	<i>No Data Available</i>
Flash Point	86 °F [ <i>Test Method:</i> Closed Cup]
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>

**5.2 EXTINGUISHING MEDIA**

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:** Flammable liquid and vapor. 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

Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

### Clean-up methods

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. 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. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. 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

Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Avoid eye contact. Avoid eye contact with vapors, mists, or spray. Avoid skin contact. Avoid breathing of vapors, mists or spray. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. Do not ingest. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid static discharge. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Avoid contact with oxidizing agents. For industrial or professional use only.

### 7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Keep container tightly closed. Store away from oxidizing agents.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Use in an enclosed process area is recommended. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Do not use in a confined area or areas with little or no air movement. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### 8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

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: Nitrile Rubber

Polyvinyl Chloride

Polyvinyl Alcohol (PVA)

### 8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining.

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

### 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>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
CALCIUM CARBONATE	CMRG	TWA	10 mg/m3	
CALCIUM CARBONATE	CMRG	STEL	20 mg/m3	
FORMALDEHYDE	ACGIH	CEIL	0.3 ppm	Sensitizer
FORMALDEHYDE	CMRG	TWA	0.5 ppm	
FORMALDEHYDE	OSHA	TWA	0.75 ppm	29 CFR 1910.1048
FORMALDEHYDE	OSHA	STEL	2 ppm	29 CFR 1910.1048
HYDROGENATED TERPHENYL	ACGIH	TWA	0.5 ppm	
QUARTZ SILICA	ACGIH	TWA, respirable fraction	0.025 mg/m3	
QUARTZ SILICA	OSHA	TWA concentration, respirable	0.1 mg/m3	
QUARTZ SILICA	OSHA	TWA concentration, as total dust	0.3 mg/m3	
TITANIUM DIOXIDE	ACGIH	TWA	10 mg/m3	
TITANIUM DIOXIDE	CMRG	TWA, as respirable dust	5 mg/m3	
TITANIUM DIOXIDE	OSHA	TWA, as total dust	15 mg/m3	
TOLUENE	ACGIH	TWA	20 ppm	
TOLUENE	CMRG	STEL	75 ppm	Skin Notation*
TOLUENE	OSHA	TWA	200 ppm	
TOLUENE	OSHA	CEIL	300 ppm	

\* 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

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

<b>Odor, Color, Grade:</b>	Aromatic, gray paste
<b>General Physical Form:</b>	Liquid
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	86 °F [ <i>Test Method:</i> Closed Cup]
<b>Flammable Limits(LEL)</b>	<i>No Data Available</i>
<b>Flammable Limits(UEL)</b>	<i>No Data Available</i>
<b>Boiling Point</b>	<i>Not Applicable</i>
<b>Vapor Density</b>	<i>No Data Available</i>
<b>Vapor Pressure</b>	<i>No Data Available</i>
<b>Specific Gravity</b>	1.59 [ <i>Ref Std:</i> WATER=1]
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	<i>Not Applicable</i>
<b>Solubility in Water</b>	Nil
<b>Evaporation rate</b>	<i>No Data Available</i>
<b>Volatile Organic Compounds</b>	97 g/l
<b>Kow - Oct/Water partition coef</b>	<i>No Data Available</i>
<b>Viscosity</b>	<i>No Data Available</i>

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Stable.

### Materials and Conditions to Avoid:

#### 10.1 Conditions to avoid

Sparks and/or flames  
 Heat

#### 10.2 Materials to avoid

Reducing agents  
 Strong bases  
 Strong acids

**Hazardous Polymerization:** Hazardous polymerization will not occur.

### Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Formaldehyde	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	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 waste product in a permitted hazardous waste facility.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable)

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

## SECTION 14: TRANSPORT INFORMATION

**ID Number(s):**

70-0052-0675-3

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: REGULATORY INFORMATION

### US FEDERAL REGULATIONS

Contact 3M for more information.

### 311/312 Hazard Categories:

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

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
MANGANESE DIOXIDE (MANGANESE COMPOUNDS)	1313-13-9	1 - 10
TOLUENE	108-88-3	1 - 8

### STATE REGULATIONS

Contact 3M for more information.

### CALIFORNIA PROPOSITION 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
FORMALDEHYDE	50-00-0	**Carcinogen
TOLUENE	108-88-3	*Female reproductive toxin
TOLUENE	108-88-3	*Developmental Toxin

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

\*\* WARNING: contains a chemical which can cause cancer.

## CHEMICAL INVENTORIES

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

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: 3 Reactivity: 0 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.

No revision information is available.

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