



## Material Safety Data Sheet

Copyright, 2004, 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(TM) Weld-Thru Coating / Aerosol, P.N. 05913  
**MANUFACTURER:** 3M  
**DIVISION:** Automotive Aftermarket

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

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

**Issue Date:** 02/26/2004  
**Supersedes Date:** 12/10/2003

**Document Group:** 07-6715-2

**Product Use:**

Specific Use: Weldable Corrosion Resistant Coating

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
METHYL ETHYL KETONE	78-93-3	15 - 40
TOLUENE	108-88-3	10 - 30
ZINC	7440-66-6	7 - 13
1-METHOXY-2-PROPYL ACETATE	108-65-6	7 - 13
ISOBUTANE	75-28-5	1 - 10
PROPANE	74-98-6	1 - 10
MANGANESE	7439-96-5	1 - 5
BISPHENOL A-EPICHLOROHYDRIN COPOLYMER	25068-38-6	1 - 5
OXYGEN	7782-44-7	1 - 5
MICA-GROUP MINERALS	12001-26-2	0.5 - 1.5
ACETONE	67-64-1	< 1
BENZENE	71-43-2	< 0.05

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Specific Physical Form:** Aerosol

**Odor, Color, Grade:** Grey-brown with grey metallic mirror, ketone-like odor

**General Physical Form:** Liquid in aerosol container

**Immediate health, physical, and environmental hazards:** Extremely flammable liquid and vapor. Aerosol container contains flammable material under pressure. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back. May cause allergic skin reaction. May cause target organ effects. Contains a chemical or chemicals which can cause birth defects or other reproductive harm. Contains a chemical or chemicals which can cause cancer.

### 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**

Moderate 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.

Prolonged or repeated exposure may cause:

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

May be absorbed through skin and cause target organ effects.

**Inhalation:**

Intentional concentration and inhalation may be harmful or fatal.

Upper Respiratory Tract Irritation: 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, nausea, diarrhea and vomiting.

May be absorbed following ingestion and cause target organ effects.

**Target Organ Effects:**

Prolonged or repeated exposure may cause:

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, above recommended guidelines, may cause:

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

Central Neuropathy: Signs/symptoms may include irritability, memory impairment, personality changes, sleep disorders, and decreased ability to concentrate.

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>
BENZENE	71-43-2	Group 1	International Agency for Research on Cancer
BENZENE	71-43-2	Known human carcinogen	National Toxicology Program Carcinogens
BENZENE	71-43-2	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. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

**SECTION 5: FIRE FIGHTING MEASURES**

**5.1 FLAMMABLE PROPERTIES**

Autoignition temperature	<i>No Data Available</i>
Flash Point	< -7 °C [ <i>Test Method:</i> Closed Cup]
Flammable Limits - LEL	1.2 %
Flammable Limits - UEL	11.5 %

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

**Unusual Fire and Explosion Hazards:** Extremely flammable liquid and vapor. Aerosol container contains flammable material under pressure. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** 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. 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. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. 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. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. 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. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

**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

Avoid eye contact with vapors, mists, or spray. Avoid breathing of vapors, mists or spray. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. No smoking while handling this material. Do not spray near flames or sources of ignition. Aerosol container contains flammable gas under pressure. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Do not pierce or burn container, even after use. Avoid static discharge. For industrial or professional use only. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Avoid contact with oxidizing agents.

### 7.2 STORAGE

Do not store containers on their sides. Keep container tightly closed. Store away from acids. Store away from heat. Store out of direct sunlight. Store away from oxidizing agents.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

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: Fluoroelastomer (Viton).

**8.2.3 Respiratory Protection**

Avoid breathing of vapors, mists or spray.

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 organic vapor cartridges. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance. When welding through this coating, use appropriate respiratory protection against the hazardous decomposition products listed in Section 10 of this Material Safety Data Sheet.

**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>
1-METHOXY-2-PROPYL ACETATE	AIHA	TWA	541 mg/m <sup>3</sup>	
1-METHOXY-2-PROPYL ACETATE	CMRG	TWA	100 ppm	
ACETONE	ACGIH	TWA	500 ppm	Table A4
ACETONE	ACGIH	STEL	750 ppm	Table A4
ACETONE	OSHA	TWA, Vacated	750 ppm	
ACETONE	OSHA	TWA	1000 ppm	Table Z-1
ACETONE	OSHA	STEL, Vacated	1000 ppm	
BENZENE	ACGIH	TWA	0.5 ppm	Skin Notation*; Table A1
BENZENE	ACGIH	STEL	2.5 ppm	Skin Notation*; Table A1
BENZENE	OSHA	TWA	1 ppm	Standard Appendix
BENZENE	OSHA	STEL	5 ppm	Standard Appendix
MANGANESE	ACGIH	TWA	0.2 mg/m <sup>3</sup>	
MANGANESE	OSHA	CEIL - as fume	5 mg/m <sup>3</sup>	as Mn fume
MANGANESE COMPOUNDS	OSHA	CEIL - specific form	5 mg/m <sup>3</sup>	as Mn; Table Z-1A
MANGANESE, INORGANIC COMPOUNDS	ACGIH	TWA - specific form	0.2 mg/m <sup>3</sup>	as Mn
METHYL ETHYL KETONE	ACGIH	TWA	200 ppm	
METHYL ETHYL KETONE	ACGIH	STEL	300 ppm	
METHYL ETHYL KETONE	OSHA	TWA	200 ppm	Table Z-1A
METHYL ETHYL KETONE	OSHA	STEL	300 ppm	Table Z-1A
MICA-GROUP MINERALS	ACGIH	TWA - respirable	3 mg/m <sup>3</sup>	
MICA-GROUP MINERALS	OSHA	TWA - respirable	3 mg/m <sup>3</sup>	Table Z-1A
PROPANE	ACGIH	TWA	2500 ppm	
PROPANE	OSHA	TWA	1000 ppm	Table Z-1
TOLUENE	ACGIH	TWA	50 ppm	Skin Notation*; Table A4
TOLUENE	CMRG	STEL	75 ppm	Skin Notation*

TOLUENE	OSHA	TWA, Vacated	100 ppm	
TOLUENE	OSHA	STEL, Vacated	150 ppm	
TOLUENE	OSHA	TWA	200 ppm	Table Z-2
TOLUENE	OSHA	CEIL	300 ppm	Table Z-2

\* 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.

VAC Vacated PEL: Vacated Permissible Exposure Limits [PEL] are enforced as the OSHA PEL in some states. Check with your local regulatory agency.

**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>Specific Physical Form:</b>	Aerosol
<b>Odor, Color, Grade:</b>	Grey-brown with grey metallic mirror, ketone-like odor
<b>General Physical Form:</b>	Liquid in aerosol container
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	< -7 °C [ <i>Test Method:</i> Closed Cup]
<b>Flammable Limits - LEL</b>	1.2 %
<b>Flammable Limits - UEL</b>	11.5 %
<b>Boiling point</b>	[ <i>Details:</i> Aerosol]
<b>Vapor Density</b>	> 1 [ <i>Ref Std:</i> AIR=1]
<b>Vapor Pressure</b>	[ <i>Details:</i> Compressed gas]
<b>Specific Gravity</b>	0.902 [ <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>	2.70 [ <i>Ref Std:</i> ETHER=1]
<b>Volatile Organic Compounds</b>	671 g/l [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>Percent volatile</b>	Approximately 75 % weight
<b>VOC Less H2O &amp; Exempt Solvents</b>	677 g/l [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>Viscosity</b>	27 centipoise

**SECTION 10: STABILITY AND REACTIVITY**

**Stability:** Stable.

**Materials and Conditions to Avoid:** Heat; Sparks and/or flames

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

### Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion
Oxides of Zinc	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:** Do not puncture or burn cans in a household incinerator. Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility. Facility must be capable of handling aerosol cans.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable), D018 (Benzene), D035 (Methyl ethyl ketone)

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

## SECTION 14: TRANSPORT INFORMATION

**ID Number(s):**  
60-9800-2866-0

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

## SECTION 15: REGULATORY INFORMATION

### US FEDERAL REGULATIONS

Contact 3M for more information.

#### 311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes 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	7439-96-5	1 - 5
MANGANESE (MANGANESE COMPOUNDS)	7439-96-5	1 - 5
METHYL ETHYL KETONE	78-93-3	15 - 40
TOLUENE	108-88-3	10 - 30
ZINC	7440-66-6	7 - 13
ZINC (ZINC COMPOUNDS)	7440-66-6	7 - 13

#### This material contains a chemical which requires export notification under TSCA Section 12[b]:

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Regulation</u>	<u>Status</u>
ACETONE	67-64-1	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

### 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.

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

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

The components of this material are in compliance with the new chemical notification requirements for the Korean Existing Chemicals Inventory.



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

Contact 3M for more information.

## INTERNATIONAL REGULATIONS

Contact 3M for more information.

**WHMIS:** Hazardous

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:** 4 **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.

**Reason for Reissue:** The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information. To remove Aspiration warning from Human health effects section.

### Revision Changes:

Copyright was modified.

Section 3: Potential effects from ingestion information was modified.

Section 7: Handling information was modified.

Section 7: Storage information was modified.

Section 8: Engineering controls information was modified.

Section 3: Immediate other hazard(s) was modified.

Section 14: ID Number(s) was modified.

Section 16: Reason for reissue comment was added.

**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.

**3M MSDSs are available at [www.3M.com](http://www.3M.com)**