



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M™ Scotch-Weld™ Hi-Strength Non-Flammable 98NF Cylinder Spray Adhesive, Clear  
**MANUFACTURER:** 3M  
**DIVISION:** Industrial Adhesives and Tapes Division  
**ADDRESS:** 3M Center  
St. Paul, MN 55144-1000

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

**Issue Date:** 04/29/09  
**Supersedes Date:** 07/31/07

**Document Group:** 23-4179-0

#### Product Use:

Specific Use: general purpose solvent based adhesive  
Intended Use: Industrial use

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Methylene Chloride	75-09-2	55 - 75
Non-Hazardous Components - N.J.T.S. Reg. No. 04499600-6656	Trade Secret	10 - 30
1,1,1,2-Tetrafluoroethane	811-97-2	7 - 13
Carbon Dioxide	124-38-9	1 - 8
Dimethyl Ether	115-10-6	1 - 5
Chloroform	67-66-3	< 0.05

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** clear, solvent odor

**General Physical Form:** Gas

**Immediate health, physical, and environmental hazards:** Closed containers exposed to heat from fire may build pressure and

explode. Contact with aluminum or zinc in a pressurized system may generate hydrogen gas which could create an explosion hazard. Contains a chemical or chemicals which can cause cancer. May cause target organ effects.

### **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.

May be absorbed through skin and cause target organ effects.

#### **Inhalation:**

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

Intentional concentration and inhalation may be harmful or fatal.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

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.

Blood Effects: Signs/symptoms may include generalized weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and/or hemoglobinemia.

Prolonged or repeated exposure may cause:

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

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.

**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>
Chloroform	67-66-3	Group 2B	International Agency for Research on Cancer
Chloroform	67-66-3	Anticipated human carcinogen	National Toxicology Program Carcinogens
Methylene Chloride	75-09-2	Group 2B	International Agency for Research on Cancer
Methylene Chloride	75-09-2	Anticipated human carcinogen	National Toxicology Program Carcinogens
Methylene Chloride	75-09-2	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. Get immediate 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.

**4.2 NOTE TO PHYSICIANS**

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**Medical Conditions Generally Aggravated by Exposure:** Can aggravate pre-existing cardiovascular disease.

**SECTION 5: FIRE FIGHTING MEASURES**

**5.1 FLAMMABLE PROPERTIES**

**Autoignition temperature**  
**Flash Point**  
**Flammable Limits - LEL**  
**Flammable Limits - UEL**

*No Data Available*  
*[Details: Non-Flammable Gas (per ASTM E681-04)]*  
*Not Applicable*  
*Not Applicable*

## 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:** Closed containers exposed to heat from fire may build pressure and explode. Contact with aluminum or zinc in a pressurized system may generate hydrogen gas which could create an explosion hazard.

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available.

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. 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. Collect the resulting residue containing solution. Place in a metal container approved for transportation by appropriate authorities. 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

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Contents may be under pressure, open carefully. Do not pierce or burn container, even after use. Avoid breathing of vapors, mists or spray. Avoid skin contact. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. For industrial or professional use only. 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.

## 7.2 STORAGE

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 functioning spray booth or local exhaust. 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: Polyvinyl Alcohol (PVA).

### 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: Fullface supplied-air respirator, Half facepiece or fullface pressure demand self-contained breathing apparatus. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

### 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>
1,1,1,2-Tetrafluoroethane	AIHA	TWA	1000 ppm	
Carbon Dioxide	ACGIH	TWA	5000 ppm	
Carbon Dioxide	ACGIH	STEL	30000 ppm	
Carbon Dioxide	OSHA	TWA	10000 ppm	Table Z-1A
Carbon Dioxide	OSHA	STEL	30000 ppm	Table Z-1A
Chloroform	ACGIH	TWA	10 ppm	Table A3
Chloroform	OSHA	TWA, Vacated	2 ppm	
Chloroform	OSHA	CEIL	50 ppm	Table Z-1
Dimethyl Ether	AIHA	TWA	1000 ppm	
Dimethyl Ether	CMRG	TWA	1000 ppm	
Methylene Chloride	ACGIH	TWA	50 ppm	Table A3
Methylene Chloride	OSHA	TWA	25 ppm	
Methylene Chloride	OSHA	STEL	125 ppm	

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>Odor, Color, Grade:</b>	clear, solvent odor
<b>General Physical Form:</b>	Gas
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	[ <i>Details: Non-Flammable Gas (per ASTM E681-04)</i> ]
<b>Flammable Limits - LEL</b>	<i>Not Applicable</i>
<b>Flammable Limits - UEL</b>	<i>Not Applicable</i>
<b>Boiling point</b>	<=68 °F
<b>Density</b>	1.2 g/ml
<b>Vapor Density</b>	>=1.0 [ <i>Ref Std: AIR=1</i> ]
<b>Vapor Pressure</b>	194.7 psia [@ 68 °F] [ <i>Details: charge pressure</i> ]
<b>Specific Gravity</b>	1.2 [ <i>Ref Std: WATER=1</i> ]
<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>Hazardous Air Pollutants</b>	55 - 65 % weight
<b>Volatile Organic Compounds</b>	136 g/l [ <i>Test Method: calculated SCAQMD rule 443.1</i> ]
<b>Percent volatile</b>	78.6 % weight
<b>VOC Less H2O &amp; Exempt Solvents</b>	136 g/l [ <i>Test Method: calculated SCAQMD rule 443.1</i> ]
<b>Viscosity</b>	<i>Not Applicable</i>
<b>Solids Content</b>	15 - 25 %

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Stable.

**Materials and Conditions to Avoid:** Heat

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

### Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Hydrocarbons	During Combustion
Formaldehyde	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Hydrogen Fluoride	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:** Incinerate in a permitted hazardous waste incinerator in the presence of a combustible material. The facility should be equipped to handle gaseous waste.

As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

Combustion products will include HF and HCl. Facility must be capable of handling halogenated materials.

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

## SECTION 14: TRANSPORT INFORMATION

### ID Number(s):

62-4995-8010-8, 62-4995-8030-6, 62-4995-8150-2, 62-4995-8300-3

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 - No    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>
Methylene Chloride	75-09-2	55 - 75

**STATE REGULATIONS**

Contact 3M for more information.

**CALIFORNIA PROPOSITION 65**

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
Chloroform	67-66-3	**Carcinogen
Methylene Chloride	75-09-2	**Carcinogen

\*\* 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.

**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:** 1 **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.

Revision Changes:

Section 1: Product name was modified.  
Copyright was modified.  
Section 3: Potential effects from inhalation information was modified.  
Section 13: Waste disposal method information was modified.  
Section 4: First aid for inhalation - medical assistance - was modified.  
Page Heading: Product name was modified.  
Section 5: Flammable limits (UE) information was modified.  
Section 5: Flammable limits (LEL) information was modified.  
Section 9: Property description for optional properties was modified.  
Section 9: Flammable limits (LEL) information was modified.  
Section 9: Flammable limits (UEL) information was modified.  
Section 4: Note to physicians heading was added.  
Section 4: Note to physicians was added.  
Section 14: ID Number Heading Template 1 was added.  
Section 14: ID Number(s) Template 1 was added.  
Section 2: Ingredient table was added.  
Section 15: EPCRA 313 information was added.  
Section 15: EPCRA 313 text was added.  
Section 8: Exposure guidelines ingredient information was added.  
Section 8: Exposure guidelines legend was added.  
Section 8: Exposure guidelines data source legend was added.  
Section 3: Carcinogenicity table was added.  
Section 3: Carcinogenicity heading was added.  
Section 15: California proposition 65 ingredient information was added.  
Section 15: California proposition 65 heading was added.  
Section 15: California proposition 65 cancer warning was added.  
Section 13: EPA hazardous waste number (RCRA) heading was deleted.  
Section 13: EPA hazardous waste number (RCRA) information was deleted.

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