



## 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.

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M(TM) Hi-Strength Spray Adhesive 90 (aerosol)  
**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:** 10/26/2003  
**Supersedes Date:** 07/22/2002

**Document Group:** 16-4935-9

#### Product Use:

Intended Use: aerosol adhesive  
 Specific Use: hi-strength aerosol adhesive

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
DIMETHYL ETHER	115-10-6	35 - 45
METHYL ACETATE	79-20-9	25 - 35
NONVOLATILE COMPONENTS - N.J. TRADE SECRET REGISTRY NO. 04499600-6448P	Trade Secret	10 - 20
CYCLOHEXANE	110-82-7	7 - 13
PENTANE	109-66-0	1 - 5
1,1-DIFLUOROETHANE	75-37-6	1 - 5
METHYL ALCOHOL	67-56-1	< 0.4

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Specific Physical Form:** Aerosol  
**Odor, Color, Grade:** clear, sweet fruity odor

**General Physical Form:** Gas

**Immediate health, physical, and environmental hazards:** Flammable liquefied gas. 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:**

May be absorbed through skin and cause target organ effects.

Prolonged or repeated exposure may cause:

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

**Inhalation:**

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.

Intentional concentration and inhalation may be harmful or fatal.

**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:**

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.

Kidney Effects: Signs/symptoms may include reduced or absent urine production, increased serum creatinine, lower back pain, increased protein in urine, and increased blood urea nitrogen (BUN).

## 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:** Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

**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

<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	-42.00 °F [ <i>Test Method:</i> Tagliabue Closed Cup]
<b>Flammable Limits - LEL</b>	<i>No Data Available</i>
<b>Flammable Limits - UEL</b>	<i>No Data Available</i>
<b>OSHA Flammability Classification:</b>	Class IA Flammable Liquid

### 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 clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**Unusual Fire and Explosion Hazards:** Flammable liquefied gas.

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** 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. 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. Close cylinder. If the cylinder can't be closed, place in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors. Dispose of collected material as soon as possible. Discharge the resulting residue containing solution to a municipal or industrial wastewater treatment facility.

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 prolonged or repeated skin contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Keep out of the reach of children.

### 7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. 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. Avoid eye contact.  
The following eye protection(s) are recommended: Safety Glasses with side shields.

#### 8.2.2 Skin Protection

Avoid prolonged or repeated skin contact. Gloves not normally required. Avoid skin contact.

#### 8.2.3 Respiratory Protection

Consult the current 3M Respirator Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance. 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.

#### 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-DIFLUOROETHANE	AIHA	TWA	1000 ppm	
1,1-DIFLUOROETHANE	CMRG	TWA	1000 ppm	
CYCLOHEXANE	ACGIH	TWA	100 ppm	
CYCLOHEXANE	OSHA	TWA	300 ppm	Table Z-1
DIMETHYL ETHER	AIHA	TWA	1000 ppm	
DIMETHYL ETHER	CMRG	TWA	1000 ppm	

METHYL ACETATE	ACGIH	TWA	200 ppm	
METHYL ACETATE	ACGIH	STEL	250 ppm	
METHYL ACETATE	OSHA	TWA	200 ppm	Table Z-1A
METHYL ACETATE	OSHA	STEL	250 ppm	Table Z-1A
METHYL ALCOHOL	ACGIH	TWA	200 ppm	Skin Notation*
METHYL ALCOHOL	ACGIH	STEL	250 ppm	Skin Notation*
METHYL ALCOHOL	OSHA	TWA	200 ppm	Skin Notation*; Table Z-1A
METHYL ALCOHOL	OSHA	STEL	250 ppm	Skin Notation*; Table Z-1A
PENTANE	ACGIH	TWA	600 ppm	
PENTANE	OSHA	TWA,	600 ppm	
		Vacated		
PENTANE	OSHA	STEL,	750 ppm	
		Vacated		
PENTANE	OSHA	TWA	1000 ppm	Table Z-1

\* 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>	clear, sweet fruity odor
<b>General Physical Form:</b>	Gas
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	-42.00 °F [ <i>Test Method:</i> Tagliabue 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>	2.97 [ <i>Ref Std:</i> AIR=1]
<b>Specific Gravity</b>	0.726 [ <i>Ref Std:</i> WATER=1]
<b>pH</b>	<i>No Data Available</i>
<b>Melting point</b>	<i>Not Applicable</i>
<b>Solubility in Water</b>	Nil
<b>Evaporation rate</b>	1.90 [ <i>Ref Std:</i> ETHER=1]
<b>Hazardous Air Pollutants</b>	<=.4 % weight [ <i>Test Method:</i> Calculated]
<b>Volatile Organic Compounds</b>	Approximately 54 % [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>Percent volatile</b>	<=75 % weight
<b>Viscosity</b>	<i>Not Applicable</i>

## 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>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Irritant Vapors or Gases	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. The facility should be equipped to handle gaseous waste.

RECYCLE EMPTY AEROSOL CONTAINERS WHERE AVAILABLE.

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

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

## SECTION 14: TRANSPORT INFORMATION

**ID Number(s):**

62-4942-0926-5, 62-4942-4925-3, 62-4942-4928-7, 62-4942-4930-3, 62-4942-4935-2, 62-4942-4938-6, CS-0406-7111-0

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>
CYCLOHEXANE	110-82-7	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>
CYCLOHEXANE	110-82-7	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

**STATE REGULATIONS**

Contact 3M for more information.

**CHEMICAL INVENTORIES**

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 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:** 4 **Reactivity:** 0 **Special Hazards:** None

**Aerosol Storage Code:** 3

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: Division name was modified.

Copyright was modified.

Section 6: Release measures information was modified.

Section 13: Waste disposal method information was modified.

Section 15: TSCA section 12[b] text was modified.

Section 16: NFPA explanation was modified.

Section 8: Exposure guidelines ingredient information was modified.

Section 12: Ecotoxicological phrase was added.

Section 12: Chemical Fate phrase was added.

Section 12: Ecotoxicological ecotox article information was deleted.

Section 12: Ecotoxicological ecofate information 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.

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