



## Material Safety Data Sheet

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**PRODUCT NAME:** 3M(TM) Super 77 Multipurpose Spray Adhesive with 3M(TM) Hi-Strength 90 Spray Adhesive  
**MANUFACTURER:** 3M  
**DIVISION:** Engineered Adhesives  
**ADDRESS:** 3M Center  
St. Paul, MN 55144-1000

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

**Issue Date:** 01/10/2003  
**Supersedes Date:** Initial Issue

**Document Group:** 18-3901-8

**ID Number(s):**  
62-4977-4936-6

**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:**

16-4935-9, 16-3472-4

No revision information is available.

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M(TM) Super 77(TM) Multipurpose Adhesive (Aerosol)  
**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:** 04/12/11  
**Supersedes Date:** 03/29/11

**Document Group:** 16-3472-4

#### Product Use:

**Intended Use:** general purpose aerosol adhesive  
**Specific Use:** General Purpose Aerosol adhesive

### SECTION 2: INGREDIENTS

<b>Ingredient</b>	<b>C.A.S. No.</b>	<b>% by Wt</b>
Non-volatile components - N.J.T.S. Registry No. 04499600-6433P	Trade Secret	20 - 30
Acetone	67-64-1	20 - 30
Propane	74-98-6	15 - 25
Cyclohexane	110-82-7	10 - 20
Petroleum distillates	64742-49-0	10 - 20
Hexane	110-54-3	< 1

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Specific Physical Form:** Aerosol

**Odor, Color, Grade:** Clear, sweet, fruity odor

**General Physical Form:** Gas aerosol

**Immediate health, physical, and environmental hazards:** Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure. May cause target organ effects. Contains a

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

### 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:**

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

**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.

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:

Peripheral Neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy.

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:** 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. 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.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

Autoignition temperature	No Data Available
Flash Point	-42.00 °F [Test Method: Tagliabue Closed Cup]
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
OSHA Flammability Classification:	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 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. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure.

**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

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation and personal protective equipment. Evacuate unprotected and untrained personnel from the hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area. **WARNING !** A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. If it can be done safely, place the leaking containers in an exhaust hood or well-ventilated area. **WARNING !** To avoid problems with pressure buildup, slowly leaking pressurized aerosol cans should not be placed in sealed containers. 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. Read and follow safety precautions on the solvent label and MSDS.

### 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

Contain spill, using absorbent if necessary. Collect spilled material with non-sparking tools. Clean up residue. Place depressurized cans and clean up wastes in a metal container approved for transportation. Seal the container. 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. 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 organic solvent. 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. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Do not pierce or burn container, even after use. No smoking while handling this material. Do not spray near flames or sources of ignition. Avoid breathing of vapors, mists or spray. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Vapors may ignite explosively. May cause flash fire. Prevent build-up of vapors - open all windows and doors. Maintain vapor concentrations below recommended exposure limits. Use only with cross-ventilation. Without adequate ventilation, vapors may settle in low-lying areas. Keep away from heat, sparks, and open flame. Do not smoke or ignite matches, lighters, etc. Avoid contact with oxidizing agents.

### 7.2 STORAGE

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

Use with appropriate local exhaust ventilation. Use in an enclosed process area is recommended. Use with functioning spray booth or local exhaust. Use in a well-ventilated area. If exhaust ventilation is not available, use appropriate respiratory protection. Do not use in a confined area or areas with little or no air movement. Do not remain in area where available oxygen may be reduced. 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. Do not use in a confined area or areas with little or no air movement. If exhaust ventilation is not adequate, use appropriate respiratory protection. Provide ventilation adequate to control vapor concentrations below recommended exposure limits and/or control spray or mist.

### 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

.

#### 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: Polymer laminate

.

#### 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

. 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>	<u>Additional Information</u>
Acetone	ACGIH	TWA	500 ppm	
Acetone	ACGIH	STEL	750 ppm	
Acetone	OSHA	TWA	2400 mg/m3	
Hexane	ACGIH	TWA	50 ppm	Skin Notation*
Hexane	OSHA	TWA	1800 mg/m3	
Petroleum distillates	CMRG	TWA	50 ppm	
Propane	OSHA	TWA	1800 mg/m3	

\* 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>Specific Physical Form:</b>	Aerosol
<b>Odor, Color, Grade:</b>	Clear, sweet, fruity odor
<b>General Physical Form:</b>	Gas aerosol
<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>Density</b>	0.726 g/ml
<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>No Data Available</i>
<b>Solubility in Water</b>	Nil
<b>Evaporation rate</b>	1.90 [ <i>Ref Std:</i> ETHER=1]
<b>Hazardous Air Pollutants</b>	<=0.4 % weight [ <i>Test Method:</i> Calculated]
<b>Volatile Organic Compounds</b>	<=537 g/l [ <i>Details:</i> EU VOC content]
<b>Kow - Oct/Water partition coef</b>	<i>No Data Available</i>
<b>Percent volatile</b>	<=75 % weight [ <i>Details:</i> all volatiles]
<b>VOC Less H2O &amp; Exempt Solvents</b>	<=51 % [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>VOC Less H2O &amp; Exempt Solvents</b>	<=3.82 lb/gal [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>VOC Less H2O &amp; Exempt Solvents</b>	<=458 g/l [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>Viscosity</b>	<i>Not Applicable</i>
<b>Solids Content</b>	>=22.4 %

**SECTION 10: STABILITY AND REACTIVITY**

**Stability:** Stable.

**Materials and Conditions to Avoid:**

**10.1 Conditions to avoid**

Heat

**10.2 Materials to avoid**

Strong oxidizing agents

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

**Hazardous Decomposition or By-Products**

**Substance**

Aldehydes  
Carbon monoxide  
Carbon dioxide

**Condition**

During Combustion  
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:** Vent cylinder or pressurized container in an operating exhaust hood or remote area.

A qualified person should adjust the release rate so gas concentration in ducts is less than 20% of the lower explosive limit (LEL). The LEL is the lowest concentration that can propagate (spread) a flame. A qualified person should adjust the release rate so gas concentration in ducts is less than 20% of the lower explosive limit (LEL). The LEL is the lowest concentration that can propagate (spread) a flame. Incinerate uncured product in a permitted hazardous waste incinerator.

Incinerate in a permitted hazardous waste incinerator. For quantities <10 lbs. (5 kg):

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

The facility should be equipped to handle gaseous waste.

Facility must be capable of handling aerosol cans. Dispose of empty product containers in a sanitary landfill.

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):**

62-4977-4730-3, 62-4977-4925-9, 62-4977-4929-1, 62-4977-4930-9, 62-4977-4935-8

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 - Yes 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: 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.

### HMIS Hazard Classification

Health: 2 Flammability: 4 Reactivity: 0 Protection: X - See PPE section.

Hazardous Material Identification System (HMIS®) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint and Coatings Association (NPCA).

**Reason for Reissue:** Removed stock numbers.

Revision Changes:

Section 2: Ingredient table was modified.

Section 8: Exposure guidelines ingredient information was modified.

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M™ Hi-Strength Spray Adhesive 90 (aerosol)

**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:** 06/28/10

**Supercedes Date:** 04/07/09

**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
N.J.T.S. Reg No. 0449960-6448P	Trade Secret	10 - 20
Cyclohexane	110-82-7	7 - 13
1,1-Difluoroethane	75-37-6	1 - 5
Pentane	109-66-0	1 - 5

### 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:** Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and

flash back. Aerosol container contains flammable material under pressure.

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:

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

#### 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.

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.

## 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. 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.

### 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 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. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure.

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

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions

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.

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel.

#### Environmental procedures

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.

#### 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. Clean up residue.

**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. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Avoid prolonged or repeated skin contact. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Vapors may ignite explosively. May cause flash fire. Prevent build-up of vapors - open all windows and doors. Maintain vapor concentrations below recommended exposure limits. Use only with cross-ventilation. Without adequate ventilation, vapors may settle in low-lying areas. Keep away from heat, sparks, and open flame. Do not smoke or ignite matches, lighters, etc.

### 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. Avoid eye contact with vapors, mists, or spray.

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

.

#### 8.2.2 Skin Protection

Avoid skin contact. Avoid prolonged or repeated 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

.

#### 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.

Organic vapor cartridges may have short service life.

#### 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	2700 mg/m3	
1,1-Difluoroethane	CMRG	TWA	1000 ppm	
Cyclohexane	ACGIH	TWA	100 ppm	
Cyclohexane	OSHA	TWA	1050 mg/m3	
Dimethyl ether	AIHA	TWA	1880 mg/m3	
Dimethyl ether	CMRG	TWA	1000 ppm	
Methyl acetate	ACGIH	TWA	200 ppm	
Methyl acetate	ACGIH	STEL	250 ppm	
Methyl acetate	OSHA	TWA	610 mg/m3	
Pentane	ACGIH	TWA	600 ppm	
Pentane	OSHA	TWA	2950 mg/m3	

#### 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>	<=0.29 % weight [ <i>Test Method:</i> Calculated]
<b>Hazardous Air Pollutants</b>	0.02 lb HAPS/lb solids
<b>Hazardous Air Pollutants</b>	0.17 lb HAPS/gal
<b>Volatile Organic Compounds</b>	54 %
<b>Kow - Oct/Water partition coef</b>	<i>No Data Available</i>
<b>Percent volatile</b>	<=75 % weight
<b>VOC Less H2O &amp; Exempt Solvents</b>	533 g/l
<b>Viscosity</b>	<i>Not Applicable</i>

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Stable.

**Materials and Conditions to Avoid:**

**10.1 Conditions to avoid**

Heat

**10.2 Materials to avoid**

Strong oxidizing agents

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

### Hazardous Decomposition or By-Products

**Substance**

Carbon monoxide  
Carbon dioxide  
Irritant Vapors or Gases

**Condition**

During Combustion  
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:** Incinerate in a permitted hazardous waste incinerator. Facility must be capable of handling aerosol cans. Dispose of empty product containers in a sanitary landfill.

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

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

## SECTION 14: TRANSPORT INFORMATION

### ID Number(s):

62-4942-4730-7, 62-4942-4920-4, 62-4942-4921-2, 62-4942-4925-3, 62-4942-4930-3, 62-4942-4935-2, 62-4942-4950-1, 62-4942-4955-0, 62-4942-4970-9, 62-4942-4975-8, 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>
Pentane (Pentane)	109-66-0	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable
Pentane	109-66-0	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable
Methyl acetate	79-20-9	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.



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:

Copyright was modified.

Section 8: Skin protection phrase was modified.

Section 8: Eye/face protection information was modified.

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

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

Section 9: Property description for optional properties was modified.

Section 2: Ingredient table was modified.

Section 15: EPCRA 313 information was modified.

Section 8: Exposure guidelines ingredient information was modified.

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

Section 6: Environmental procedures heading was added.

Section 6: Personal precautions heading was added.

Section 10.1 Conditions to avoid heading was added.

Section 10.2 Materials to avoid heading was added.

Section 6: Personal precautions information was added.

Section 6: Environmental procedures information was added.

Section 6: Methods for cleaning up information was added.

Section 10: Materials to avoid physical property was added.

Section 10: Conditions to avoid physical property was added.

Section 6: Clean-up methods heading was added.

Section 6: Release measures information was deleted.

Section 6: Release measures heading was deleted.

Section 10: Materials and conditions to avoid physical property was deleted.

Section 8: Exposure guidelines legend was deleted.

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