



Material Safety Data Sheet

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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)

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Product Use:

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

SECTION 2: INGREDIENTS

| Ingredient | C.A.S. No. | % by Wt |
|---|--------------|---------|
| 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 |
| 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:

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

| | |
|--|---|
| Autoignition temperature | <i>No Data Available</i> |
| Flash Point | -42.00 °F [<i>Test Method:</i> Tagliabue Closed Cup] |
| Flammable Limits - LEL | <i>No Data Available</i> |
| Flammable Limits - UEL | <i>No Data Available</i> |
| 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

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

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

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

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Consult the current 3M Respirator Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

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 |
| PENTANE | ACGIH | TWA | 600 ppm | |
| PENTANE | OSHA | TWA, Vacated | 600 ppm | |
| PENTANE | OSHA | STEL, Vacated | 750 ppm | |
| PENTANE | OSHA | TWA | 1000 ppm | Table Z-1 |

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

| | |
|--|---|
| Specific Physical Form: | Aerosol |
| Odor, Color, Grade: | clear, sweet fruity odor |
| General Physical Form: | Gas |
| Autoignition temperature | <i>No Data Available</i> |
| Flash Point | -42.00 °F [<i>Test Method:</i> Tagliabue Closed Cup] |
| Flammable Limits - LEL | <i>No Data Available</i> |
| Flammable Limits - UEL | <i>No Data Available</i> |
| Boiling point | <i>Not Applicable</i> |
| Vapor Density | 2.97 [<i>Ref Std:</i> AIR=1] |
| Specific Gravity | 0.726 [<i>Ref Std:</i> WATER=1] |
| pH | <i>No Data Available</i> |
| Melting point | <i>Not Applicable</i> |
| Solubility in Water | Nil |
| Evaporation rate | 1.90 [<i>Ref Std:</i> ETHER=1] |
| Hazardous Air Pollutants | <= .4 % weight [<i>Test Method:</i> Calculated] |
| Volatile Organic Compounds | 54 % |
| Percent volatile | <= 75 % weight |
| VOC Less H₂O & Exempt Solvents | 533 g/l |
| Viscosity | <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> |
|--|------------------|---|---------------|
| PENTANE | 109-66-0 | Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals | Applicable |
| CYCLOHEXANE | 110-82-7 | 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:

Section 9: Property description for optional properties was modified.

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