



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M(TM) Scotch-Weld(TM) Solvent No. 2  
**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:** 09/06/2007  
**Supersedes Date:** 09/05/2007

**Document Group:** 10-2972-7

#### Product Use:

Specific Use: Solvent  
 Intended Use: Industrial use

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Toluene	108-88-3	40 - 70
Petroleum Naptha	64741-84-0	15 - 40
n-Hexane	110-54-3	10 - 30
Cyclohexane	110-82-7	1 - 5

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** Clear, strong solvent odor.

**General Physical Form:** Liquid

**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. May cause severe skin irritation. 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:**

Severe Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

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.

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:**

Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

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:

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

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

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

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:** 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

<b>Autoignition temperature</b>	480 °C [ <i>Details:</i> Toluene]
<b>Flash Point</b>	-4 °F [ <i>Test Method:</i> Closed Cup] [ <i>Details:</i> Petroleum Distillate]
<b>Flammable Limits - LEL</b>	1.0 % volume
<b>Flammable Limits - UEL</b>	8.0 % volume
<b>OSHA Flammability Classification:</b>	Class IB 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:** Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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.

**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. Collect the resulting residue containing solution. 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**

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. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Avoid breathing of vapors, mists or spray. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Keep container closed when not in use. 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. 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**

Provide local exhaust ventilation at transfer points. Provide appropriate local exhaust ventilation on open containers. If exhaust ventilation is not available, use appropriate respiratory protection. 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: 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), Polyethylene/Ethylene Vinyl Alcohol.

#### **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.

**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>
Cyclohexane	ACGIH	TWA	100 ppm	
Cyclohexane	OSHA	TWA	300 ppm	Table Z-1
n-Hexane	ACGIH	TWA	50 ppm	Skin Notation*
n-Hexane	OSHA	TWA, Vacated	50 ppm	Table Z-1A
n-Hexane	OSHA	TWA	500 ppm	Table Z-1A
Toluene	ACGIH	TWA	20 ppm	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>Odor, Color, Grade:</b>	Clear, strong solvent odor.
<b>General Physical Form:</b>	Liquid
<b>Autoignition temperature</b>	480 °C [ <i>Details:</i> Toluene]
<b>Flash Point</b>	-4 °F [ <i>Test Method:</i> Closed Cup] [ <i>Details:</i> Petroleum Distillate]
<b>Flammable Limits - LEL</b>	1.0 % volume
<b>Flammable Limits - UEL</b>	8.0 % volume
<b>Boiling point</b>	>=60 °C
<b>Density</b>	0.80 g/ml
<b>Vapor Density</b>	3.1 [ <i>Ref Std:</i> AIR=1]
<b>Vapor Pressure</b>	<=120 mmHg [@ 68 °F]
<b>Specific Gravity</b>	0.80 [ <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>	4.0 [ <i>Ref Std:</i> ETHER=1]

Hazardous Air Pollutants	70 - 76 % weight [ <i>Test Method</i> : Calculated]
Volatile Organic Compounds	806 g/l [ <i>Test Method</i> : calculated SCAQMD rule 443.1]
Percent volatile	100 % weight
VOC Less H2O & Exempt Solvents	806 g/l [ <i>Test Method</i> : calculated SCAQMD rule 443.1]
Viscosity	1 - 5 centipoise [@ 73.4 °F]

## 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

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

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

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

**SECTION 14: TRANSPORT INFORMATION****ID Number(s):**

62-5022-5530-0, 62-5022-6530-9, 62-5022-6535-8, 62-5022-7530-8, 62-5022-8530-7, 62-5022-9530-6

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 - No 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>
Toluene	108-88-3	40 - 70
n-Hexane	110-54-3	10 - 30
Cyclohexane	110-82-7	1 - 5

**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>
n-Hexane	110-54-3	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable
Cyclohexane	110-82-7	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

**STATE REGULATIONS**

Contact 3M for more information.

**CALIFORNIA PROPOSITION 65**

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
Toluene	108-88-3	*Developmental Toxin

\* WARNING: contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**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.

**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.

### Revision Changes:

Section 2: Ingredient table was modified.

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