



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(tm) Adhesion Promoter K-500

MANUFACTURER: 3M

DIVISION: Sumitomo/3M Ltd.
Automotive Division

ADDRESS: 3M Center
St. Paul, MN 55144-1000

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

Issue Date: 11/01/2005

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Product Use:

Specific Use: Adhesion Promoter

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
TOLUENE	108-88-3	85 - 95
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	1 - 5
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	9016-87-9	1 - 5
CHLORINATED POLYPROPYLENE	68442-33-1	1 - 5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Solvent odor, clear to amber.

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back. May cause allergic skin reaction. May cause allergic respiratory reaction. 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:

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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

May be absorbed through skin and cause target organ effects.

Inhalation:

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

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.

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.

Central Neuropathy: Signs/symptoms may include irritability, memory impairment, personality changes, sleep disorders, and decreased ability to concentrate.

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

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

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

Autoignition temperature	480 °C [<i>Test Method:</i> Estimated] [<i>Details:</i> Based On Toluene.]
Flash Point	4 °C
Flammable Limits - LEL	1 % volume
Flammable Limits - UEL	7.2 % volume
OSHA Flammability Classification:	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: Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. 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 detergent and water. 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. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Do not pierce or burn container, even after use. No smoking while handling this material. Avoid breathing of vapors, mists or spray. Avoid breathing of vapors created during cure cycle. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. For industrial or professional use only. 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

Use with appropriate local exhaust ventilation. Provide local exhaust ventilation at transfer points. Provide appropriate local exhaust ventilation on open containers. Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Post the work area to prevent entry by unprotected individuals.

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: Full Face Shield, 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. Avoid breathing of vapors created during cure cycle.

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 and P100 particulate prefilters, 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>
FREE ISOCYANATES	3M	TWA	0.005 ppm	
FREE ISOCYANATES	3M	STEL	0.02 ppm	
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	ACGIH	TWA	0.005 ppm	
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	OSHA	CEIL	0.02 ppm	Table Z-1

TOLUENE	ACGIH	TWA	50 ppm	Skin Notation*; 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

Odor, Color, Grade:	Solvent odor, clear to amber.
General Physical Form:	Liquid
Autoignition temperature	480 °C [<i>Test Method:</i> Estimated] [<i>Details:</i> Based On Toluene.]
Flash Point	4 °C
Flammable Limits - LEL	1 % volume
Flammable Limits - UEL	7.2 % volume
Boiling point	111 °C [<i>Test Method:</i> Estimated] [<i>Details:</i> Based On Toluene.]
Density	.88 g/cm ³
Vapor Density	3.14 [<i>Ref Std:</i> AIR=1]
Vapor Pressure	22 mmHg [<i>Details:</i> @20 deg C]
Specific Gravity	0.88 [<i>Ref Std:</i> WATER=1]
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Solubility in Water	Nil
Evaporation rate	Approximately 1 [<i>Ref Std:</i> TOLUENE=1]
Volatile Organic Compounds	810 g/l
Percent volatile	<=95 % weight
VOC Less H₂O & Exempt Solvents	< 836 g/l
Viscosity	<=10 centipoise [<i>Details:</i> @23 deg C]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong oxidizing agents; Heat; Sparks and/or flames; Temperatures above the boiling point

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Isocyanates	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	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

See Section 3.3

CHEMICAL FATE INFORMATION

See Section 3.3

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.

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

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

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

70-0703-0503-5, 70-0703-2671-8, 70-0704-1608-9, 70-0704-5722-4, 70-0704-5766-1, 70-0704-5854-5, FS-9100-2394-4, JT-1400-5097-5, JT-1400-8790-2, JT-1400-8791-0, JT-1400-8802-5, JT-1400-9134-2, JT-1400-9171-4, JT-1400-9202-7, JT-1400-9203-5, JT-1400-9204-3, JT-1400-9630-9, JT-2400-0079-7, JT-2400-1339-4

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	85 - 95
POLYMETHYLENE POLYPHENYLENE	9016-87-9	1 - 5
ISOCYANATE (Diisocyanates (EPCRA 313))		
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (Diisocyanates (EPCRA 313))	101-68-8	1 - 5

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.

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: 3 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: Not Applicable

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