



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ OEM Polyurethane Glass Adhesive Sealant 590, Black
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)

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Product Use:

Specific Use: Fast curing adhesive for permanent bonding.
Intended Use: Sealant

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
Urethane Polymer*	Trade Secret	30 - 60
Carbon Black	1333-86-4	10 - 30
Phenol Alkyl Sulfonate**	Trade Secret	15 - 30
Calcinated Kaolin	92704-41-1	7 - 13
Light Petroleum Distillates	64742-47-8	1 - 5
p,p'-Methylenebis(phenyl isocyanate)	101-68-8	<= 0.3
Dibutyltin dichloride	683-18-1	< 0.08

*N.J.T.S. Reg. No. 04499600-6709

**N.J.T.S. Reg. No. 04499600-6710

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste

Odor, Color, Grade: Black, slight odor

General Physical Form: Solid

Immediate health, physical, and environmental hazards: May cause allergic skin reaction. May cause allergic respiratory

reaction. May cause target organ effects.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Mild Eye Irritation: Signs/symptoms may include redness, pain, and tearing.

Skin Contact:

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

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

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

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.

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

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 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.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	> 200 °C
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>

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: Not applicable. No unusual fire or explosion hazards are anticipated.

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

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

6.2. Environmental precautions

Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Dispose of collected material as soon as possible.

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Collect as much of the spilled material as possible. 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

Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid skin contact. Avoid breathing of vapors. Keep out of the reach of children. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only. Do not breathe vapors.

7.2 STORAGE

Store away from heat. Store out of direct sunlight. Keep container tightly closed. Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in an enclosed process area is recommended. Provide appropriate local exhaust for cutting, grinding, sanding or machining. 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 dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

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: Polyethylene Polyvinyl Alcohol (PVA)

8.2.3 Respiratory Protection

Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not breathe vapors.

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

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>
Carbon Black	ACGIH	TWA, inhalable fraction	3 mg/m ³	
Carbon Black	CMRG	TWA	0.5 mg/m ³	
Carbon Black	OSHA	TWA	3.5 mg/m ³	
FREE ISOCYANATES	Manufacturer determined	TWA	0.005 ppm	
FREE ISOCYANATES	Manufacturer determined	STEL	0.02 ppm	
Light Petroleum Distillates	CMRG	TWA	165 ppm	
Kerosine (petroleum)	ACGIH	TWA, as total hydrocarbon vapor, non-aerosol	200 mg/m ³	Skin Notation*
p,p'-Methylenebis(phenyl isocyanate)	ACGIH	TWA	0.005 ppm	
p,p'-Methylenebis(phenyl isocyanate)	OSHA	CEIL	0.2 mg/m ³	

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:	Paste
Odor, Color, Grade:	Black, slight odor
General Physical Form:	Solid
Autoignition temperature	> 200 °C
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Boiling Point	192 - 200 °C
Density	1.2 g/cm ³
Vapor Density	<i>No Data Available</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	1.2 [<i>Ref Std: WATER=1</i>]
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Solubility in Water	Negligible
Evaporation rate	<i>No Data Available</i>
Hazardous Air Pollutants	< 1.5 % weight [<i>Test Method: Calculated</i>]
Volatile Organic Compounds	19 g/l [<i>Test Method: tested per EPA method 24</i>] [<i>Details: EU VOC content</i>]
Kow - Oct/Water partition coef	<i>No Data Available</i>
VOC Less H₂O & Exempt Solvents	19 g/l [<i>Test Method: tested per EPA method 24</i>]
VOC Less H₂O & Exempt Solvents	1.6 % [<i>Test Method: tested per EPA method 24</i>]
VOC Less H₂O & Exempt Solvents	0.16 lb/gal [<i>Test Method: tested per EPA method 24</i>]
Viscosity	<i>No Data Available</i>
Solids Content	> 95 %

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

Heat

10.2 Materials to avoid

Alcohols

Amines

Water

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide
Hydrogen Cyanide
Irritant Vapors or Gases
Oxides of Nitrogen

Condition

During Combustion
During Combustion
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: For quantities <100 lbs. (50kg): dispose of waste product in a sanitary landfill. For larger quantities: incinerate in an industrial or commercial facility in the presence of a combustible material.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

62-5567-3930-8, 62-5567-5230-1, 62-5567-5235-0, 62-5567-9530-0

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 manufacturer for more information

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact manufacturer 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 manufacturer for more information

INTERNATIONAL REGULATIONS

Contact manufacturer 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: 1 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 1: Product use information was modified.
Section 3: Potential effects from eye contact was modified.
Section 3: Potential effects from skin contact information was modified.
Section 3: Potential effects from inhalation information was modified.
Section 7: Handling information was modified.
Section 8: Engineering controls information was modified.
Section 8: Respiratory protection information was modified.
Section 8: Prevention of swallowing information was modified.
Section 13: Waste disposal method information was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 15: International regulations information was modified.
Section 15: State regulations information was modified.
Section 15: US federal regulations information was modified.
Section 8: Respiratory protection - recommended respirators was modified.
Section 3: Immediate other hazard(s) was modified.
Section 15: 311/312 Delayed Hazard score was modified.
Section 15: Inventories information was modified.
Section 9: Density information was modified.
Section 9: Vapor density value was modified.
Section 9: Property description for optional properties was modified.
Section 8: Respiratory protection - recommended respirators guide was modified.
Section 2: Ingredient table was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 6: Environmental procedures information was modified.
Section 6: Methods for cleaning up information was modified.
Copyright was modified.
Section 9: Property description for required properties was added.
Section 8: Respiratory protection - recommended respirators punctuation was deleted.
Section 3: Other health effects information (reproductive hazards) was deleted.

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