Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ Bondo® Glazing & Spot Putty 650, 651, 652C
MANUFACTURER: 3M
DIVISION: Automotive Aftermarket

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

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

Issue Date: 08/22/12
Supercedes Date: 12/27/11

Document Group: 24-2335-8

Product Use:
Intended Use: Automotive

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
TALC	14807-96-6	30 - 60
MAGNESIUM CARBONATE	546-93-0	10 - 30
XYLENE	1330-20-7	7 - 13
NITROCELLULOSE	9004-70-0	5 - 10
ETHYLBENZENE	100-41-4	1 - 5
ISOPROPYL ALCOHOL	67-63-0	1 - 5
Alkyd Resin	Trade Secret	1 - 5
IRON OXIDE	1332-37-2	1 - 5
1-METHOXY-2-PROPYL ACETATE	108-65-6	1 - 5
LIMESTONE	1317-65-3	1 - 5
2-BUTOXYETHANOL	111-76-2	1 - 5
ACETONE	67-64-1	1 - 5
METHYL ISOBUTYL KETONE	108-10-1	1 - 5
CHLORITE (MINERAL)	1318-59-8	< 2.5
DIBUTYL PHTHALATE	84-74-2	< 0.5
CUMENE	98-82-8	< 0.1
QUARTZ SILICA	14808-60-7	< 0.1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste
Odor, Color, Grade: Solvent Odor, Grean Smooth Paste
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 target organ effects. Contains a chemical or chemicals which can cause birth defects or other reproductive harm. Contains a chemical or chemicals which can cause cancer.

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

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

During grinding, scraping, sanding:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

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.

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

Blood Effects: Signs/symptoms may include generalized weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and/or hemoglobinemia.

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

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.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. No.	Class Description	Regulation

CUMENE	98-82-8	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
ETHYLBENZENE	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
METHYL ISOBUTYL KETONE	108-10-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	Known human carcinogen	National Toxicology Program Carcinogens

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	*No Data Available*
Flash Point	63 ºF [*Test Method:* Closed Cup]
Flammable Limits(LEL)	1.00 %
Flammable Limits(UEL)	13.00 %
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. Water may be used to blanket the fire. 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

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. 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. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

6.2. Environmental precautions
For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. 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. 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. 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. 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. Contents may be under pressure, open carefully. 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. 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. Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not breathe vapors. Do not breathe dust. Avoid contact with oxidizing agents. Avoid eye contact with dust or airborne particles. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. Avoid skin contact.

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 areas where product may come into contact with food or pharmaceuticals. Store away from oxidizing agents.

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 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.
During grinding, scraping, sanding:

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields
Indirect Vented Goggles
.

8.2.2 Skin Protection
Not applicable. 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)
Polymer laminate
.

8.2.3 Respiratory Protection
Avoid breathing of vapors, mists or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not breathe vapors. Do not breathe dust. Consult the current 3M Respirator Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.
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. Do not ingest.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit	Additional Information
1-METHOXY-2-PROPYL ACETATE	AIHA	TWA	50 ppm	
1-METHOXY-2-PROPYL ACETATE	CMRG	TWA	10 mg/m3	
1-METHOXY-2-PROPYL ACETATE	CMRG	STEL	90 ppm	
2-BUTOXYETHANOL	ACGIH	TWA	20 ppm	
2-BUTOXYETHANOL	OSHA	TWA	240 mg/m3	Skin Notation*
ACETONE	ACGIH	TWA	500 ppm	
ACETONE	ACGIH	STEL	750 ppm	
ACETONE	OSHA	TWA	2400 mg/m3	
CUMENE	ACGIH	TWA	50 ppm	
CUMENE	OSHA	TWA	245 mg/m3	Skin Notation*
DIBUTYL PHTHALATE	ACGIH	TWA	5 mg/m3	
DIBUTYL PHTHALATE	OSHA	TWA	5 mg/m3	
ETHYLBENZENE	ACGIH	TWA	20 ppm	
ETHYLBENZENE	CMRG	TWA	25 ppm	
ETHYLBENZENE	CMRG	STEL	75 ppm	
ETHYLBENZENE	OSHA	TWA	435 mg/m3	
ISOPROPYL ALCOHOL	ACGIH	TWA	200 ppm	
ISOPROPYL ALCOHOL	ACGIH	STEL	400 ppm	
ISOPROPYL ALCOHOL	OSHA	TWA	980 mg/m3	
LIMESTONE	OSHA	TWA, respirable fraction	5 mg/m3	
LIMESTONE	OSHA	TWA, as total dust	15 mg/m3	
MAGNESIUM CARBONATE	OSHA	TWA, respirable fraction	5 mg/m3	
MAGNESIUM CARBONATE	OSHA	TWA, as total dust	15 mg/m3	
METHYL ISOBUTYL KETONE	ACGIH	TWA	20 ppm	

METHYL ISOBUTYL KETONE	ACGIH	STEL	75 ppm
METHYL ISOBUTYL KETONE	OSHA	TWA	410 mg/m3
QUARTZ SILICA	ACGIH	TWA, respirable fraction	0.025 mg/m3
QUARTZ SILICA	OSHA	TWA concentration, respirable	0.1 mg/m3
QUARTZ SILICA	OSHA	TWA concentration, as total dust	0.3 mg/m3
XYLENE	ACGIH	TWA	100 ppm
XYLENE	ACGIH	STEL	150 ppm
XYLENE	CMRG	TWA	50 ppm
XYLENE	CMRG	STEL	75 ppm
XYLENE	OSHA	TWA	435 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

Specific Physical Form:	Paste
Odor, Color, Grade:	Solvent Odor, Grean Smooth Paste
General Physical Form:	Liquid
Autoignition temperature	*No Data Available*
Flash Point	63 ºF [*Test Method:* Closed Cup]
Flammable Limits(LEL)	1.00 %
Flammable Limits(UEL)	13.00 %
Boiling Point	132 ºF
Density	13.047 lb/gal
Density	1.56 g/ml
Vapor Density	*No Data Available*
Vapor Pressure	<=27 psia [@ 131.0000000000 ºF] [*Details:* MITS data]
Specific Gravity	1.56 [*Ref Std:* WATER=1]
pH	*Not Applicable*
Melting point	*No Data Available*
Solubility in Water	Nil
Evaporation rate	*No Data Available*
Hazardous Air Pollutants	27.7 % weight [*Test Method:* Calculated]
Volatile Organic Compounds	479 g/l [*Test Method:* calculated SCAQMD rule 443.1]
Volatile Organic Compounds	30.2 % weight [*Test Method:* calculated per CARB title 2]
Kow - Oct/Water partition coef	*No Data Available*
Percent volatile	24.31 %
VOC Less H2O & Exempt Solvents	479 g/l [*Test Method:* calculated SCAQMD rule 443.1]
Viscosity	33000 - 450000 centipoise

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:
10.1 Conditions to avoid
Sparks and/or flames
Heat

10.2 Materials to avoid
Strong acids
Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Toxic Vapor, Gas, Particulate	Not Specified

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

60-4550-5590-9, 60-4550-6679-9, 70-0080-0027-8, 70-0080-0028-6, 70-0080-0356-1

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 - 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):

Ingredient	C.A.S. No	% by Wt
2-BUTOXYETHANOL (GLYCOL ETHERS)	111-76-2	1 - 5
METHYL ISOBUTYL KETONE	108-10-1	1 - 5
ETHYLBENZENE	100-41-4	1 - 5
ISOPROPYL ALCOHOL (ISOPROPYL ALCOHOL MANUFACTURE (STRONG-ACID PROCESS))	67-63-0	1 - 5
XYLENE	1330-20-7	7 - 13
XYLENE (Benzene, 1,2-dimethyl-)	1330-20-7	7 - 13
XYLENE (Benzene, 1,3-dimethyl-)	1330-20-7	7 - 13
XYLENE (Benzene, 1,4-dimethyl-)	1330-20-7	7 - 13
XYLENE (Benzene, dimethyl-)	1330-20-7	7 - 13
DIBUTYL PHTHALATE	84-74-2	< 0.5

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

Ingredient	C.A.S. No.	Classification
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	None	**Carcinogen
CUMENE	98-82-8	**Carcinogen
DIBUTYL PHTHALATE	84-74-2	*Female reproductive toxin
DIBUTYL PHTHALATE	84-74-2	*Male reproductive toxin
DIBUTYL PHTHALATE	84-74-2	*Developmental Toxin
ETHYLBENZENE	100-41-4	**Carcinogen
METHYL ISOBUTYL KETONE	108-10-1	**Carcinogen

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

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:** 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:
Section 3: Potential effects from inhalation information was modified.
Section 7: Handling information was modified.
Section 7: Storage information was modified.
Section 8: Engineering controls information was modified.
Section 8: Skin protection phrase was modified.
Section 8: Respiratory protection information was modified.
Section 8: Prevention of swallowing information was modified.
Section 13: EPA hazardous waste number (RCRA) information was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 8: Respiratory protection - recommended respirators was modified.
Section 3: Other health effects information was modified.
Section 8: Respiratory protection - recommended respirators guide was modified.
Section 2: Ingredient table was modified.
Section 3: Carcinogenicity table was modified.
Section 15: California proposition 65 ingredient information was modified.
Section 6: Environmental procedures information was modified.
Copyright was modified.
Section 9: Property description for required properties was deleted.
Section 8: Respiratory protection - recommended respirators punctuation was deleted.
Section 16: Reason for reissue heading was deleted.
Section 16: Reason for reissue phrase was deleted.

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