

Material Safety Data Sheet

Copyright, 2008, 3M Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) WetorDry(TM) Polishing Paper, 481Q, 486Q

MANUFACTURER: 3M

DIVISION: Electronics Markets Materials Division

ADDRESS: 3M Center

St. Paul, MN 55144-1000

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

Issue Date: 07/07/2008 **Supercedes Date:** 10/29/2003

Document Group: 06-0698-8

Product Use:

Intended Use: Abrasive Product

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	% by Wt
PAPER BACKING	None	45 - 70
SILICON CARBIDE MINERAL	409-21-2	10 - 30
POLYESTER RESIN (CURED)	None	5 - 15

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Abrasive Product

General Physical Form: Solid

Immediate health, physical, and environmental hazards:

The environmental properties of this product present a low

environmental hazard. When determining the degree of health hazards, the material being abraded must be considered.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

MATERIAL SAFETY DATA SHEET 3M(TM) WetorDry(TM) Polishing Paper, 481O, 486O 07/07/2008

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

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

Ingestion:

Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

This substance does not leach metals or other RCRA (Resource Conservation and Recovery Act) listed TCLP (Toxic Characteristic Leaching Procedure) hazardous substances at concentrations that would make the product a hazardous waste.

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 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

MATERIAL SAFETY DATA SHEET 3M(TM) WetorDry(TM) Polishing Paper, 481Q, 486Q 07/07/2008

Autoignition temperatureNot ApplicableFlash PointNot ApplicableFlammable Limits - LELNot ApplicableFlammable Limits - UELNot Applicable

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

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.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

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 breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only.

7.2 STORAGE

Store in a cool place. Store under normal warehouse conditions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust for cutting, grinding, sanding or machining. 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. Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

8.2.2 Skin Protection

Avoid skin contact.

8.2.3 Respiratory Protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. Avoid breathing of dust created by cutting, sanding, grinding or machining.

8.2.4 Prevention of Swallowing

Not an expected route of exposure. Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit	Additional Information
SILICON CARBIDE MINERAL	ACGIH	TWA, as fibrous	0.1 fiber/cc	Table A2
		forms, including		
		whiskers		
SILICON CARBIDE MINERAL	ACGIH	TWA, as non-fibrous,	3 mg/m3	
		respirable		
SILICON CARBIDE MINERAL	ACGIH	TWA, as non-fibrous,	10 mg/m3	
		inhalable fraction		
SILICON CARBIDE MINERAL	OSHA	TWA, respirable	5 mg/m3	Table Z-1
SILICON CARBIDE MINERAL	OSHA	TWA, Vacated, as	10 mg/m3	
		dust		
SILICON CARBIDE MINERAL	OSHA	TWA, as total dust	15 mg/m3	Table Z-1
VAC Vacated PEL:Vacated Permissible E	xposure Limits	[PEL] are enforced as	the OSHA PE	EL 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: Abrasive Product **General Physical Form:** Solid Autoignition temperature Not Applicable **Flash Point** Not Applicable Not Applicable Flammable Limits - LEL Flammable Limits - UEL Not Applicable **Boiling point** Not Applicable Vapor Density Not Applicable Vapor Pressure Not Applicable **Specific Gravity** No Data Available Not Applicable pН **Melting point** Not Applicable **Solubility In Water** Not Applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Not Applicable

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance
Carbon monoxide
Carbon dioxide

Condition
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: Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility in the presence of a combustible material. The substrate that was abraded must be considered as a factor in the disposal method for this product.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14:TRANSPORT INFORMATION

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

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

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: 1 Flammability: 0 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.

Reason for Reissue: The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

MATERIAL SAFETY DATA SHEET 3M(TM) WetorDry(TM) Polishing Paper, 481O, 486O 07/07/2008

Revision Changes:

Section 1: Product use information was modified.

Section 16: NFPA hazard classification heading was modified.

Section 3: Potential environmental effects heading was modified.

Copyright was modified.

Section 5: Fire fighting procedures information was modified.

Section 7: Storage information was modified.

Section 8: Respiratory protection information was modified.

Section 15: 311/312 hazard categories heading 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 10: Hazardous polymerization heading was modified.

Section 16: NFPA explanation was modified.

Section 15: Inventories information was modified.

Section 12: Ecotoxicological information heading was modified.

Section 12: Chemical fate information heading was modified.

Section 16: NFPA hazard classification for special hazards was modified.

Section 16: Reason for reissue heading was modified.

Section 12: Ecotoxicological phrase was modified.

Section 12: Chemical Fate phrase was modified.

Section 2: Ingredient phrase was added.

Section 2: Ingredient table was added.

Section 8: Exposure guidelines ingredient information was added.

Section 8: Exposure guidelines legend was added.

Section 8: Exposure guidelines data source legend was added.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

3M MSDSs are available at www.3M.com



Material Safety Data Sheet

Copyright, 2008, 3M Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) Wetordry(TM) Polishing Paper, 281Q, 286Q

MANUFACTURER: 3M

DIVISION: Electronics Markets Materials Division

ADDRESS: 3M Center

St. Paul, MN 55144-1000

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

Issue Date: 07/07/2008 **Supercedes Date:** 06/16/2008

Document Group: 06-0701-0

Product Use:

Intended Use: Abrasive Product

SECTION 2: INGREDIENTS

<u>Ingredient</u>	C.A.S. No.	% by Wt
BACKING - NONWOVEN RAYON, NYLON, POLYESTER AND CELLULOSE	None	45 - 70
FIBERS		
ALUMINUM OXIDE MINERAL	1344-28-1	10 - 30
POLYESTER RESIN (CURED)	None	5 - 15

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Coated abrasive with nonwoven backing.

General Physical Form: Solid

Immediate health, physical, and environmental hazards:The environmental properties of this product present a low

environmental hazard. When determining the degree of health hazards, the material being abraded must be considered.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

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

Ingestion:

Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

This substance does not leach metals or other RCRA (Resource Conservation and Recovery Act) listed TCLP (Toxic Characteristic Leaching Procedure) hazardous substances at concentrations that would make the product a hazardous waste.

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 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 temperatureNot ApplicableFlash PointNot ApplicableFlammable Limits - LELNot ApplicableFlammable Limits - UELNot Applicable

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

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.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

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 breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only.

7.2 STORAGE

Store in a cool place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust for cutting, grinding, sanding or machining. 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. Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

8.2.2 Skin Protection

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.

8.2.3 Respiratory Protection

Avoid breathing of dust created by cutting, sanding, grinding or machining.

8.2.4 Prevention of Swallowing

Not an expected route of exposure. Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	Authority	Type	<u>Limit</u>	Additional Information
ALUMINUM OXIDE MINERAL	ACGIH	TWA, particulate	$\overline{10}$ mg/m3	Table A4
		matter, < 1%		
		crystalline silica		
ALUMINUM OXIDE MINERAL	CMRG	TWA	1 fiber/cc	
ALUMINUM OXIDE MINERAL	OSHA	TWA, respirable	5 mg/m3	Table Z-1
ALUMINUM OXIDE MINERAL	OSHA	TWA, Vacated, as	10 mg/m3	
		dust		
ALUMINUM OXIDE MINERAL	OSHA	TWA, as total dust	15 mg/m3	Table Z-1
TILOTI IDEET II ID		EDET 1 C 1	1 00114	DET 1 OI 1 1.1

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

Odor, Color, Grade: Coated abrasive with nonwoven backing.

General Physical Form: Solid

General Physical Form: Solid
Autoignition temperature Not A

Autoignition temperatureNot ApplicableFlash PointNot ApplicableFlammable Limits - LELNot ApplicableFlammable Limits - UELNot ApplicableBoiling pointNot Applicable

Vapor Density Not Applicable

Vapor Pressure Not Applicable

Specific GravityNo Data AvailablepHNot ApplicableMelting pointNot ApplicableSolubility In WaterNot Applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Not Applicable

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Condition

Carbon monoxide Carbon dioxide 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: Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility. The substrate that was abraded must be considered as a factor in the disposal method for this product.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14:TRANSPORT INFORMATION

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

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

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: 1 Flammability: 0 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.

Reason for Reissue: The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

Revision Changes: Not Applicable

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

3M MSDSs are available at www.3M.com