



## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Bakelite Powder (Black, Green, Red)

#### 1.2. Recommended use and restrictions on use

##### Recommended use

For industrial/occupational use only. Not for consumer sale or use, Industrial use

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Abrasive Systems Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	1-888-3M HELPS (1-888-364-3577)

#### 1.4. Emergency telephone number

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

### SECTION 2: Hazard identification

#### 2.1. Hazard classification

Combustible Dust.

Acute Toxicity (inhalation): Category 4.

Serious Eye Damage/Irritation: Category 2A.

Skin Corrosion/Irritation: Category 2.

Skin Sensitizer: Category 1.

Reproductive Toxicity: Category 1B.

Reproductive Toxicity: Lactation.

Carcinogenicity: Category 1A.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (repeated exposure): Category 1.

#### 2.2. Label elements

##### Signal word

Danger

##### Symbols

Exclamation mark | Health Hazard |

**Pictograms****Hazard Statements**

May form combustible dust concentrations in air.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

Harmful if inhaled.

May damage fertility or the unborn child.

May cause harm to breast-fed children.

May cause cancer.

Causes damage to organs:

blood or blood-forming organs |

cardiovascular system |

nervous system |

kidney/urinary tract |

respiratory system |

Causes damage to organs through prolonged or repeated exposure:

blood or blood-forming organs |

cardiovascular system |

liver |

kidney/urinary tract |

respiratory system |

May cause damage to organs through prolonged or repeated exposure:

nervous system |

**Precautionary Statements****Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

**Response:**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

IF exposed or concerned: Get medical advice/attention.

**Storage:**

Store locked up.

**Disposal:**

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Supplemental Information:**

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

11% of the mixture consists of ingredients of unknown acute oral toxicity.

11% of the mixture consists of ingredients of unknown acute dermal toxicity.

61% of the mixture consists of ingredients of unknown acute inhalation toxicity.

### SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Resin	9003-35-4	30 - 60 Trade Secret *
Wood Fiber	Trade Secret*	30 - 50
Proprietary Additives	Trade Secret*	5 - 15
Binding Agent	100-97-0	1 - 5 Trade Secret *
Formaldehyde	50-00-0	< 0.04
Phenol	108-95-2	1 - < 3 Trade Secret *
Colorant	1333-86-4	<= 0.2
Cadmium	7440-43-9	<= 0.01
Chromium (CR+6)	18540-29-9	<= 0.1
Fatty Acids	61790-38-3	<= 1
Lead	7439-92-1	<= 0.1
Lubricant	557-05-1	<= 1
Mercury	7439-97-6	<= 0.1
Quartz Silica	14808-60-7	<= 0.1

\*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**

Rinse mouth. If you feel unwell, get medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects. See Section 11 for additional details. Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

#### 4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

### 5.2. Special hazards arising from the substance or mixture

Powdered material may form explosive dust-air mixture. Avoid fire fighting methods that would cause powders to become airborne.

#### Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Formaldehyde	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Ammonia	During Combustion

### 5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Eliminate all ignition sources if safe to do so. 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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Vacuum to avoid dusting. **WARNING!** A motor could be an ignition source and cause combustible dust in the spill area to burn or explode. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Avoid breathing of dust created by sanding, grinding or machining. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while

nursing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required. Dust clouds of this material in sufficient concentration in combination with an ignition source may be explosive. Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions. Routine housekeeping should be instituted to ensure that combustible dusts do not accumulate on surfaces. Solids can generate static electricity charges when transferred and in mixing operations sufficient to be an ignition source. Evaluate the need for precautions, such as grounding and bonding, low energy transfer of material (e.g. low speed, short distance), or inert atmospheres.

## 7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Binding Agent	100-97-0	ACGIH	TWA(inhalable fraction and vapor):1 mg/m <sup>3</sup>	A4: Not class. as human carcin, Dermal Sensitizer
Phenol	108-95-2	ACGIH	TWA:5 ppm	A4: Not class. as human carcin, Danger of cutaneous absorption
Phenol	108-95-2	OSHA	TWA:19 mg/m <sup>3</sup> (5 ppm)	SKIN
Colorant	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m <sup>3</sup>	A3: Confirmed animal carcin.
Colorant	1333-86-4	OSHA	TWA:3.5 mg/m <sup>3</sup>	
Quartz Silica	14808-60-7	OSHA	TWA Table Z-1(respirable):0.05 mg/m <sup>3</sup> ;TWA Table Z-3(respirable):0.1 mg/m <sup>3</sup> ;TWA concentration(respirable):0.1 mg/m <sup>3</sup> (2.4 millions of particles/cu. ft.)	
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m <sup>3</sup>	A2: Suspected human carcin.
CHROMIUM (HEXAVALENT COMPOUNDS)	18540-29-9	OSHA	TWA:0.005 mg/m <sup>3</sup>	29 CFR 1910.1026, SKIN
Chromium, insoluble salts	18540-29-9	OSHA	TWA(as Cr):1 mg/m <sup>3</sup>	
Formaldehyde	50-00-0	ACGIH	TWA:0.1 ppm;STEL:0.3 ppm	A1: Confirmed human carcin., Dermal/Respiratory Sensitizer
Formaldehyde	50-00-0	OSHA	TWA:0.75 ppm;STEL:2 ppm	29 CFR 1910.1048
Lubricant	557-05-1	OSHA	TWA(as total dust):15 mg/m <sup>3</sup> ;TWA(respirable fraction):5 mg/m <sup>3</sup>	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	557-05-1	ACGIH	TWA(inhalable particulates):10 mg/m <sup>3</sup>	

Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	557-05-1	ACGIH	TWA(respirable particles):3 mg/m3	
STEARATES	557-05-1	ACGIH	TWA(respirable fraction):3 mg/m3;TWA(inhalable fraction):10 mg/m3	A4: Not class. as human carcin
Lead	7439-92-1	OSHA	TWA:0.05 mg/m3	29 CFR 1910.1025
Mercury	7439-97-6	OSHA	CEIL:0.1 mg/m3	
Cadmium	7440-43-9	OSHA	TWA(as fume):0.1 mg/m3;TWA(as dust):0.2 mg/m3;TWA:0.005 mg/m3;CEIL(as fume):0.3 mg/m3;CEIL(as dust):0.6 mg/m3	29 CFR 1910.1027

ACGIH : American Conference of Governmental Industrial Hygienists  
 AIHA : American Industrial Hygiene Association  
 CMRG : Chemical Manufacturer's Recommended Guidelines  
 OSHA : United States Department of Labor - Occupational Safety and Health Administration  
 TWA: Time-Weighted-Average  
 STEL: Short Term Exposure Limit  
 CEIL: Ceiling

## 8.2. Exposure controls

### 8.2.1. Engineering controls

Provide appropriate local exhaust ventilation for sanding, grinding or machining. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Provide local exhaust at process emission sources to control exposure near the source and to prevent the escape of dust into the work area. It is recommended that all dust control equipment (such as local exhaust ventilation), process equipment, and material transport systems involved in handling of this product be evaluated for the need for explosion-protection safeguards. Recognized safeguards include explosion relief vents, explosion suppression systems, and oxygen deficient process environments. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Evaluate the need for electrically classified equipment.

### 8.2.2. Personal protective equipment (PPE)

#### Eye/face protection

To minimize the risk of injury to face and eyes, always wear eye and face protection when working at sanding or grinding operations or when near such operations. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

- Safety Glasses with side shields
- Indirect Vented Goggles

#### Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Wear appropriate gloves to minimize risk of injury to skin from contact with dust or physical abrasion from grinding or sanding. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (e.g., spraying, high splash potential, etc.),

then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

### Respiratory protection

Assess exposure concentrations of all materials involved in the work process. Consider material being abraded when determining the appropriate respiratory protection. Select and use appropriate respirators to prevent inhalation overexposure.

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 mercury vapor

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.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

Physical state

Solid

Color

Black, Green, Red

Odor

Slight Phenolic

Odor threshold

*No Data Available*

pH

*Not Applicable*

Melting point

*No Data Available*

Boiling Point

*No Data Available*

Flash Point

No flash point

Evaporation rate

*Not Applicable*

Flammability (solid, gas)

Not Classified

Flammable Limits(LEL)

30.03 g/m<sup>3</sup>

Flammable Limits(UEL)

*No Data Available*

Vapor Pressure

*Not Applicable*

Vapor Density

*Not Applicable*

Density

1.32 - 2.2 g/ml

Specific Gravity

1.32 - 2.2 [Ref Std: WATER=1]

Solubility in Water

Negligible

Solubility- non-water

*No Data Available*

Partition coefficient: n-octanol/ water

*No Data Available*

Autoignition temperature

*Not Applicable*

Decomposition temperature

*No Data Available*

Viscosity

*Not Applicable*

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

**10.4. Conditions to avoid**

None known.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products****Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

**SECTION 11: Toxicological information**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

**11.1. Information on Toxicological effects****Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**

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

Dust from 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.

May cause additional health effects (see below).

**Skin Contact:**

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

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

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

May cause additional health effects (see below).

**Eye Contact:**

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

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

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

**Ingestion:**

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

#### Additional Health Effects:

##### Single exposure may cause target organ effects:

**Cardiac Effects:** Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

**Hematopoietic Effects:** Signs/symptoms may include generalized weakness, fatigue and alterations in numbers of circulating blood cells.

**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.

**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.

**Kidney/Bladder Effects:** Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

##### Prolonged or repeated exposure may cause target organ effects:

**Cardiac Effects:** Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

**Hematopoietic Effects:** Signs/symptoms may include generalized weakness, fatigue and alterations in numbers of circulating blood cells.

**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.

**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.

**Kidney/Bladder Effects:** Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

#### Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm. Contains a chemical or chemicals which may interfere with lactation or be harmful to breastfed children.

#### Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
Silica, Crystalline (Respirable Size)	14808-60-7	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Chromium Hexavalent Compounds	18540-29-9	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Chromium[VI] compounds	18540-29-9	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Hexavalent chromium compounds	18540-29-9	Cancer hazard	OSHA Carcinogens
Cadmium and Cadmium Compounds	7440-43-9	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Cadmium and cadmium compounds	7440-43-9	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
CADMIUM	7440-43-9	Cancer hazard	OSHA Carcinogens
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Formaldehyde	50-00-0	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens

Formaldehyde	50-00-0	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
FORMALDEHYDE	50-00-0	Cancer hazard	OSHA Carcinogens
Lead	7439-92-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Lead	7439-92-1	Anticipated human carcinogen	National Toxicology Program Carcinogens
Silica dust, crystalline, in the form of quartz or cristobalite	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

**Additional Information:**

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

This document covers only the product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.

**Toxicological Data**

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >1 - =5 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Resin	Dermal	Rat	LD50 > 2,000 mg/kg
Resin	Ingestion	Rat	LD50 > 2,900 mg/kg
Binding Agent	Dermal	Rat	LD50 > 2,000 mg/kg
Binding Agent	Ingestion	Rat	LD50 9,200 mg/kg
Phenol	Inhalation-Vapor		LC50 estimated to be 2 - 10 mg/l
Phenol	Dermal	Rat	LD50 670 mg/kg
Phenol	Ingestion	Rat	LD50 340 mg/kg
Lubricant	Dermal	Rabbit	LD50 > 2,000 mg/kg
Lubricant	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Lubricant	Ingestion	Rat	LD50 > 2,000 mg/kg
Colorant	Dermal	Rabbit	LD50 > 3,000 mg/kg
Colorant	Ingestion	Rat	LD50 > 8,000 mg/kg
Chromium (CR+6)	Dermal		LD50 estimated to be 200 - 1,000 mg/kg
Chromium (CR+6)	Inhalation-Dust/Mist		LC50 estimated to be 0 - 0.05 mg/l
Chromium (CR+6)	Ingestion		LD50 estimated to be 5 - 50 mg/kg
Lead	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg
Formaldehyde	Dermal	Rabbit	LD50 270 mg/kg
Formaldehyde	Inhalation-Gas (4 hours)	Rat	LC50 470 ppm
Formaldehyde	Ingestion	Rat	LD50 800 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Resin	Human and animal	Mild irritant
Binding Agent	Rabbit	No significant irritation

Phenol	Rat	Corrosive
Lubricant	Rabbit	No significant irritation
Colorant	Rabbit	No significant irritation
Chromium (CR+6)	Human	Corrosive
Lead	similar compounds	No significant irritation
Quartz Silica	Professional judgement	No significant irritation
Formaldehyde	official classification	Corrosive

**Serious Eye Damage/Irritation**

Name	Species	Value
Resin	Human and animal	Moderate irritant
Binding Agent	Rabbit	No significant irritation
Phenol	Rabbit	Corrosive
Lubricant	Rabbit	No significant irritation
Colorant	Rabbit	No significant irritation
Chromium (CR+6)	similar health hazards	Corrosive
Lead	similar compounds	Mild irritant
Formaldehyde	official classification	Corrosive

**Skin Sensitization**

Name	Species	Value
Resin	Human and animal	Sensitizing
Binding Agent	Multiple animal species	Sensitizing
Phenol	Guinea pig	Not classified
Lubricant	Human	Not classified
Chromium (CR+6)	Human and animal	Sensitizing
Formaldehyde	Guinea pig	Sensitizing

**Respiratory Sensitization**

Name	Species	Value
Resin	Human	Not classified
Chromium (CR+6)	Human	Not classified
Formaldehyde	Human	Some positive data exist, but the data are not sufficient for classification

**Germ Cell Mutagenicity**

Name	Route	Value
Binding Agent	In vivo	Not mutagenic

Binding Agent	In Vitro	Some positive data exist, but the data are not sufficient for classification
Phenol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Phenol	In vivo	Some positive data exist, but the data are not sufficient for classification
Lubricant	In Vitro	Not mutagenic
Colorant	In Vitro	Not mutagenic
Colorant	In vivo	Some positive data exist, but the data are not sufficient for classification
Chromium (CR+6)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Chromium (CR+6)	In vivo	Mutagenic
Lead	In vivo	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In vivo	Mutagenic

### Carcinogenicity

Name	Route	Species	Value
Binding Agent	Ingestion	Multiple animal species	Not carcinogenic
Binding Agent	Dermal	Human	Some positive data exist, but the data are not sufficient for classification
Binding Agent	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Phenol	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Phenol	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Colorant	Dermal	Mouse	Not carcinogenic
Colorant	Ingestion	Mouse	Not carcinogenic
Colorant	Inhalation	Rat	Carcinogenic
Chromium (CR+6)	Not Specified	Human	Carcinogenic
Lead	Not Specified	official classification	Carcinogenic
Quartz Silica	Inhalation	Human and animal	Carcinogenic
Formaldehyde	Not Specified	Human and animal	Carcinogenic

### Reproductive Toxicity

#### Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Binding Agent	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	3 generation
Binding Agent	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,500 mg/kg/day	3 generation
Binding Agent	Ingestion	Not classified for development	Dog	NOAEL 15 mg/kg/day	during gestation
Phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 321 mg/kg/day	2 generation
Phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 321	2 generation

				mg/kg/day	
Phenol	Ingestion	Not classified for development	Rat	NOAEL 120 mg/kg/day	during organogenesis
Chromium (CR+6)	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.0002 mg/l	3 generation
Chromium (CR+6)	Inhalation	Not classified for male reproduction	Rat	NOAEL 0.0002 mg/l	3 generation
Chromium (CR+6)	Inhalation	Not classified for development	Rat	NOAEL 0.0002 mg/l	3 generation
Chromium (CR+6)	Ingestion	Toxic to female reproduction	Mouse	LOAEL 6 mg/kg/day	12 weeks
Chromium (CR+6)	Ingestion	Toxic to male reproduction	Mouse	LOAEL 6 mg/kg/day	12 weeks
Chromium (CR+6)	Ingestion	Toxic to development	Mouse	LOAEL 57 mg/kg/day	during gestation
Lead	Not Specified	Toxic to female reproduction	Human	LOAEL 10 ug/dl blood	
Lead	Not Specified	Toxic to male reproduction	Human	LOAEL 37 ug/dl blood	
Lead	Not Specified	Toxic to development	Human	NOAEL Not available	
Formaldehyde	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg	not applicable
Formaldehyde	Inhalation	Not classified for development	Rat	NOAEL 10 ppm	during gestation

### Lactation

Name	Route	Species	Value
Binding Agent	Ingestion	Human	Not classified for effects on or via lactation
Lead	Not Specified	Human	Causes effects on or via lactation

### Target Organ(s)

#### Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Resin	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Phenol	Dermal	hematopoietic system	Causes damage to organs	Rat	LOAEL 108 mg/kg	not available
Phenol	Dermal	heart   nervous system   kidney and/or bladder	Causes damage to organs	Rat	LOAEL 107 mg/kg	24 hours
Phenol	Dermal	liver	Not classified	Human	NOAEL Not available	not available
Phenol	Inhalation	respiratory irritation	May cause respiratory irritation	Multiple animal species	NOAEL Not available	not available
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs	Rat	NOAEL 120 mg/kg/day	not applicable
Phenol	Ingestion	respiratory system	Causes damage to organs	Human	NOAEL not available	poisoning and/or abuse
Phenol	Ingestion	endocrine system   liver	Not classified	Rat	NOAEL 224 mg/kg	not applicable
Phenol	Ingestion	heart	Not classified	Human	NOAEL Not available	poisoning and/or abuse
Chromium (CR+6)	Dermal	kidney and/or bladder	Not classified	Human	NOAEL Not available	
Chromium (CR+6)	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure
Chromium (CR+6)	Ingestion	kidney and/or	Causes damage to organs	Human	NOAEL Not	

		bladder			available	
Chromium (CR+6)	Ingestion	hematopoietic system   liver	Not classified	Human	NOAEL Not available	
Chromium (CR+6)	Ingestion	nervous system	Not classified	Human	NOAEL Not available	poisoning and/or abuse
Lead	Ingestion	nervous system	May cause damage to organs	Human	LOAEL 90 ug/dl blood	poisoning and/or abuse
Lead	Ingestion	heart	Not classified	Human	NOAEL Not available	poisoning and/or abuse
Formaldehyde	Inhalation	respiratory system	Causes damage to organs	Rat	LOAEL 128 ppm	6 hours
Formaldehyde	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

### Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Resin	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Phenol	Dermal	nervous system	May cause damage to organs though prolonged or repeated exposure	Rabbit	LOAEL 260 mg/kg/day	18 days
Phenol	Inhalation	heart   liver   kidney and/or bladder   respiratory system	Causes damage to organs through prolonged or repeated exposure	Guinea pig	LOAEL 0.1 mg/l	41 days
Phenol	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Multiple animal species	LOAEL 0.1 mg/l	14 days
Phenol	Inhalation	hematopoietic system	Not classified	Human	NOAEL Not available	occupational exposure
Phenol	Inhalation	immune system	Not classified	Rat	NOAEL 0.1 mg/l	2 weeks
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 12 mg/kg/day	14 days
Phenol	Ingestion	hematopoietic system	Causes damage to organs through prolonged or repeated exposure	Mouse	LOAEL 1.8 mg/kg/day	28 days
Phenol	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 308 mg/kg/day	13 weeks
Phenol	Ingestion	liver	Not classified	Rat	NOAEL 40 mg/kg/day	14 days
Phenol	Ingestion	respiratory system	Not classified	Rat	LOAEL 40 mg/kg/day	14 days
Phenol	Ingestion	immune system	Not classified	Mouse	NOAEL 1.8 mg/kg/day	28 days
Phenol	Ingestion	endocrine system	Not classified	Rat	NOAEL 120 mg/kg/day	14 days
Phenol	Ingestion	skin   bone, teeth, nails, and/or hair	Not classified	Multiple animal species	NOAEL 1,204 mg/kg/day	103 weeks
Lubricant	Ingestion	heart   endocrine system   gastrointestinal tract   hematopoietic system   liver   immune system   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Colorant	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Chromium (CR+6)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Chromium (CR+6)	Inhalation	immune system	Not classified	Rat	NOAEL Not available	90 days

					available	
Chromium (CR+6)	Inhalation	heart   endocrine system   hematopoietic system   liver   nervous system   kidney and/or bladder	Not classified	Rat	NOAEL 0.02 mg/l	2 years
Chromium (CR+6)	Ingestion	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 100 mg/kg/day	28 days
Chromium (CR+6)	Ingestion	nervous system	Not classified	Rat	LOAEL 98 mg/kg/day	28 days
Chromium (CR+6)	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
Chromium (CR+6)	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL Not available	1 generation
Lead	Inhalation	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 60 ug/dl blood	occupational exposure
Lead	Inhalation	hematopoietic system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 50 ug/dl blood	occupational exposure
Lead	Inhalation	gastrointestinal tract   nervous system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 40 ug/dl blood	occupational exposure
Lead	Inhalation	heart   endocrine system   immune system   vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Lead	Ingestion	bone, teeth, nails, and/or hair	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 20 ug/dl blood	3 months
Lead	Ingestion	eyes	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 0.5 mg/kg/day	20 days
Lead	Ingestion	gastrointestinal tract	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 60 ug/dl blood	environmental exposure
Lead	Ingestion	hematopoietic system   kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 40 ug/dl blood	environmental exposure
Lead	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 11 ug/dl blood	environmental exposure
Lead	Ingestion	auditory system   heart   endocrine system   vascular system	Not classified	Human	NOAEL Not available	environmental exposure
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Formaldehyde	Dermal	respiratory system	Not classified	Mouse	NOAEL 80 mg/kg/day	60 weeks
Formaldehyde	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 ppm	28 months
Formaldehyde	Inhalation	liver	Not classified	Rat	NOAEL 20 ppm	13 weeks
Formaldehyde	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 15 ppm	3 weeks
Formaldehyde	Inhalation	nervous system	Not classified	Mouse	NOAEL 10 ppm	13 weeks
Formaldehyde	Inhalation	endocrine system   immune system   muscles   kidney and/or bladder	Not classified	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 15	2 years

					ppm	
Formaldehyde	Inhalation	eyes   vascular system	Not classified	Rat	NOAEL 14.3 ppm	2 years
Formaldehyde	Inhalation	heart	Not classified	Mouse	NOAEL 14.3 ppm	2 years
Formaldehyde	Ingestion	liver	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	immune system	Not classified	Rat	NOAEL 20 mg/kg/day	4 weeks
Formaldehyde	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 15 mg/kg/day	24 months
Formaldehyde	Ingestion	nervous system	Not classified	Rat	NOAEL 109 mg/kg/day	2 years
Formaldehyde	Ingestion	heart   endocrine system   hematopoietic system   respiratory system   vascular system	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	skin   muscles   eyes	Not classified	Rat	NOAEL 109 mg/kg/day	2 years

**Aspiration Hazard**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

**SECTION 12: Ecological information**

**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

**Chemical fate information**

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

**SECTION 13: Disposal considerations**

**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

The substrate that was abraded must be considered as a factor in the disposal method for this product. Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** D006 (Cadmium), D007 (Chromium), D008 (Lead), D009 (Mercury)

**SECTION 14: Transport Information**

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

**SECTION 15: Regulatory information**

## 15.1. US Federal Regulations

Contact 3M for more information.

### EPCRA 311/312 Hazard Classifications:

#### Physical Hazards

Combustible Dust

#### Health Hazards

Acute toxicity

Carcinogenicity

Reproductive toxicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

### 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>
Phenol	108-95-2	Trade Secret 1 - < 3
Lubricant (ZINC COMPOUNDS)	557-05-1	<= 1
Chromium (CR+6) (CHROMIUM (HEXAVALENT COMPOUNDS))	18540-29-9	<= 0.1
Lead	7439-92-1	<= 0.1
Lead (Lead)	7439-92-1	<= 0.1
Mercury	7439-97-6	<= 0.1
Mercury (Mercury)	7439-97-6	<= 0.1

### 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>
Chromium (CR+6) (CHROMIUM (HEXAVALENT COMPOUNDS))	18540-29-9	Toxic Substances Control Act (TSCA) 6 Banned or Restricted Use Chemicals	Applicable
Mercury (Mercury)	7439-97-6	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Applicable
Mercury	7439-97-6	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Applicable

### This material contains a chemical regulated by an EPA Significant New Use Rule (TSCA Section 5)

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Reference</u>
Mercury	7439-97-6	40CFR721.10068

## 15.2. State Regulations

Contact 3M for more information.

## 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

#### 15.4. International Regulations

Contact 3M for more information.

This SDS 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 **Instability:** 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.

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