



## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Abrasive Products, High Performance Cut off Wheels and Depressed Center Grinding Wheels; Cubitron™ II: Cut off Wheels and Depressed Center Grinding Wheels; Cubitron™II Cut and Grind Wheels Type 27

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

##### Recommended use

Abrasive Product

#### 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

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### 2.2. Label elements

##### Signal word

Not applicable.

##### Symbols

Not applicable.

##### Pictograms

Not applicable.

#### 2.3. Hazards not otherwise classified

None.

55% of the mixture consists of ingredients of unknown acute oral toxicity.

### SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Aluminum Oxide (non-fibrous)	1344-28-1	50 - 80
Inorganic Fluoride	14484-69-6	10 - 25
Silicon Carbide Mineral	409-21-2	1 - 10
Magnesium Oxide	1309-48-4	0.1 - 8
Titanium Dioxide	13463-67-7	0 - 0.75
Carbon Black	1333-86-4	0.01 - 0.4
Lubricant	8042-47-5	0 - 0.1
Cured resin	Mixture	10 - 20
Fiberglass Mesh Scrims	Mixture	5 - 10
Metal Reinforced Steel Bushing	Mixture	1 - 5

### 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:**

Wash with soap and water. If signs/symptoms develop, get medical attention.

**Eye Contact:**

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**

No need for first aid is anticipated.

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

See Section 11.1. Information on toxicological effects.

#### 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

None inherent in this product.

#### Hazardous Decomposition or By-Products

**Substance**

Carbon monoxide  
Carbon dioxide

**Condition**

During Combustion  
During Combustion

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

No special protective actions for fire-fighters are anticipated.

**SECTION 6: Accidental release measures**

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

Observe precautions from other sections.

**6.2. Environmental precautions**

Not applicable.

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

Not applicable.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Avoid eye contact. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only. Damaged product can break apart during use and cause serious injury to face or eyes. Check product for damage such as cracks or nicks prior to use. Replace if damaged. Always wear eye and face protection when working at sanding or grinding operations or when near such operations. Sparks and particles flying from the product during sanding or grinding can cause injury and fire. Combustible dust may form by action of this product on another material (substrate). Dust generated from the substrate during use of this product may be explosive if in sufficient concentration with an ignition source. Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions.

**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
Magnesium Oxide	1309-48-4	ACGIH	TWA(inhalable fraction):10 mg/m3	A4: Not class. as human carcin
Magnesium Oxide	1309-48-4	OSHA	TWA(as total particulates):15 mg/m3	
Carbon Black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
Carbon Black	1333-86-4	CMRG	TWA:0.5 mg/m3	
Carbon Black	1333-86-4	OSHA	TWA:3.5 mg/m3	
Aluminum Oxide (non-fibrous)	1344-28-1	CMRG	TWA:1 fiber/cc	
Aluminum Oxide (non-fibrous)	1344-28-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Aluminum, insoluble compounds	1344-28-1	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	CMRG	TWA(as respirable dust):5	

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			mg/m <sup>3</sup>	
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m <sup>3</sup>	
Silicon Carbide Mineral	409-21-2	OSHA	TWA(as total dust):15 mg/m <sup>3</sup> ;TWA(respirable fraction):5 mg/m <sup>3</sup>	
MINERAL OILS, HIGHLY-REFINED OILS	8042-47-5	ACGIH	TWA(inhalable fraction):5 mg/m <sup>3</sup>	A4: Not class. as human carcin
Paraffin oil	8042-47-5	OSHA	TWA(as mist):5 mg/m <sup>3</sup>	

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

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 appropriate local exhaust ventilation for cutting, grinding, sanding or machining. Provide local exhaust at process emission sources to control exposure near the source and to prevent the escape of dust into the work area. 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).

### 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

#### Skin/hand protection

Wear appropriate gloves to minimize risk of injury to skin from contact with dust or physical abrasion from grinding or sanding.

#### 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 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

**General Physical Form:**

Solid

**Odor, Color, Grade:**

Solid Abrasive Product

Odor threshold	<i>Not Applicable</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Evaporation rate	<i>Not Applicable</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>
Specific Gravity	<i>Not Applicable</i>
Solubility In Water	<i>Not Applicable</i>
Solubility- non-water	<i>Not Applicable</i>
Partition coefficient: n-octanol/ water	<i>Not Applicable</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>Not Applicable</i>
Viscosity	<i>Not Applicable</i>
Molecular weight	<i>No Data Available</i>
Percent volatile	<i>Not Applicable</i>

## 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

<u>Substance</u>	<u>Condition</u>
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:

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.

#### Skin Contact:

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

#### 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.

#### Ingestion:

No known health effects.

#### Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Carbon Black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

#### Additional Information:

This document covers only the 3M product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.

This product contains titanium dioxide. Cancer of the lungs has been observed in rats that inhaled high levels of titanium dioxide. No exposure to inhaled titanium dioxide is expected during the normal handling and use of this product. Titanium dioxide was not detected when air sampling was conducted during simulated use of similar products containing titanium dioxide. Therefore, the health effects associated with titanium dioxide are not expected during the normal use of this product.

#### 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	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Aluminum Oxide (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Oxide (non-fibrous)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminum Oxide (non-fibrous)	Ingestion	Rat	LD50 > 5,000 mg/kg
Inorganic Fluoride	Dermal	Rabbit	LD50 > 2,000 mg/kg
Inorganic Fluoride	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.2 mg/l
Inorganic Fluoride	Ingestion	Rat	LD50 2,150 mg/kg
Silicon Carbide Mineral	Dermal	Rat	LD50 > 2,000 mg/kg
Silicon Carbide Mineral	Ingestion	Rat	LD50 > 2,000 mg/kg
Magnesium Oxide	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg

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		nt	
Magnesium Oxide	Ingestion	Rat	LD50 3,870 mg/kg
Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium Dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium Dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Carbon Black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon Black	Ingestion	Rat	LD50 > 8,000 mg/kg
Lubricant	Dermal	Rabbit	LD50 > 2,000 mg/kg
Lubricant	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Aluminum Oxide (non-fibrous)	Rabbit	No significant irritation
Inorganic Fluoride	Rabbit	No significant irritation
Silicon Carbide Mineral	Rat	No significant irritation
Magnesium Oxide	Professional judgement	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
Carbon Black	Rabbit	No significant irritation
Lubricant	Rabbit	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
Aluminum Oxide (non-fibrous)	Rabbit	No significant irritation
Inorganic Fluoride	Rabbit	Corrosive
Silicon Carbide Mineral	Professional judgement	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
Carbon Black	Rabbit	No significant irritation
Lubricant	Rabbit	Mild irritant

**Skin Sensitization**

Name	Species	Value
Titanium Dioxide	Human and animal	Not sensitizing
Lubricant	Guinea pig	Not sensitizing

**Respiratory Sensitization**

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

**Germ Cell Mutagenicity**

Name	Route	Value
Aluminum Oxide (non-fibrous)	In Vitro	Not mutagenic
Magnesium Oxide	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
Carbon Black	In Vitro	Not mutagenic
Carbon Black	In vivo	Some positive data exist, but the data are not sufficient for classification
Lubricant	In Vitro	Not mutagenic

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**Carcinogenicity**

Name	Route	Species	Value
Aluminum Oxide (non-fibrous)	Inhalation	Rat	Not carcinogenic
Magnesium Oxide	Not Specified	Human and animal	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
Carbon Black	Dermal	Mouse	Not carcinogenic
Carbon Black	Ingestion	Mouse	Not carcinogenic
Carbon Black	Inhalation	Rat	Carcinogenic
Lubricant	Dermal	Mouse	Not carcinogenic
Lubricant	Inhalation	Multiple animal species	Not carcinogenic

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Inorganic Fluoride	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 100 mg/kg/day	during organogenesis
Lubricant	Ingestion	Not toxic to female reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
Lubricant	Ingestion	Not toxic to male reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
Lubricant	Ingestion	Not toxic to development	Rat	NOAEL 4,350 mg/kg/day	during gestation

**Lactation**

Name	Route	Species	Value
Inorganic Fluoride	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Magnesium Oxide	Inhalation	respiratory system	All data are negative	Human	NOAEL Not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Aluminum Oxide (non-fibrous)	Inhalation	pneumoconiosis   pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Inorganic Fluoride	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.003 mg/l	28 days
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium Dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
Carbon Black	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for	Human	NOAEL Not available	occupational exposure



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			classification			
Lubricant	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,381 mg/kg/day	90 days
Lubricant	Ingestion	liver   immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,336 mg/kg/day	90 days

**Aspiration Hazard**

Name	Value
Lubricant	Aspiration hazard

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.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. 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. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

**EPA Hazardous Waste Number (RCRA):** Not regulated

**SECTION 14: Transport Information**

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

**SECTION 15: Regulatory information**

**15.1. US Federal Regulations**

Contact 3M for more information.

**311/312 Hazard Categories:**

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

**15.2. State Regulations**

Contact 3M for more information.

**15.3. 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.

**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: 0 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.

**HMIS Hazard Classification**

**Health: 0 Flammability: 1 Physical Hazard: 0 Personal Protection: X - See PPE section.**

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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