

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Canadian Hazardous Products Regulations.

SECTION 1: Identification

1.1. Product identifier

3MTM Abrasive Products, CubitronTM 3 Cut-Off Wheels

1.2. Recommended use and restrictions on use

Intended Use Abrasive Product

Specific Use For industrial/occupational use only. Not for consumer sale or use.

Restrictions on use

Not applicable

1.3. Supplier's details

Company:	3M Canada Company	
Division:	Abrasive Systems Division	
Address:	1840 Oxford Street East, Post Office Box 5757, London, Ontario	N6A 4T1
Telephone:	(800) 364-3577	
Website:	www.3M.ca	

1.4. Emergency telephone number

Medical Emergency Telephone:1-800-3M HELPS / 1800 364 3577

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Not classified according to the Canadian Hazardous Products Regulation.

2.2. Label elements Signal word Not applicable.

Symbols Not applicable

Pictograms

Not applicable

2.3. Other hazards

None known.

46% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt	Common Name
Ceramic Aluminum Oxide /	1344-28-1	40 - 70	Aluminum oxide (non-fibrous)
Aluminum Oxide Mineral Blend			
(non-fibrous)			
Cured Resin	Mixture	10 - 20	Not Applicable
Inorganic Fluoride	60304-36-1	10 - 20 Trade Secret *	Aluminum potassium fluoride
Fiberglass Mesh Scrims	Mixture	4 - 18	Not Applicable
Filler	13983-17-0	1 - 5	Wollastonite (Ca(SiO3))
Metal Reinforced Steel Bushing	Mixture	0.5 - 5	Not Applicable
Paper Label	Mixture	0.1 - 2	Not Applicable
Titanium Dioxide	13463-67-7	0 - 0.43	Titanium oxide (TiO2)
Aluminum Cobalt Oxide	12672-27-4	0 - 0.2	No Data Available

Paper Label is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.

Cured Resin is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.

Fiberglass Mesh Scrims is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.

Metal Reinforced Steel Bushing is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.

*The concentration (exact or range) of this component 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:

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:

Do not induce vomiting. Rinse mouth. If you feel unwell, get medical attention.

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

No critical symptoms or effects. 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. Unsuitable extinguishing media

None Determined

5.3. Special hazards arising from the substance or mixture

Exposure to extreme heat can give rise to thermal decomposition.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Fluoride	During Combustion

5.4. Special protection 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

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. 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

Do not breathe thermal decomposition products. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only. Not for consumer sale or use. 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. 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
Aluminum, insoluble compounds	12672-27-4	ACGIH	TWA(respirable fraction):1	
			mg/m3	
Cobalt, inorganic compounds	12672-27-4	ACGIH	TWA(as Co, inhalable	Dermal/Respiratory
			fraction):0.02 mg/m3	Sensitizer
Aluminum, insoluble compounds	1344-28-1	ACGIH	TWA(respirable fraction):1	
			mg/m3	
Titanium Dioxide	13463-67-7	ACGIH	TWA(Respirable nanoscale	
			particles):0.2	
			mg/m3;TWA(Respirable	
			finescale particles):2.5 mg/m3	
Filler	13983-17-0	ACGIH	TWA(inhalable fraction):1	
			mg/m3	
FLUORIDES	60304-36-1	ACGIH	TWA(as F):2.5 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines. 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/vapours/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:

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use a positive pressure supplied-air respirator.

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

. Information on basic physical and chemical prope		
Physical state	Solid	
Colour	Black	
Odour	Slight Resinous	
Odour threshold	Not Applicable	
рН	Not Applicable	
Melting point/Freezing point	Not Applicable	
Boiling point	Not Applicable	
Flash Point	Not Applicable	
Evaporation rate	Not Applicable	
Flammability	Not Applicable	
Flammable Limits(LEL)	Not Applicable	
Flammable Limits(UEL)	Not Applicable	
Vapour Pressure	Not Applicable	
Relative Vapour Density	Not Applicable	
Density	Not Applicable	
Relative density	Not Applicable	
Water solubility	Not Applicable	
Solubility- non-water	Not Applicable	
Partition coefficient: n-octanol/ water	Not Applicable	
Autoignition temperature	Not Applicable	
Decomposition temperature	Not Applicable	
Kinematic Viscosity	Not Applicable	
Volatile Organic Compounds	No Data Available	
Percent volatile	Not Applicable	
VOC Less H2O & Exempt Solvents	No Data Available	
Molecular weight	No Data Available	
-		

Particle Characteristics

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 None known. **Condition**

Refer to section 5.2 for hazardous decomposition products during combustion.

Extreme heat arising from situations such as misuse or equipment failure can generate hydrogen fluoride as a decomposition product.

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 health effects are expected.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Cobalt and cobalt compounds that release	12672-27-4	Anticipated human carcinogen	National Toxicology Program Carcinogens
cobalt ions in vivo			
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 completeassessment, 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
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non-fibrous)	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (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
Filler	Ingestion	Rat	LD50 > 5,000 mg/kg
Filler	Dermal	similar compoun ds	LD50 > 5,000 mg/kg
Filler	Inhalation- Dust/Mist (4 hours)	similar compoun ds	LC50 > 2.08 mg/l
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
Aluminum Cobalt Oxide	Dermal	Professio nal judgeme nt	LD50 estimated to be > 5,000 mg/kg
Aluminum Cobalt Oxide	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non-fibrous)	Rabbit	No significant irritation
Inorganic Fluoride	Rabbit	No significant irritation
Filler	similar	No significant irritation
	compoun	
	ds	
Titanium Dioxide	Rabbit	No significant irritation
Aluminum Cobalt Oxide	In vitro	No significant irritation
	data	

Serious Eye Damage/Irritation

Name	Species	Value
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non-fibrous)	Rabbit	No significant irritation
Inorganic Fluoride	Rabbit	Corrosive
Filler	similar	Mild irritant
	compoun	
	ds	

Titanium Dioxide	Rabbit	No significant irritation
Aluminum Cobalt Oxide	In vitro	No significant irritation
	data	

Skin Sensitization

Name	Species	Value
Filler	Human	Not classified
Titanium Dioxide	Human and animal	Not classified
Aluminum Cobalt Oxide	similar compoun ds	Sensitizing

Respiratory Sensitization

Name	Species	Value
Aluminum Cobalt Oxide	similar compoun	Sensitizing
	ds	

Germ Cell Mutagenicity

Name	Route	Value
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non-fibrous)	In Vitro	Not mutagenic
Filler	In Vitro	Not mutagenic
Filler	In vivo	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
Aluminum Cobalt Oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Aluminum Cobalt Oxide	In vivo	Mutagenic

Carcinogenicity

Name	Route	Species	Value
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non- fibrous)	Inhalation	Rat	Not carcinogenic
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
Aluminum Cobalt Oxide	Inhalation	similar compoun	Carcinogenic
		ds	

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Inorganic Fluoride	Ingestion	Not classified for development	Mouse	NOAEL 100 mg/kg/day	during organogenesi s
Filler	Ingestion	Not classified for development	Multiple animal species	NOAEL 1,600 mg/kg/day	during organogenesi s
Aluminum Cobalt Oxide	Ingestion	Toxic to development	similar compoun ds	NOAEL 5 mg/kg/day	during gestation
Aluminum Cobalt Oxide	Ingestion	Toxic to male reproduction	similar compoun ds	NOAEL Not available	
Aluminum Cobalt Oxide	Inhalation	Toxic to male reproduction	similar	NOAEL Not	

	compoun ds	available		
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Lactation

Name	Route	Species	Value
Inorganic Fluoride	Ingestion	Rat	Not classified for effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non-fibrous)	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Ceramic Aluminum Oxide / Aluminum Oxide Mineral Blend (non-fibrous)	Inhalation	pulmonary fibrosis	Not classified	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
Filler	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Filler	Inhalation	pulmonary fibrosis	Not classified	Human and animal	NOAEL Not available	
Filler	Ingestion	liver kidney and/or bladder hematopoietic system	Not classified	Rat	NOAEL 2,500 mg/kg/day	2 years
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	Not classified	Human	NOAEL Not available	occupational exposure
Aluminum Cobalt Oxide	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	similar compoun ds	NOAEL Not available	13 weeks

Specific Target Organ Toxicity - repeated exposure

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

No data available.

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. Combustion products will include HF. Facility must be capable of handling halogenated materials. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

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's transportation classifications are based on product formulation, packaging, 3M policies and 3M's 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 Canadian 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. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status

Contact 3M for more information.

SECTION 16: Other information

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.

Health: 3 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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3M Canada SDSs are available at www.3M.ca