



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Minister of Industry Decree No. 23/M-IND/PER/4/2013 and GHS Classification 4th Edition.

Document Group:	08-8962-6	Version Number:	1.01
Issue Date:	20/03/2014	Supersedes Date:	07/02/2012

SECTION 1: Identification

1.1. Product identifier

3M™ Abrasive Products, 216U, 236U

1.2. Recommended use and restrictions on use

Recommended use

Abrasive Product

1.3. Supplier's details

ADDRESS: PT. 3M Indonesia Jl. Diponegoro KM. 39 Tambun- Bekasi 17510 -Indonesia
Telephone: +6221-27794000
E Mail: IA-PRLGroup@mmm.com
Website: www.mmm.com

1.4. Emergency telephone number

(021)29974000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

This product is not classified as a hazardous substance according to Minister of Trade Decree Number 23/M-DAG/PER/9/2011.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

2.3. Other hazards

This document is specific to the supplied product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Aluminum Oxide (non-fibrous)	1344-28-1	10 - 45
Lubricant	68424-16-8	1 - 5
Titanium Dioxide	13463-67-7	0.1 - 1.25
Paper Backing	None	10 - 40
Cured Resin	Mixture	20 - 45
PSA Backing	Mixture	0 - 5
Hookit Backing	Mixture	0 - 10
Hookit™II Backing	Mixture	0 - 10

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 unusual fire or explosion hazards 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

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Aluminum Oxide (non-fibrous)	1344-28-1	Chemical Manufacturer Rec Guid	TWA:1 fiber/cc	
Aluminum Oxide (non-fibrous)	1344-28-1	Indonesia OELs	TWA(inhalable particulates)(8 hours):10 mg/m ³	
Aluminum, inorganic compounds	1344-28-1	Indonesia OELs	TWA(8 hours):1 mg/m ³	
Aluminum, insoluble compounds	1344-28-1	Amer Conf of Gov. Indust. Hyg.	TWA(respirable fraction):1 mg/m ³	
Titanium Dioxide	13463-67-7	Amer Conf of Gov. Indust. Hyg.	TWA:10 mg/m ³	
Titanium Dioxide	13463-67-7	Chemical Manufacturer Rec Guid	TWA(as respirable dust):5 mg/m ³	
Titanium Dioxide	13463-67-7	Indonesia OELs	TWA(8 hours):10 mg/m ³	

Amer Conf of Gov. Indust. Hyg. : American Conference of Governmental Industrial Hygienists

American Indust. Hygiene Assoc : American Industrial Hygiene Association

Chemical Manufacturer Rec Guid : Chemical Manufacturer's Recommended Guidelines

Indonesia OELs : Indonesia. Minister of Manpower and Transmigration Decree No. 13/MEN/X/2011 concerning Threshold Values, Chemical and Physical Factors in the Workplace.

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. 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

Physical state	Solid
Appearance/Odor	Solid Abrasive Product
Odor threshold	<i>Not Applicable</i>
pH	<i>Not Applicable</i>
Melting point/Freezing point	<i>Not Applicable</i>
Boiling point/Initial boiling point/Boiling range	<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>
Relative Density	<i>Not Applicable</i>
Water solubility	<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>

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 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 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.

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
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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Aluminum Oxide (non-fibrous)	Rabbit	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Aluminum Oxide (non-fibrous)	Rabbit	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Titanium Dioxide	Human and animal	Not sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value

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Aluminum Oxide (non-fibrous)	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Aluminum Oxide (non-fibrous)	Inhalation	Rat	Not carcinogenic
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

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
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.010 mg/l	2 years
Titanium Dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value

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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity**Acute aquatic hazard:**

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Lubricant	68424-16-8		Data not available or insufficient for classification			
Aluminum Oxide (non-fibrous)	1344-28-1	Fish	Experimental	96 hours	Lethal Concentration 50%	>100 mg/l
Aluminum Oxide (non-fibrous)	1344-28-1	Green algae	Experimental	72 hours	Effect Concentration 50%	>100 mg/l
Aluminum Oxide (non-fibrous)	1344-28-1	Water flea	Experimental	48 hours	Effect Concentration 50%	>100 mg/l
Aluminum Oxide (non-fibrous)	1344-28-1	Green algae	Experimental	72 hours	No obs Effect Conc	>100 mg/l
Titanium Dioxide	13463-67-7	Water flea	Experimental	48 hours	Effect Concentration 50%	>100 mg/l
Titanium Dioxide	13463-67-7	Sheepshead Minnow	Experimental	96 hours	Lethal Concentration 50%	>240 mg/l
Titanium Dioxide	13463-67-7	Crustacea other	Experimental	96 hours	Effect Concentration 50%	>300 mg/l
Titanium Dioxide	13463-67-7	Fish	Experimental	30 days	No obs Effect Conc	>=1,000 mg/l
Titanium Dioxide	13463-67-7	Water flea	Experimental	30 days	No obs Effect Conc	3 mg/l

12.2. Persistence and degradability

No test data available

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Lubricant	68424-16-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Aluminum Oxide (non-fibrous)	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Lubricant	68424-16-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium	13463-67-7	Experimental	42 days	Bioaccumulati	9.6	Other methods

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Dioxide		BCF - Other		on Factor		
Aluminum Oxide (non-fibrous)	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information 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. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

SECTION 14: Transport Information

Local Regulations

Land Transport: In accordance with Director General of Land Transportation Decree No. SK.725/AJ.302/DRJD/2004 which refer to UN Standard.

Sea Transport: In accordance with Minister of Transportation Decree No. KM 2/2010 which refer to IMDG Code Standard.

International Regulations

UN No.: Not applicable

UN Proper Shipping Name: Not applicable

Transportation Class (IMO): Not applicable

Transportation Class (IATA): Not applicable

Packing Group: Not applicable

Marine Pollutant: Not applicable

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.

Local Inventory Status

Addendum I Government Regulation No. 74/2001:

List of Hazardous Substances Approved for Use :

None of the substances are listed as a Hazardous Substance Approved for Use.

Addendum II Government Regulation No. 74/2001:

Tab.1 List of Prohibited Substances for Use:

None of the substances are listed as a Prohibited Substance for Use.

Addendum II Government Regulation No. 74/2001:

Tab.2 List of Restricted Substances for Use:

None of the substances are listed as a Restricted Substance for Use.

Addendum I Ministry of Health Regulation No. 472/1996:

List and Classification of Hazardous Substances for Health:

None of the substances are listed and classified as a Hazardous Substance for Health.

Addendum I Act of Minister of Industry and Trade No. 254/MPP/KEP/2000

List of Hazardous Substances that are Regulated to Import Trade System:

None of the substances are listed and classified as a Hazardous Substance that is Regulated to Import Trade System.

SECTION 16: Other information

Document Group:	08-8962-6	Version Number:	1.01
Issue Date:	20/03/2014	Supersedes Date:	07/02/2012

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3M Indonesia SDSs are available at www.mmm.com