Safety Data Sheet

Document Group:	23-2707-0	**Version Number:**	3.00
Issue Date:	01/14/16	**Supercedes Date:**	01/16/15

SECTION 1: Identification

1.1. Product identifier
3M™ Abrasive Products, Diamond Metal Bond Wheels and Discs

1.2. Recommended use and restrictions on use

Recommended use
Abrasive Product

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Abrasive Systems Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	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
Serious Eye Damage/Irritation: Category 2B.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.
Carcinogenicity: Category 1B.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Health Hazard |

Pictograms

Hazard Statements
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause cancer.

Causes damage to organs through prolonged or repeated exposure:
respiratory 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.
In case of inadequate ventilation wear respiratory protection.
Wear protective gloves.
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: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
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.
Wash contaminated clothing 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.

2.3. Hazards not otherwise classified
None.

13% of the mixture consists of ingredients of unknown acute oral toxicity.
14% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Diamond	7782-40-3	10 - 30

Silicon Carbide Mineral	409-21-2	0 - 30
Aluminum Oxide Mineral	1344-28-1	0 - 30
Copper	7440-50-8	10 - 60
Iron	7439-89-6	0 - 50
Tin	7440-31-5	0 - 30
Cobalt	7440-48-4	0 - 20
Tungsten Carbide	12070-12-1	0 - 10
Titanium	7440-32-6	0 - 10
Nickel	7440-02-0	0 - 10
Glass	65997-17-3	0 - 10
Silver	7440-22-4	0 - 10
Lubricant	7782-42-5	0 - 5
Steel or Composite Cores	Mixture	Not Applicable

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:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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
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	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Gas	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
Avoid release to the environment.

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. Do not use in a confined area with minimal air exchange. Avoid breathing of dust created by sanding, grinding or machining. 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. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. 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. 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
TUNGSTEN, INSOLUBLE COMPOUNDS	12070-12-1	ACGIH	TWA(as W):5 mg/m3;STEL(as W):10 mg/m3	
Aluminum Oxide Mineral	1344-28-1	CMRG	TWA:1 fiber/cc	
Aluminum, insoluble compounds	1344-28-1	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Aluminum Oxide Mineral	1344-28-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Silicon Carbide Mineral	409-21-2	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
CERAMIC FIBERS	65997-17-3	ACGIH	TWA(as fiber):0.2 fiber/cc	A2: Suspected human carcin.
Glass	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	
Nickel	7440-02-0	OSHA	TWA(as Ni):1 mg/m3	

Nickel	7440-02-0	ACGIH	TWA(inhalable fraction):1.5 mg/m3	A5: Not suspected human carcin
Silver	7440-22-4	OSHA	TWA(as Ag):0.01 mg/m3	
Silver	7440-22-4	ACGIH	TWA(as dust and fume):0.1 mg/m3;TWA:0.1 mg/m3	
Tin	7440-31-5	ACGIH	TWA:2 mg/m3	
Tin	7440-31-5	OSHA	TWA(as Sn):2 mg/m3	
Cobalt	7440-48-4	ACGIH	TWA(as Co):0.02 mg/m3	A3: Confirmed animal carcin.
Cobalt	7440-48-4	OSHA	TWA(as Co, dust and fume):0.1 mg/m3	
Copper	7440-50-8	OSHA	TWA(as Cu dust or mist):1 mg/m3;TWA(as Cu, fume):0.1 mg/m3	
Lubricant	7782-42-5	OSHA	TWA:15 millions of particles/cu. ft.	
Lubricant	7782-42-5	ACGIH	TWA(respirable fraction):2 mg/m3	
GRAPHITE SYNTHETIC	7782-42-5	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	

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. 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:
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 (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

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	*Not Applicable*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	*Not Applicable*
Flash Point	*Not Applicable*
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Vapor Density	*Not Applicable*
Specific Gravity	*Not Applicable*
Solubility in Water	*Not Applicable*
Solubility- non-water	*Not Applicable*
Partition coefficient: n-octanol/ water	*Not Applicable*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*Not Applicable*
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:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

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:
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.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy 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:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

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.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
Generic: COBALT METAL	7440-48-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Generic: COBALT METAL [DUST] WITHOUT TUNGSTEN CARBIDE [DUST]	7440-48-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Generic: Cobalt and inorganic cobalt compounds	7440-48-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Generic: COBALT METAL [DUST] WITH TUNGSTEN CARBIDE [DUST]	12070-12-1	Grp. 2A: Probable human carc.	International Agency for Research on Cancer
Generic: CERAMIC FIBERS	65997-17-3	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Generic: CERAMIC FIBERS	65997-17-3	Anticipated human carcinogen	National Toxicology Program Carcinogens
Generic: GLASS FILAMENTS	65997-17-3	Anticipated human carcinogen	National Toxicology Program Carcinogens
Nickel	7440-02-0	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Nickel	7440-02-0	Anticipated human carcinogen	National Toxicology Program Carcinogens
Silicon Carbide Mineral	409-21-2	Grp. 2A: Probable 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.

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 0 - 0.05 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Copper	Dermal	Rat	LD50 > 2,000 mg/kg
Copper	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.11 mg/l
Copper	Ingestion	Rat	LD50 > 2,000 mg/kg
Iron	Dermal		LD50 estimated to be > 5,000 mg/kg
Iron	Ingestion	Rat	LD50 30,000 mg/kg
Aluminum Oxide Mineral	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Oxide Mineral	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminum Oxide Mineral	Ingestion	Rat	LD50 > 5,000 mg/kg
Silicon Carbide Mineral	Dermal	Rat	LD50 > 2,000 mg/kg
Silicon Carbide Mineral	Ingestion	Rat	LD50 > 2,000 mg/kg
Tin	Dermal	Rat	LD50 > 2,000 mg/kg
Tin	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.75 mg/l
Tin	Ingestion	Rat	LD50 > 2,000 mg/kg
Cobalt	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg

Cobalt	Inhalation-Dust/Mist (4 hours)	Rat	LC50 < 0.05 mg/l
Cobalt	Ingestion	Rat	LD50 550 mg/kg
Glass	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Nickel	Dermal		LD50 estimated to be > 5,000 mg/kg
Titanium	Dermal		LD50 estimated to be > 5,000 mg/kg
Titanium	Ingestion		LD50 estimated to be > 5,000 mg/kg
Nickel	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.55 mg/l
Nickel	Ingestion	Rat	LD50 > 9,000 mg/kg
Silver	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Silver	Ingestion	Rat	LD50 > 2,000 mg/kg
Lubricant	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Copper	Rabbit	No significant irritation
Iron	Rabbit	No significant irritation
Aluminum Oxide Mineral	Rabbit	No significant irritation
Silicon Carbide Mineral	Rat	No significant irritation
Tin	Rabbit	No significant irritation
Cobalt	In vitro data	No significant irritation
Glass	Professional judgement	No significant irritation
Nickel	Rabbit	Minimal irritation
Lubricant	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Copper	Rabbit	Mild irritant
Iron	Rabbit	No significant irritation
Aluminum Oxide Mineral	Rabbit	No significant irritation
Silicon Carbide Mineral	Professional judgement	No significant irritation
Tin	Rabbit	No significant irritation
Cobalt	Rabbit	Moderate irritant
Glass	Professional judgement	No significant irritation
Nickel	Rabbit	Mild irritant
Lubricant	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Cobalt	Human and animal	Sensitizing
Nickel	Human	Sensitizing

Respiratory Sensitization

Name	Species	Value
Cobalt	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
Aluminum Oxide Mineral	In Vitro	Not mutagenic
Cobalt	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cobalt	In vivo	Some positive data exist, but the data are not sufficient for classification
Glass	In Vitro	Some positive data exist, but the data are not sufficient for classification
Lubricant	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Aluminum Oxide Mineral	Inhalation	Rat	Not carcinogenic
Cobalt	Inhalation	Multiple animal species	Carcinogenic
Glass	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Nickel	Inhalation	similar compounds	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Cobalt	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Mouse	NOAEL 0.01 mg/l	14 weeks
Cobalt	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	during gestation
Cobalt	Ingestion	Toxic to male reproduction	Multiple animal species	NOAEL Not available	
Cobalt	Inhalation	Toxic to male reproduction	Mouse	LOAEL 0.0025 mg/l	14 weeks

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Cobalt	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
Aluminum Oxide Mineral	Inhalation	pneumoconiosis | pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Cobalt	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.000625	14 weeks

					mg/l	
Cobalt	Inhalation	hematopoietic system | liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.005 mg/l	14 weeks
Cobalt	Inhalation	heart | skin | endocrine system | bone, teeth, nails, and/or hair | immune system | nervous system | eyes	All data are negative	Rat	NOAEL 0.005 mg/l	14 weeks
Cobalt	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	poisoning and/or abuse
Cobalt	Ingestion	endocrine system | hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	therapeutic use
Glass	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure
Nickel	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.001 mg/l	13 weeks
Lubricant	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational 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

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. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes.

EPA Hazardous Waste Number (RCRA): D011 (Silver)

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 - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Silver	7440-22-4	0 - 10
Silver (Silver)	7440-22-4	0 - 10
Copper	7440-50-8	10 - 60
Copper (Copper)	7440-50-8	10 - 60
Aluminum Oxide Mineral	1344-28-1	0 - 30
Aluminum Oxide Mineral (ALUMINUM OXIDE (FIBROUS FORMS ONLY))	1344-28-1	0 - 30
Cobalt	7440-48-4	0 - 20
Cobalt (Cobalt)	7440-48-4	0 - 20
Nickel	7440-02-0	0 - 10
Nickel (Nickel)	7440-02-0	0 - 10

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: 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.

HMIS Hazard Classification
Health: *2 **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).

Document Group:	23-2707-0	**Version Number:**	3.00
Issue Date:	01/14/16	**Supercedes Date:**	01/16/15

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

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

3M USA SDSs are available at www.3M.com