



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M 7000 Series Copper Granules
- 7000W (Wausau, WI)

Product Identification Numbers

98-0213-4206-2

1.2. Recommended use and restrictions on use

Recommended use

Roofing granules for roofing shingles.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Mineral Products
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

Carcinogenicity: Category 1A.

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

2.2. Label elements

Signal word

Danger

Symbols

Health Hazard |

Pictograms



Hazard Statements

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.
- Do not eat, drink or smoke when using this product.
- Wash thoroughly after handling.

Response:

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.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Meta-Rhyolite (composition varies naturally, typically contains feldspars, pyroxene, biotite, magnetite, ilmenite, hematite and calcite)	Mixture	90 - 95 Trade Secret *
Quartz (a component of Meta-Rhyolite)	14808-60-7	20 - 30 Trade Secret *
Ceramic	66402-68-4	3 - 5 Trade Secret *
Copper Oxide	1317-39-1	3 - 5 Trade Secret *
Chromium (III) Oxide	1308-38-9	< 0.5 Trade Secret *
Oil	64742-52-5	< 0.5 Trade Secret *
Titanium Dioxide	13463-67-7	< 0.2 Trade Secret *

*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:

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:

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

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Special protective actions for fire-fighters

Non-flammable: ordinary combustible material.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. 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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. 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

Do not breathe dust/fume/gas/mist/vapors/spray. Granules are not respirable. Dust generated during handling may contain respirable material. 3M does not recommend material handling methods that could damage the coating or base mineral. In particular, roofing granules should not be conveyed pneumatically, via screw conveyors, or used as a sand blasting media. These uses can cause coating and base mineral attrition which may lead to increased levels of dust generation. For industrial or professional use only. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Use personal protective equipment (gloves, respirators, etc.) as required. Do not handle

until all safety precautions have been read and understood.

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
Chromium(3+), inorganic compounds	1308-38-9	ACGIH	TWA(as Cr):0.5 mg/m3	A4: Not class. as human carcin
COPPER COMPOUNDS	1317-39-1	ACGIH	TWA(as Cu dust or mist):1 mg/m3;TWA(as Cu, fume):0.2 mg/m3	
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
Quartz (a component of Meta-Rhyolite)	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz (a component of Meta-Rhyolite)	14808-60-7	OSHA	TWA Table Z-1(respirable):0.05 mg/m3;TWA Table Z-3(respirable):0.1 mg/m3	
Paraffin oil	64742-52-5	OSHA	TWA(as mist):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 local exhaust ventilation at transfer points. 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.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

No protective gloves required.

Respiratory protection

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
Specific Physical Form:	Granules
Odor, Color, Grade:	Grey or black color, slightly oily odor, typical particle size 0.84-2.0 mm
Odor threshold	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Flash Point	No flash point
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Specific Gravity	2.60 - 2.75 [Ref Std:WATER=1]
Solubility in Water	Negligible
Solubility- non-water	<i>Not Applicable</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>Not Applicable</i>
Percent volatile	Nil

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.	Not Specified

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.

May cause additional health effects (see below).

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.

Ingestion:

May be harmful if swallowed.

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

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

Silicosis: Signs/symptoms may include breathlessness, weakness, chest pain, persistent cough, increased amounts of sputum, and heart disease.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYST AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
Quartz (a component of Meta-Rhyolite)	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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 ATE2,000 - 5,000 mg/kg
Meta-Rhyolite (composition varies naturally, typically contains feldspars, pyroxene, biotite, magnetite, ilmenite, hematite and calcite)	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Meta-Rhyolite (composition varies naturally, typically contains feldspars, pyroxene, biotite, magnetite, ilmenite, hematite and calcite)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Quartz (a component of Meta-Rhyolite)	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz (a component of Meta-Rhyolite)	Ingestion		LD50 estimated to be > 5,000 mg/kg
Ceramic	Dermal		LD50 estimated to be > 5,000 mg/kg
Ceramic	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Copper Oxide	Dermal	Rat	LD50 > 2,000 mg/kg

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Copper Oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 5 mg/l
Copper Oxide	Ingestion	Rat	LD50 470 mg/kg
Oil	Dermal	Rabbit	LD50 > 2,000 mg/kg
Oil	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
Chromium (III) Oxide	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Chromium (III) Oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.41 mg/l
Chromium (III) Oxide	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Meta-Rhyolite (composition varies naturally, typically contains feldspars, pyroxene, biotite, magnetite, ilmenite, hematite and calcite)	Professional judgement	No significant irritation
Quartz (a component of Meta-Rhyolite)	Professional judgement	No significant irritation
Ceramic	Rabbit	No significant irritation
Oil	Rabbit	Minimal irritation
Titanium Dioxide	Rabbit	No significant irritation
Chromium (III) Oxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Ceramic	Rabbit	Mild irritant
Oil	Rabbit	Mild irritant
Titanium Dioxide	Rabbit	No significant irritation
Chromium (III) Oxide	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Oil	Guinea pig	Not classified
Titanium Dioxide	Human and animal	Not classified
Chromium (III) Oxide	similar compounds	Not classified

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

Quartz (a component of Meta-Rhyolite)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz (a component of Meta-Rhyolite)	In vivo	Some positive data exist, but the data are not sufficient for classification
Ceramic	In Vitro	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
Chromium (III) Oxide	In vivo	Not mutagenic
Chromium (III) Oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Quartz (a component of Meta-Rhyolite)	Inhalation	Human and animal	Carcinogenic
Ceramic	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Oil	Ingestion	Rat	Not carcinogenic
Oil	Dermal	Mouse	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
Chromium (III) Oxide	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Chromium (III) Oxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
Chromium (III) Oxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
Chromium (III) Oxide	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	90 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Oil	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Chromium (III) Oxide	Inhalation	respiratory system	Not classified	Rat	NOAEL 40 mg	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Quartz (a component of Meta-Rhyolite)	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Ceramic	Inhalation	pulmonary fibrosis	Not classified	Multiple animal species	NOAEL not available	
Ceramic	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the	Rat	LOAEL 0.01	2 years

			data are not sufficient for classification		mg/l	
Titanium Dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Chromium (III) Oxide	Inhalation	immune system respiratory system hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 44 mg/m3	90 days

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.

Dispose of waste product in a permitted industrial waste facility.

EPA Hazardous Waste Number (RCRA): Not regulated

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.

311/312 Hazard Categories:

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

EPCRA 311/312 Hazard Classifications (effective January 1, 2018):

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Physical Hazards

Not applicable

Health Hazards

Carcinogenicity

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>
Copper Oxide (Copper compounds except copper phthalocyanine compounds substituted with only H and/or Cl and/or Br (C32R16CuN8, R=any combination of H,Cl,Br))	1317-39-1	3 - 5

FIFRA

<u>Status</u>	<u>Registration Number</u>
Registered	10350-63

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

3M 7000 Series Copper Granules

Built-in control of algae to maintain the beauty of roofing materials

ACTIVE INGREDIENT

*Cuprous oxide (CAS number: 1317-39-1)	3.28%
OTHER INGREDIENTS	96.72%
Total	100.00%
*(Equivalent to Metallic copper (CAS number: 7440-50-8))	2.92%

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

Engineering Controls

Use with appropriate local exhaust ventilation and at transfer points to manage particulates.

Personal Protective Equipment

Avoid eye and prolonged skin contact. Use gloves (leather, nitrile rubber or polyethylene) and wear protective clothing (long-sleeved shirt, long pants) to reduce skin contact. Safety Glasses with side shields are recommended. Note: Because manufacturing location conditions vary widely, please consult product Safety Data Sheet (SDS) for detailed particulate respiratory protection considerations while manufacturing with this product.

User Safety Requirements

Discard disposable PPE at the end of use as directed by manufacturer. For reusable PPE, follow manufacturer's instructions for cleaning and maintenance. If no instructions for washables exist, use detergent and hot water.

User Safety Recommendations

User must wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage:

Store under ambient conditions.

Pesticide Disposal:

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to an approved waste disposal facility. Since regulations vary, consult applicable regulations or authorities before disposal.

Pesticide Container Disposal:

Where appropriate, return empty 2000 pound bulk bags to 3M for reuse.

Refillable Container. Refill this container with 3M Copper Granules only. Do not reuse this container for any other purpose. Bags should be emptied of any residual granules prior to refilling. When bag condition warrants disposal, dispose of bag in a sanitary landfill or offer for recycling if available or reconditioning if appropriate.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

If granules are to be stored prior to (and during) use, a copy of this label must be made readily accessible to employees when they are in their work area(s).

3M 7000 Series Copper Granules contain cuprous oxide, an effective algacide for inhibiting the growth of blue-green algae that can stain roofing materials. The granules are treated roofing granules 1-2 mm in diameter made from rock coated with cuprous oxide and sealed in a ceramic shell. The ceramic shell allows a timed release of copper to provide long-lasting algae control that extends the useful life of roofing materials. The granules are colored to match the roofing materials.

3M 7000 Series Copper Granules should be mixed with standard roofing granules at the rate of 5-20% by weight and processed normally during manufacture of the roofing materials.

WARRANTY

3M warrants that 3M 7000 Series Copper Granules conform to the ingredient statement above.

EPA Reg. No. 10350-63
EPA Est. No. 10350-WI-002
(_____ lbs)

Net Contents: Bulk shipment; see waybill

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	None	Carcinogen
Titanium Dioxide	13463-67-7	Carcinogen

WARNING: This product contains a chemical known to the State of California to cause cancer.

15.3. Chemical Inventories

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: 1 **Flammability:** 0 **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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