

1. Identification

Product identifier:

Product name Metal
Product type Liquid

Other means of identification:

Synonyms ZML

Recommended use and restrictions on use

Recommended use Interior paintable surfaces of commercial spaces.
Restrictions on use Avoid floors, standing water and some horizontal surfaces.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer Master Coating Technologies
2777 Eagandale Boulevard
Eagan, MN 55121
Information Phone: 1-800-765-6699
Emergency Telephone Number Emergency Phone: 1-800-535-5053

2. Hazard(s) identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Physical Hazards	Not classified.	
Health Hazards	Acute toxicity, Inhalation	Category 4
	Serious eye damage/eye irritation	Category 2A
	Sensitization, Skin	Category 1

Unknown Toxicity 29.6% of the mixture consists of ingredient(s) of unknown toxicity.

GHS Label elements



Signal word Warning
Hazard statements Harmful if inhaled. Causes serious eye irritation. May cause an allergic skin reaction.

Precautionary statements

Prevention Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace.

Response IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
"IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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	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. Take off contaminated clothing and wash before reuse.
Storage	Store locked up.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	Percentage (wt/wt)
Kaolin	1332-58-7	19.3
Silicon dioxide	7631-86-9	19.3
Barium Sulfate	7727-43-7	5.5
Mica	12001-26-2	4.9
Ammonium hydroxide	1336-21-6	0.8

The criteria for listing components in the composition are as follows: Carcinogens are listed when present at 0.1% or greater; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or greater. Non-hazardous components may be listed at 3.0% or greater if not proprietary in nature. This is not intended to be complete compositional disclosure. Refer to section 15 for applicable states right-to-know and other regulatory information.

4. First-aid measures

Description of necessary first aid measures:

Inhalation	Remove to fresh air. Administer oxygen if necessary. Seek medical attention.
Skin contact	Wash thoroughly with soap and water. If irritation persists, get medical attention.
Eye contact	Flush immediately with water for 15 minutes. If irritation persists, get medical attention.
Ingestion	Consult physician or poison control immediately. Treat symptomatically.
The most important symptoms and effects, both acute or delayed	No specific symptoms noted.
Indication of immediate medical attention and special treatment needed	No information available.

5. Fire-fighting measures

Suitable extinguishing media	Liquid material should not burn. Dried material will support combustion. Use Carbon dioxide, foam, dry chemical and water fog.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	Containers may explode when exposed to extreme heat. Water may be used to cool unruptured containers.
Special protective equipment and precautions for firefighters	No information available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Methods and materials for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13).

Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Kaolin	PEL (TWA)	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Silicon dioxide	PEL (TWA)	20 mppcf (80 mg/m ³ /%SiO ₂)
Barium Sulfate	PEL (TWA)	15 mg/m ³ (total) 5 mg/m ³ (resp)
Mica	PEL (TWA)	20 mppcf

US. OSHA Table Z-1 (29 CFR 1910.1000)

Components	Type	Value
Kaolin	TWA	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Barium Sulfate	TWA	15 mg/m ³ (total) 5 mg/m ³ (resp)

US. OSHA Table Z-2 (29 CFR 1910.1000)

None of the ingredients of this product are listed.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Silicon dioxide	TWA	20 mppcf (80 mg/m ³ /%SiO ₂)
Mica	TWA	20 mppcf

US. ACGIH Threshold Limit Values

Chemical name	Type	Value
Kaolin	TLV (TWA)	2 mg/m ³ (no asbestos and < 1% crystalline silica)
Barium Sulfate	TLV (TWA)	5 mg/m ³ (no asbestos and < 1% crystalline silica)
Mica	TLV (TWA)	3 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Chemical name	Type	Value
Kaolin	REL (TWA)	10 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Silicon dioxide	REL (TWA)	6 mg/m ³
Barium Sulfate	REL (TWA)	10 mg/m ³ (total) 5 mg/m ³ (resp)
Mica	REL (TWA)	3 mg/m ³

Appropriate engineering controls Respiratory equipment

Mechanical ventilation may be necessary during and after application. This product when sprayed may cause fogging in coned areas. Avoid breathing spray mist. Use a dust respirator for respiratory protection. In special circumstances, such as poorly ventilated spaces with evaporation from large surfaces, wear an appropriate, properly fitted air-purifying respirator (NIOSH/MSHA approved) during and after application.

Hand protection

Vinyl, rubber or neoprene gloves.

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Eye protection	Safety glasses or goggles.
Other protection	None.
General hygiene considerations	Keep away from foodstuff, beverages, and feed. Wash hands before breaks and at the end of work.

9. Physical and chemical properties

Appearance	Independently suspended color paint particles.
Color	No information available.
Odor	No information available.
Odor threshold	No information available.
pH	No information available.
Melting point/freezing point	No information available.
Initial boiling point/Boiling range	210°– 220°F / 99°–104°C
Flash point	No information available.
Evaporation rate	Slower than n-Butyl Acetate.
Flammability (solid, gas)	No information available.
Lower flammability/explosive limit	No information available.
Upper flammability/explosive limit	No information available.
Vapor pressure	No information available.
Vapor density	Heavier Than Air.
Liquid Density	Heavier Than Water.
Volatiles by Volume	82% – 83%
Volatiles by Weight	75% – 78%
Weight per Gallon	8.9 – 9.1 Pounds
Specific gravity	No information available.
Solubility	No information available.
Partition coefficient - n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity	No information available.
VOC	Less than 60 grams per liter (0.50 lb/gal.) coating / Less than 14 grams per liter (0.11 lb/gal.) material.

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable.
Possibility of hazardous reactions	Hazardous Polymerization will not occur.
Conditions to avoid	Do not permit water reactive materials to mix with this product.
Incompatible materials	No hazardous reactions are expected to occur, except strong oxidizers and materials which react with water.
Hazardous decomposition products	Incomplete combustion may release carbon monoxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Ingestion	May be harmful if swallowed.
Skin contact	Prolonged or repeated exposure may cause irritation.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics No information available.

Delayed and immediate effects and chronic effects from short- and long-term exposure No information available.

Numerical measures of toxicity

Chemical Name	Oral LD₅₀	Dermal LD₅₀	Inhalation LC₅₀
Kaolin (CAS # 1332-58-7)	>5,000 mg/kg (Rat)	>5,000 mg/kg (Rabbit)	-
Silicon dioxide (CAS # 7631-86-9)	>3,300 mg/kg (Rat)	>2,000 mg/kg (Rabbit)	> 0.69 mg/l (Rat), 4h (dust)
Ammonium hydroxide (CAS# 1336-21-6)	350 mg/kg (Rat)	-	-

Skin corrosion/irritation No information available.
Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization
Respiratory sensitization No information available.
Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No information available.

Carcinogenicity The total product is not on the International Agency for Research on Cancer (IARC), National Toxicology Program (NTP), or OSHA for carcinogens or potential carcinogens.

Reproductive toxicity No information available.

Specific target organ toxicity – single exposure No information available.

Specific target organ toxicity – repeated exposure No information available.

Aspiration hazard No information available.

12. Ecological information

Numerical measures of toxicity

Chemical Name	Test	Species	Test Results
Silicon dioxide (CAS # 7631-86-9)	Algae EC ₅₀	Microalga (<i>Pseudokirchneriella subcapitata</i>)	1000 mg/l, 72h
Ammonium hydroxide (CAS# 1336-21-6)	Fish LC ₅₀	Coho salmon (<i>Oncorhynchus kisutch</i>)	0.45 mg/l, 96h

Persistence and degradability There are no data on the degradability of this product.

Bioaccumulative potential No data available on bioaccumulation.

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

In accordance with DOT	Not regulated for transport.
In accordance with IMDG	Not regulated for transport.
In accordance with IATA	Not regulated for transport.

15. Regulatory information

United States

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All of the components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None of the ingredients of this product are listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Kaolin (CAS# 1332-58-7)	Listed
Silicon dioxide (CAS# 7631-86-9)	Listed
Barium Sulfate (CAS# 7727-43-7)	Listed
Mica (CAS# 12001-26-2)	Listed

CERCLA Hazardous Substance List (40 CFR 302.4)

Chemical Name	CERCLA RQ
Ammonium hydroxide (CAS# 1336-21-6)	1,000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302/304 Extremely hazardous substance

None of the ingredients of this product are listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

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This product does not contain any toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

None of the ingredients of this product are listed.

Clean Air Act (CAA) Section 112® Accidental Release Prevention (40 CFR 68.130)

None of the ingredients of this product are listed.

Safe Drinking Water Act (SDWA)

None of the ingredients of this product are listed.

US State regulations

US. New Jersey Worker and Community Right-to-Know Act

Kaolin (CAS# 1332-58-7)

Barium Sulfate (CAS# 7727-43-7)

Mica (CAS# 12001-26-2)

Ammonium hydroxide (CAS# 1336-21-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Kaolin (CAS# 1332-58-7)

Silicon dioxide (CAS# 7631-86-9)

Barium Sulfate (CAS# 7727-43-7)

Mica (CAS# 12001-26-2)

Ammonium hydroxide (CAS# 1336-21-6)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

None of the ingredients of this product are listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non- Domestic Substances List (NDSL)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

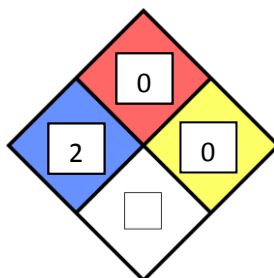
Revision date

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Revision

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NFPA rating



Key to abbreviations

ACGIH: Documentation of the Threshold Limit Values and Biological Exposure indices

GHS : Globally Harmonized System of Classification and Labeling of

Metal

Chemicals

IATA :International Air Transport Association

IMDG : International Maritime Dangerous Goods

NIOSH: The National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer

The information, recommendations, and suggestions presented in this SDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use, the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations. All materials may present unknown hazards and should be used with caution.