
SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: Enduramark Diamond Dust Laser Marking Aerosol Spray Can
Product Code:LMS-DD-CAN

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Coating used for Laser Marking; Industrial Use Only

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

MANUFACTURED BY: VV Materials, LLC (DBA: Enduramark)
DIVISION: Material Science
ADDRESS: 14101 W. Hwy 290
STE 1800
Austin, TX 78737

1.4 EMERGENCY TELEPHONE NUMBER

CHEMTREC PHONE: 800-424-9300
PRODUCT INFORMATION: 512-236-6424

CAS No: Mixture

Date of Preparation 5/16/2019

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable aerosols (Category 1)

Eye irritation (Category 2A), H319

Carcinogenicity (Category 2), H351

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 For the full text of the H-Statements mentioned in this Section, see Section 16.

Gases under pressure (Category 1)

2.2 GHS Label elements, including precautionary statements



Signal Word-

Danger

Hazard statement(s)

H222 Extremely flammable aerosol

H280 Contains gas under pressure; may explode if heated

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer

Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P211 Do not spray on an open flames or other ignition source

P241 Use explosion-proof electrical/ventilation/lighting/equipment

P242 Use only non-sparking tools

P243 Take precautionary measures against static discharge

P251 Pressurized container:Do not pierce or burn, even after use

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

P281 Use personal protective equipment as required

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P303 + P361 + P353 If on skin (or hair): Take off all contaminated clothing. Rinse skin with water/shower

P304 + P340 + P312 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.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol resistant foam to extinguish.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P410 + P 412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	Concentration
Acetone	67-64-1	>= 30 - < 50%
Propane	74-98-6	>= 10 - < 30%
Proprietary Hydrated Bismuth Magnesium Silicate	N/A	>=25 - <40%

Specific chemical identities are being withheld as a trade secret (29 CFR 1910.1200)

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water. Consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media**Suitable extinguishing media**

Use dry powder or dry sand.

Unsuitable extinguishing media

Do NOT use water.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, bismuth oxides.

5.3 Advice for firefighters

Wear self-contained breathing apparatus if necessary.

5.4 Further information

No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Remove all sources of ignition. Avoid breathing vapors, mist or gas. Beware of vapors accumulating to form explosive concentrations. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Dispose according to local/national regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin, eyes or clothing. Use personal protective equipment as necessary. Avoid formation of dust, vapors, mist and aerosols. Further processing of solid materials may result in the formation of combustible dusts. Use explosion-proof equipment. Do not eat or drink when using. Keep away from sources of ignition – No smoking. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Take measures to prevent the build-up of electrostatic charge. For precautions, see section 2.2.

7.2 Advice on protection against fire and explosions

Keep away from heat and sources of ignition.

7.3 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Containers that are opened must be carefully resealed and kept upright to prevent leakage. Contents under pressure.

7.4 Specific End Use

Apart from the uses mentioned in section 1, no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Component	CAS-No.	Value	Control Parameters	Basis
Acetone	67-64-1	TWA	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		STEL	500 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		TWA	250 ppm 590 mg/m ³	USA. NIOSH Recommended Exposure Limits
		TWA	1,000 ppm 2,400 mg/m ³	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants
		The value in mg/m ³ is approximate.		
		STEL	750 ppm 1,780 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		C	3,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		PEL	500 ppm 1,200 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Propane	74-98-6	TWA	1,000 ppm 1,800 mg/m ³	USA. NIOSH Recommended Exposure Limits
		TWA	1,000 ppm 1,800 mg/m ³	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants

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		The value in mg/m ³ is approximate.		
		PEL	1,000 ppm 1,800 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		A number of gases and vapors, when present in high concentrations, act primarily as asphyxiants without other adverse effects. A concentration limit is not included for each material because the limiting factor is the available oxygen. (Several of these materials present fire or explosion hazards.)		
Proprietary Hydrated Bismuth Magnesium Silicate		TWA	0.50 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

SECTION 8: EXPOSURE CONTROLS**8.1 Exposure Controls****Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Eye/face protection

Safety glasses with side-shields and face-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Wear protective clothing. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Body Protection

Impervious clothing, flame-resistant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection must be provided in accordance with current local regulations.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

a) Appearance	Form: powder Colour: White to Off-White
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or exposure limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available

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m) Relative density	No data available
n) Water solubility 1 g/l at 20 °C (68 °F)	No data available
o) Partition coefficient: noctanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Vapors may form explosive mixture with air.

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Bases, strong oxidizing agents, reducing agents, strong acids. Acetone reacts violently with phosphorus oxychloride.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Molybdenum oxides, aluminum oxides, silicon oxides, carbon oxides, bismuth oxides.

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 TOXICOLOGICAL INFORMATION:

Acute toxicity

No data available.

Skin corrosion/irritation

No data available.

Serious eye damage/eye irritation

No data available.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOLOGICAL INFORMATION:

Toxicity

No data available.

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Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE DISPOSAL METHOD:**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste-disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Dispose in accordance with Federal, State and Local regulations.

Contaminated packaging

Dispose of as unused product. Do not reuse container.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: TRANSPORT INFORMATION

14.1 TRANSPORT INFORMATION**DOT (U.S.)**

UN/ID No: UN1950
Proper shipping name: Aerosols
Hazard Class: 2.1
Description: UN1950, Aerosols, 2.1
ERG No: 126

TDG (Canada)

UN/ID No: UN1950
Proper Shipping Name: Aerosols
Hazard Class: 2.1
Description: UN1950, Aerosols, 2.1

IMDG

UN-No: UN1950
Proper Shipping Name: Aerosols
Hazard Class: 2.1
Ems: F-D, S-U
Description: UN1950, Aerosols, flammable, 2.1

IATA

UN-No UN1950
Proper shipping name Aerosols, flammable
Hazard Class 2.1
ERG Code 10L
Shipping Description UN1950, Aerosols, flammable, 2.1

SECTION 15: REGULATORY INFORMATION

15.1. REGULATORY INFORMATION

SARA 302 Components

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No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Sudden Release of Pressure Hazard

California Prop. 65 Components

This product can potentially expose you to chemicals, including Crystalline Silica/Quartz, which are known to the State of California to cause cancer. For more information go to P65Warnings.ca.gov.

Massachusetts Right to Know Components

Propane

Pennsylvania Right to Know Components

Propane, Acetone, Dibismuth trioxide

New Jersey Right to Know Components

Propane, Dibismuth trioxide

SECTION 16: OTHER INFORMATION

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VV Materials, LLC, and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.