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**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

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**1.1 PRODUCT IDENTIFIER**

Product Name: Enduramark Charcoal Glass Laser Marking Aerosol  
Product Code:LMS-GLASS-CHAR-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** 2/17/2020

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**SECTION 2: HAZARDS IDENTIFICATION**

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**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.

**SAFETY DATA SHEET**  
Revision date: 03/02/2020

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  
P303 + P361 + P353 If on skin (or hair): Take of 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**

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

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Component	CAS #	Concentration
Acetone	67-64-1	>= 30 - < 50%
Propane	74-98-6	>= 10 - < 30%
Trade Secret Metallic Compound	N/A	>= 100 %

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

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**SECTION 4: FIRST AID MEASURES**

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**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**

Flush eyes with water as a precaution. Consult a physician.

**If swallowed**

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

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**SECTION 5: FIRE-FIGHTING MEASURES**

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**5.1 Extinguishing media**

**Suitable extinguishing media**

Dry powder, dry sand.

**Unsuitable extinguishing media**

Do NOT use water jet.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Remove all sources of ignition. Ensure adequate ventilation. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. 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. Contain spillage, and collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite). Sweep up and shovel. Keep in suitable, closed containers and dispose according to local/national regulations (see section 13).

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: HANDLING AND STORAGE**

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**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. 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. Avoid inhalation of vapor, mist, or gas. Use explosion-proof equipment. Keep away from sources of ignition – No smoking. 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 a dry place.  
Storage classes: (TRGS 510): 3: Flammable liquids, (TRGS 510): 13: Non Combustible Solids, (TRGS 510): 2A: Gases

**7.4 Specific End Use**

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

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**8.1 Control Parameters**

Component	Value	Control Parameters	Basis
Acetone	TWA	750 ppm 1,800 mg/m <sup>3</sup>	USA. OSHA – Table Z-1
Propane	TWA	1,000ppm 1,800 mg/m <sup>3</sup>	USA. OSHA – Table Z-1
Trade Secret Metallic Compound	TWA	14 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	PEL	9 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
	PEL	4 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
	TWA	9 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		Lower Respiratory Tract irritation Not classifiable as a human carcinogen	

**8.2 Exposure Controls**

**SAFETY DATA SHEET**  
Revision date: 03/02/2020

**Appropriate engineering controls**

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

**Personal protective equipment**

**Eye/face protection:** Face shield and safety glasses with side-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. 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-retardant 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 type N99 (US) or type P2 (EN 143) 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).

**Control of environmental exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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**9.1 Information on basic physical and chemical properties**

a) Appearance	Form: powder Colour: 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
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

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**SECTION 10: STABILITY AND REACTIVITY**

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**10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

**SAFETY DATA SHEET**  
Revision date: 03/02/2020

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**

Strong oxidizing agents, strong acids, bases, reducing agents, phosphorus oxychloride.

**10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions – carbon oxides.

Other decomposition products - No data available

In the event of fire: see section 5

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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**TOXICOLOGICAL INFORMATION:**

**11.1 Toxicological effects for the listed Proprietary Hydrated Aluminum Magnesium Molybdenum Silicate have not been tested, but are expected to be similar to the related molybdenum oxide CAS # 1313-27-5. The toxicological data for molybdenum oxide is listed below and should be used as a guideline.**

**Acute toxicity**

No data available.

Inhalation: No data available.

Dermal: No data available.

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.

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**SECTION 12: ECOLOGICAL INFORMATION**

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**12. Toxicological effects for the listed Proprietary Hydrated Aluminum Magnesium Molybdenum Silicate have not been tested, but are expected to be similar to the related molybdenum oxide CAS # 1313-27-5. The toxicological data for molybdenum oxide is listed below and should be used as a guideline**

**12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

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

**12.6 Other adverse effects**

No data available

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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**WASTE DISPOSAL METHOD:** Dispose in accordance with Federal, State and Local regulations.

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**SECTION 14: TRANSPORT INFORMATION**

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**14. TRANSPORT INFORMATION**

**DOT (U.S.)**

**UN/ID No:** UN1090

**Proper shipping name:** Acetone

**Hazard Class:** 3

**Packing Group:** II

**UN/ID No:** UN1978

**Proper shipping name:** Propane

**Hazard Class:** 2.1

**IMDG**

**UN/ID No:** UN1090

**Proper shipping name:** Acetone

**Hazard Class:** 3

**Packing Group:** II

**Ems:** F-E, S-D

**UN/ID No:** UN1978

**Proper shipping name:** Propane

**Hazard Class:** 2.1

**Ems:** F-D, S-U

**IATA**

**UN/ID No:** UN1090

**Proper shipping name:** Acetone

**Hazard Class:** 3

**Packing Group:** II

**UN/ID No:** UN1978

**Proper shipping name:** Propane

**Hazard Class:** 2.1

**IATA Passenger:** Not permitted for transport

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**SECTION 15: REGULATORY INFORMATION**

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**SARA 302 Components**

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](http://P65Warnings.ca.gov).

**SAFETY DATA SHEET**  
Revision date: 03/02/2020

**Massachusetts Right to Know Components**  
Propane

**Pennsylvania Right to Know Components**  
Propane, Acetone

**New Jersey Right to Know Components**  
Propane

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**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.