
SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1. PRODUCT IDENTIFIER

Product Name: Enduramark Razium Residue Remover
Product Code: RAZIUM

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

Cleaner Used For Removing Residue from CO₂ Lasered Materials; 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: N/A

Date of Preparation 9/1/2017

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Eye irritation (Category 1A)
Serious Eye Damage (Category 1)

2.2 GHS Label elements, including precautionary statements

Signal Word- Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage

Precautionary statement(s)

P202 Do not handle until all safety precautions have been read and understood.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.

Disposal: Dispose of contents/container in accordance with local regulation.

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS # | Concentration |
|-----------------|----------|---------------|
| 2-ethoxyethanol | 111-76-2 | >=1 - <95% |

| | | |
|------------------------|---|------------|
| Proprietary Surfactant | - | >=1 - <10% |
|------------------------|---|------------|

Specific chemical identities and concentrations 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 unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact

Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact

Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

If swallowed

Keep respiratory tract clear. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Water spray jet Carbon dioxide (CO₂) Alcohol-resistant foam Dry chemical

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not breathe vapours/dust. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

7.2 Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

7.3 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 | Value | Control Parameters | Basis |
|-----------------|-------|--------------------|-----------|
| 2-butoxyethanol | TWA | 20 ppm | ACGIH |
| | TWA | 5 ppm | NIOSH REL |
| | TWA | 50 ppm | OSHA Z-1 |
| | TWA | 25 ppm | OSHA P0 |
| | PEL | 20 ppm | CAL PEL |

8.2 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.

Personal protective equipment

Eye/face protection: 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: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Body Protection: Impervious 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 N100 (US) or type P3 (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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|--|------------------------|
| a) Appearance | liquid |
| b) Odor | slight, characteristic |
| c) Odor Threshold | No data available |
| d) pH | 12.5-13 |
| 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: octanol/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

Stable

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, Strong acids

10.6 Hazardous decomposition products

Carbon Dioxide, Carbon Monoxide, Sulphur Oxides

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Acute oral toxicity

Acute toxicity estimate : > 5,000 mg/kg

Skin corrosion/irritation

Extremely corrosive and destructive to tissue

Serious eye damage/eye irritation

May cause irreversible eye damage

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

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 EcoToxicity

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

No Data Available

12.6 Other adverse effects

SAFETY DATA SHEET
Revision date: 03/13/2020

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORT INFORMATION

14. TRANSPORT INFORMATION

DOT (US)

UN Number:1171 Class:3 Packing Group:III
Proper shipping name:Ethylene glycol monoethyl ether
Reportable Quantity (RQ) 1000lbs

IMDG

UN Number:1171 Class:3 Packing Group:III EMS-No:F-E, S-D
Proper shipping name:Ethylene glycol monoethyl ether

IATA

UN Number:1171 Class:3 Packing Group:III
Proper shipping name:Ethylene glycol monoethyl ether

SECTION 15: REGULATORY INFORMATION

SARA 302 Components

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

SARA 304 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 304.

SARA 311/312 Hazards

Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313: 2-butoxyethanol CAS 111-76-2 0.4128%.

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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.