

TECHNICAL DATA SHEET

GENERAL

DESCRIPTION:

VAPORLOCK, from Bulletproof, is the ideal solution for reinforcing and waterproofing concrete surfaces before overlays. Not only will it harden and densify your cementitious substrates - this non-flammable, non-toxic sealer also reduces chlorides to ensure you get a strong bond with top performance results!

ADVANTAGES:

- Reduces / Prevents Vapor Emissions
- Leaves concrete breathable
- **Reduces "green concrete" window from 28 to 5 days.**
- Does not alter bonds
- Purges soluble chlorides and prevents re-entry

PRIMARY USE:

VAPORLOCK is an innovative solution for preventing corrosive activity on concrete surfaces exposed to harsh elements. Its process creates a silica hydrogel that effectively waterproofs and seals the surface, ultimately protecting it from harm after all harmful materials have been removed. This can take up to thirty days or more depending on chloride and acidic residual concentrations in the capillaries of the matrix - providing long-term protection against vapor emissions prior to applying coatings such as polyurea, epoxy, urethane carpets & flooring tiles.

Note: ALWAYS check the surface for moisture content before applying coatings or flooring.

SURFACES:

Concrete, mortar beds, cement-based plaster, and most masonry substrates.

WARNING:

VAPORLOCK should never be used on tile.

APPLICATION

MIXING INSTRUCTIONS:

For best results, ensure that the surface is lightly dampened with water before applying the sealer. Give it a good shake up to mix everything together for maximum effectiveness!

APPLICATION INSTRUCTIONS:

To ensure optimal results, the surface must be completely free of oils, grease and any other products that would impede sealer penetration. To prepare for sealing, lightly mist the character with water to create a dampened effect beforehand.

Horizontal Surfaces: Avoid over-application and puddling on flat surfaces. Brush or broom to a more porous area. Excess unreacted VAPORLOCK will leave white crystals on the concrete.

Vertical Surfaces: Apply from top to bottom to the point of refusal. Apply sealer in two even coats using a low-pressure sprayer. After the first coat has soaked in, immediately apply the second coat. Apply only as much material as the surface will readily absorb. Areas that absorb sealer at a faster rate will require additional coats. After the final coat of sealer is dry, spray a light mist of water over the treated area. After the first water mist is dry to the touch, apply a second water mist.

LIMITATIONS:

The application temperature range is between 40°F - 100°F. Do not apply if the ambient air temperature is 40°F and falling or above 100°F and rising. Do not add other materials to the mixture of the product.

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PACKAGING:

VAPORLOCK is packaged in 5-Gallon Pails.

PRODUCT COVERAGE:

Rough Finish: 75-200 sq ft/gal

Smooth Finish: 150-200 sq ft/gal

STORAGE:

Storage at 40°F - 90°F. Protect from freezing. Shelf life is approximately 18 months.

CLEANING:

Rinse equipment with cold water. Do not leave behind any empty containers. Dispose of it properly.

SAFETY DATA SHEET

BULLETPROOF - VAPORLOCK

SDS Preparation Date : 01/11/2023

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1 - PRODUCT / COMPANY INFO.

Manufacturer Bulletproof Resins | 11720 Main Street, Fredericksburg VA, 22408
540-940-6698 | www.bulletproofresins.com

Trade Name BULLETPROOF VAPORLOCK

Category Water Solution of Modified Silicates

Product ID BULLETPROOF VAPORLOCK

Application Concrete Hardener/Densifier/Dustproofers

Emergency 540-940-6698

Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

SECTION 2 - HAZARDS

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

Physical Hazard

Not Classified.

Health Hazards

Skin Corrosion/Irritation - Category 2 - Causes skin irritation.

Eye Damage/Irritation – Category 2A - Causes serious eye irritation.

Environmental hazards

Not classified.

GHS Label elements and precautionary statements

Pictogram: Exclamation Mark

Signal word: WARNING

Precautionary statements

Prevention: Wash hands or other contact areas thoroughly after handling. Wear eye or face protection. Wear protective gloves or clothing.

Response: IF ON SKIN: Wash with plenty of water. See First Aid on this label for specific treatment. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage: None

Disposal: None

Hazards not otherwise classified or not covered by GHS.

HMIS Rating: Health hazard: 2 Chronic Health Hazard: Flammability: 0 Physical Hazard: 0

NFPA Rating: Health hazard: 2 Fire Hazard: 0 Reactivity Hazard: 0



SECTION 3 - COMPOSITION

Component	CAS	Wt. %
Potassium Silicate	1312-76-1	<20

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SECTION 4. FIRST AID MEASURES

General advice: Consult a physician. Show this safety data sheet. 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 for at least 15 minutes and 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.

Most important symptoms and effects, both acute and delayed: See Section 2 and Section 11.

Indication of any immediate medical attention and special treatment needed: None.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special hazards arising from the substance or mixture: Nature of decomposition products not known.

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA Fire Brigades Standard (29 CFR 1910.156).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

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

Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet mopping and place in container for disposal according to local regulations.

Reference to other sections: For personal protection see section 8. For disposal see section 13. Refer to the OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120).

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. For precautions see Section 2.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in aluminum, fiberglass, copper, brass, zinc or galvanized containers. Normal warehouse storage in a closed container is adequate. Storage temperature should be above freezing and below 120°F. Drain equipment and flush with water to clean.

Specific end use: See Section 1.

SECTION 8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Control parameters

Component and, or Mixture Exposure Limits

OSHA, NIOSH and ACHIH have not established occupational exposure limits for Potassium silicate (1312-76-1). This does not mean it does not pose a health risk. Always follow safe work practices. Handle in accordance with good industrial hygiene and safety practice.

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).

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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 regulations. Wash and dry hands.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (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). Improper use of respirators is dangerous. Respirators should only be used if the employer has implemented a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams, as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Control of environmental exposure: Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical State

Form: Liquid
Color: Clear
Odor: None

Important Health, Safety and Environment Information

Boiling Point/Range (760 mm Hg): 212°F (100°C)
Flash Point: N/A
Auto Ignition Temp: N/A
Lower Flammability Limit (LEL): N/A
Upper Flammability Limit (UEL): N/A
Vapor Pressure (mm Hg at 20°C): 17.0
Vapor Density (Air= 1): N/A
Freezing Point/Melting Point: N/A
Solubility (Water): 100%
Specific Gravity: 1.1
Evaporation Rate (Ethyl ether = 1): N/A
Viscosity: Approx. 100 mPa*s
pH: 11.3

Other Information

Volatility (wt. %): 0
Liquid Density (20 °C): 1.08 g/cm³

Note: Physical Data is typical values based on material tested, but may vary based on composition. Values should not be accepted as guaranteed for every lot or as specifications for this product.

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Does not react under normal conditions of use. Product and solutions are strong bases. Readily absorbs moisture from the air.

Chemical Stability: Stable under normal conditions of use over a wide pH range.

Stability/Incompatibility: Product non-flammable, non-explosive, and non-toxic. Store away from strong oxidizers.

Conditions to Avoid: Keep away from incompatible materials.

Hazardous Reactions/Decomposition Products: Product gels and generates heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on contact with aluminum, tin, lead and zinc.

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects: Likely routes of exposure: Eye, skin contact, inhalation.

Component toxicity:

Potassium silicate (1312-76-1): No information for this product.

Skin corrosion/irritation: No information for this product.

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Inhalation: No information for this product.

Serious eye damage/eye irritation: None expected.

Respiratory or skin sensitization: No data available.

Germ cell mutagenicity: 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.

Carcinogenicity: Potassium silicate (1312-76-1) not classified as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: Not Determined for Potassium silicate (1312-76-1).

Persistence and Biodegradability: Not Determined

Bioaccumulative Potential: Not Determined

Mobility in Soil: Not Determined

Note: There is little or no risk to surrounding vegetation during application, and overspray on non-targeted areas can be easily removed with soap and water.

SECTION 13. DISPOSAL CONSIDERATION

US/RCRA Waste Disposal Methods: Product is not currently listed as a substance or a source waste under current RCRA regulations (40 CFR 261.31, 32 and 33). However, disposed of water solutions containing this material are the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous. Avoid repacking wet material in sealed containers. Dispose of waste material according to Local, State and Federal Environmental Regulations.

SECTION 14. TRANSPORT INFORMATION

US DOT: DOT HAZARD CLASS: Non Regulated - DOT ID# and Packing Group Not applicable - EMERGENCY RESPONSE GUIDE: Not applicable - PRODUCT NUMBER: International Harmonic System Code is 3402. - MARKING: None Required - LABEL: None Required - PLACARD for bulk only: None Required.

SECTION 15. REGULATORY INFORMATION

Federal

TSCA (Toxic Substance Control Act): Components of this product are listed on the TSCA Inventory.

DSL: This product, or its components, are listed on or are exempt from the Canadian Domestic Substances List (DSL).

RCRA: (Resource Conservation/Recovery Act): No ingredients are currently listed as a substance or a source waste under current RCRA regulations (40 CFR 261.31, 32 and 33).

SARA Title III

SARA Title III per 40 CFR 355 (SARA 302, 304): None

SARA Title III per 40 CFR 355 (SARA 311, and 312): Acute Health

SARA Title III per 40 CFR 372 (for SARA313): None

SARA Title III, Sec 313, Part 372: None

CERCLA per 40 CFR 302.4: None

OSHA Hazard Communication Standard 29 CFR 1910-1200. This product is non-hazardous. All components are on the Confidential or Non-Confidential TSCA Inventory List. None have special toxic substances warning requirements.

States

RTK (Right -To-Know) Components: PA and NJ: Potassium silicate (1312-76-1)

California Prop. 65 Components: Potassium silicate (1312-76-1) is not listed as chemical known to State of California to cause cancer, birth defects, or any other reproductive harm.