Section 1: Chemical Product and Company Identification

Product Name: Lava Shield™
Chemical Name: Basalt (Lava) Textiles
Product Use: Thermal Insulation

Manufacturer Information:
Heatshield Products, Inc.
PO Box 462500
Escondido, CA 92046
Phone: (760) 751-0441
Fax: (760) 755-7328
info@heatshieldproducts.com

Section 2: Hazards Identification

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard

<table>
<thead>
<tr>
<th>NFPA Ratings:</th>
<th>Health: 1</th>
<th>Fire: 0</th>
<th>Reactivity: 0</th>
<th>Other: 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS Ratings:</td>
<td>Health: 1</td>
<td>Fire: 0</td>
<td>Reactivity: 0</td>
<td>Other: 0</td>
</tr>
</tbody>
</table>

0 = Minimal Hazard  1 = Slight Hazard  2 = Moderate Hazard  3 = Serious Hazard  4 = Severe Hazard

Potential Health Effects:

Acute Inhalation: Dust from this product may cause mechanical irritation of nose, throat and respiratory tract.

Skin Contact: Exposure to this product may cause temporary irritation to the skin. Itching and possible inflammation are a mechanical reaction to the fibers and are not damaging in the way that chemical irritants may be.

Eye Contact: Dust from this product may cause temporary mechanical irritation to the eyes.

Ingestion: Ingestion of this product is unlikely. However ingestion may produce gastro-intestinal irritation and disturbances.

Medical Conditions Aggravated by Exposure: Chronic respiratory or skin conditions will not improve and may worsen with exposure to this product.

Carcinogenicity: NTP-n/a IARC-n/a OSHA-n/a
* Categorized as not classifiable relative to human carcinogenicity

Ingredient: Basalt fiber
IARC: Not listed
OSHA: Not listed
Section 3: Composition/Ingredient Information

Description:
Roving of continuous basalt filaments with nominal diameter of filaments 10-17 micron and moisture content below 0.5%

<table>
<thead>
<tr>
<th>Hazardous Ingredients:</th>
<th>EINECS-No.:</th>
<th>Content %:</th>
<th>Hazard symbol:</th>
<th>R-setting:</th>
<th>Limit values Type:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Additional remarks:

Section 4: First Aid Measures

**General:** Providing instructions for use of these products are complied with, there is no need for First-Aid. Please note the information disclosed in sections 7 and 8.

**After inhalation:** Normally not applicable. If necessary, take person(s) out in the open that they get some fresh air.

**After skin contact:** Normally not applicable. If necessary, remove mechanically.

**After eye contact:** Normally not applicable. If necessary, rinse with water for several minutes.

**After swallowing:** Normally not applicable. If necessary, wash mouth out with water.

**Information for physician:** Normally not applicable.

Section 5: Fire Fighting Measures

**Appropriate firefighting media:** Adjust fire in the surroundings. These products are non-combustible

**Inappropriate firefighting media (safety reasons):** N/A

**Particular risks specific to the product, its combustion products or developing gasses:** N/A

**Required firefighting PPE:** N/A

**Additional Information:**

Section 6: Actions on Inadvertent Release

Absorb by mechanical means and dispose of them according to section 13. Avoid development of dust. See also section 8.
Section 7: Handling and Storage

Safe handling information including technical safe guarding:
Increased mechanical stress of the basalt roving may generate dust and airborne fibers, which may cause discomfort. At skin contact, skin irritations are possible. Availability of local suction is advised. The general hygiene rules and measures applying for the handling of chemicals must be employed.

Fire and explosion related information:
The products are non-combustible.

Safe storage conditions:

Storage room/warehouse requirements:
Storage rooms must be well ventilated. Do not store product in passage ways and staircases; also do always store it in original packing which should be intact.

Incompatible materials/restrictions on combined storage: N/A

Storage conditions: Storage at room temperature and dryly. Protect against humidity.

Special requirements on electric systems and equipment: N/A

Static charge prevention: N/A

Storage class: 13
Section 8: Exposure Controls/ Personal Protection

Additional information for the design of technical equipment: See Section 7

Substances with work-place related limit values/classification subject to control:

<table>
<thead>
<tr>
<th>CAS-No., EINCS-No.:</th>
<th>Substance:</th>
<th>Max. worksite concentration (MAK):</th>
<th>Peak Value:</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>General dust limit value: Respirable content (E): Alveola related content (A):</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Additional remarks:
The fibers processed in our products are uniform and are not subject to EC Guideline 97/69/EC. Furthermore, our products are not considered carcinogenic according to EC Guideline 1999/45/EC and TRGS 220 (Germany). The basalt fibers processed in our products are produced according to a defined process and have a nominal diameter of 10-19 micron.

Manmade mineral fibers categorized in appendix & Hazmat Ordinance or TRGS 521 are subject to a TRK value of 250,000 fibers/m³ according to TRGS 900.

Personal Protective Equipment (PPE)
If the instructions of item 7.1 are complied with, PPE is not required.

Respiratory protection: At elevated airborne fiber and dust levels, we recommend to use respiratory equipment (dust mask with a fine filter according to EN 143), Filter P1 (EN 141)

Eye Protection: In case of airborne fibers and dust we recommend wearing safety glasses (EN 166).

Hand protection: We recommend safety gloves to avoid possible skin irritation (leather or cotton gloves).

Body protection: Long-sleeved safety clothing as well as normal personnel protective equipment (e.g. safety boots EN 344)

General protection and hygiene:
Before breaks and after the end of the work day, wash hands thoroughly. In case of sensitive skin, apply a rich, protective hand lotion/cream. To protect against skin irritation, avoid tight fitting garments.
### Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark-olive</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid/Fibrous</td>
</tr>
<tr>
<td>Density (expressed as bulk density)</td>
<td>2.67 g/cm³ (raw basalt)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Self ignition</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Approx 1050°C</td>
</tr>
<tr>
<td>pH-Value</td>
<td>N/A (DIN 54276)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Soluble in water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Coefficient of n-Octanol/water</td>
<td>N/A</td>
</tr>
<tr>
<td>Flammability</td>
<td>Non-combustible</td>
</tr>
<tr>
<td>Fire promoting properties</td>
<td>N/A</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Section 10: Chemical Stability & Reactivity Information

**Substance to be avoided:**
When handled as instructed, none known.

**Hazardous decomposition products:**
N/A

**Other:**
This product is not reactive.
Section 11: Toxicological Information

Toxicology test
Acute toxicology, e.g. LD50: No data available
Specific symptoms of animal tests: No data available
Primary irritant/caustic action: No data available
Sensitization: No data available
Effects after repeated or prolonged exposure: No data available
(sub-acute to chronic toxicity)
Carcinogenic risks: No, 97/69/EC
Genotype and reproduction risks: No data available
Other: See section 8
Practical experience
Classification specific information: No data available
Other:
General remarks:

Section 12: Ecological Information

Elimination data (persistence and degradability): No data available
Environmental behavior
Mobility: No data available
Bio-accumulation potential: No data available
Eco-toxicological effects
Aqueous toxicity: No data available
Behavior in sewage plants: N/A
Other ecological data:
CSB-value: -mg/g
BSB5-Value: -mg/g
AOX-note: N/A
General remarks:

Section 13: Disposal Considerations

Waste Code No.: EWC-Code 101103
Appropriate (waste) dump or garbage incinerating pant.

Impure packing/wrapping material
Remove basalt fiber remains from packing/wrapping material. Disposal/recycling according to Packing Material Ordinance:
Waste code no.: Waste type: Accountability:

Section 14: Transportation Information

Overland: ADR/RID, GGVS/GGVE-Class
Overseas: IMDG/GGVSee-Class
Air: ICAO/IATA-Class
Inland waterways: AND/ADNR-Class
Transport/other info: Non-hazardous goods.
Section 15: Regulatory Information

Identification according to EC Guidelines: N/A
Risk designation and alphabetical code: N/A
Contains: N/A
R-settings: N/A
S-settings: N/A
Specific identification of certain preparations: N/A

National Regulations:
Indications for employment limit: N/A
Ordinance conc. Disruptive events: N/A
Operating safety ordinance: N/A
Technical instructions on maintaining air purity: N/A

Water hazard class: Non-hazardous according to VwVwS dd. 17.05.199 ID-no. according to catalogue of substances hazardous to water 765 (glass)

Section 16: Other information

Please note:
Data quoted in this Safety Data Sheet relate exclusively to the basalt product described and not to a combination of this product with any other kind of substance, a different preparation, or a different material resp. process. The data describes issues relevant to safety according to the best of our knowledge as it is to date and are intended to protect human beings and the environment. They do not represent quality characteristics nor may they be construed as a release of responsibility when handling basalt roving nor from compliance with existing legal regulations and obligations. The data address wholesalers and are not intended for private users.

Disclaimer:
This data is offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.