SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Trade name or designation of the mixture: HPV 110 CASTABLE
Registration number: -
Synonyms: None.
Brand Code: 329B
Issue date: 06-May-2019
Version number: 01

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: For Industrial or Professional Use Only
Uses advised against: Avoid dry cutting, blasting, or dust generation. Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

1.3. Details of the supplier of the safety data sheet
Supplier
Company name: HarbisonWalker International
Address: 1305 Cherrington Parkway, Suite 100
Moon Township, PA 15108, USA
Division: United States
Telephone: General Phone: 412-375-6600
CHEMTREC EMERGENCY 1-800-424-9300
e-mail: sds@thinkHWI.com
Contact person: HWI USA
Not available.

1.4. Emergency telephone number
Not available.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended
This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary
Prolonged exposure may cause chronic effects. Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

2.2. Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
Hazard pictograms: None.
Signal word: None.
Hazard statements: The mixture does not meet the criteria for classification.

Precautionary statements
Prevention: Observe good industrial hygiene practices.
Response: Wash hands after handling.
Storage: Store in a manner to minimize airborne dust.
Store in a dry place. Store in a closed container.
P402 + P404
Disposal: Dispose of waste and residues in accordance with local authority requirements.
Supplemental label information: None.
2.3. Other hazards  Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>%</th>
<th>CAS-No. / EC No.</th>
<th>REACH Registration No.</th>
<th>Index No.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement, Alumina, Chemicals</td>
<td>20 - 40</td>
<td>65997-16-2</td>
<td>266-045-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz (SiO2)</td>
<td>10 - 25</td>
<td>14808-60-7</td>
<td>238-878-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cristobalite</td>
<td>2.5 - 10</td>
<td>14464-46-1</td>
<td>238-455-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mullite</td>
<td>2.5 - 10</td>
<td>1302-93-8</td>
<td>215-113-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels  40 - 60

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).
M: M-factor
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Crystalline silica may be present at low concentrations; most of this is encapsulated in the coarse aggregate or as part of the clays or sands.

Composition comments  The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information  Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

| Inhalation                  | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact                | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact                 | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion                   | Rinse mouth. Get medical attention if symptoms occur. |

4.2. Most important symptoms and effects, both acute and delayed

| Exposure may cause temporary irritation, redness, or discomfort. |

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards  Not available.

5.1. Extinguishing media

Suitable extinguishing media  Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media  Not available.

5.2. Special hazards arising from the substance or mixture  Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters  Not available.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
For emergency responders
Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions
Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up
Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

6.4. Reference to other sections
For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure.

7.2. Conditions for safe storage, including any incompatibilities
Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)
Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>UK. EH40 Workplace Exposure Limits (WELs)</th>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorphous silica (CAS 7631-86-9)</td>
<td>TWA</td>
<td></td>
<td>6 mg/m³</td>
<td>Inhalable dust.</td>
</tr>
<tr>
<td>Cristobalite (CAS 14464-46-1)</td>
<td>TWA</td>
<td></td>
<td>2.4 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>Fumes, Silica (CAS 69012-64-2)</td>
<td>TWA</td>
<td></td>
<td>5 mg/m³</td>
<td>Fiber.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td>Quartz (SiO2) (CAS 14808-60-7)</td>
<td>TWA</td>
<td></td>
<td>2.4 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EU. OELs, Directive 2004/37/EC on carcinogen and mutagens from Annex III, Part A Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cristobalite (CAS 14464-46-1)</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>Respirable fraction and dust</td>
</tr>
<tr>
<td>Quartz (SiO2) (CAS 14808-60-7)</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>Respirable fraction and dust</td>
</tr>
</tbody>
</table>

Biological limit values
No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures
Follow standard monitoring procedures.

Derived no effect levels (DNELs)
Not available.

Predicted no effect concentrations (PNECs)
Not available.

Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

8.2. Exposure controls
Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

- Hand protection
  Wear appropriate chemical resistant gloves.
- Other
  Wear suitable protective clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

- Physical state
  Solid.
- Form
  Solid.
- Colour
  Not available.
- Odour
  Not available.
- Odour threshold
  Not available.
- pH
  Not available.
- Melting point/freezing point
  Not available.
- Initial boiling point and boiling range
  Not available.
- Flash point
  Not available.
- Evaporation rate
  Not available.
- Flammability (solid, gas)
  Not available.
- Upper/lower flammability or explosive limits
  Flammability limit - lower (%)
  Not available.
  Flammability limit - upper (%)
  Not available.
- Vapour pressure
  Not available.
- Vapour density
  Not available.
- Relative density
  Not available.
- Solubility(ies)
  Solubility (water)
  Not available.
- Partition coefficient (n-octanol/water)
  Not available.
- Auto-ignition temperature
  Not available.
- Decomposition temperature
  Not available.
- Viscosity
  Not available.
- Explosive properties
  Not explosive.
- Oxidising properties
  Not oxidising.

9.2. Other information

No relevant additional information available.
SECTION 10: Stability and reactivity

10.1. Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Material is stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.

10.5. Incompatible materials
Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.

10.6. Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information
Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

- Inhalation: Prolonged inhalation may be harmful.
- Skin contact: No adverse effects due to skin contact are expected.
- Eye contact: Direct contact with eyes may cause temporary irritation.
- Ingestion: May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms
Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on toxicological effects

- Acute toxicity
  Not known.
- Skin corrosion/irritation
  Due to partial or complete lack of data the classification is not possible.
- Serious eye damage/eye irritation
  Due to partial or complete lack of data the classification is not possible.
- Respiratory sensitisation
  Due to partial or complete lack of data the classification is not possible.
- Skin sensitisation
  Due to partial or complete lack of data the classification is not possible.
- Germ cell mutagenicity
  Due to partial or complete lack of data the classification is not possible.
- Carcinogenicity
  In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cristobalite (CAS 14464-46-1)</td>
<td>1 Carcinogenic to humans.</td>
</tr>
<tr>
<td>Quartz (SiO2) (CAS 14808-60-7)</td>
<td>1 Carcinogenic to humans.</td>
</tr>
</tbody>
</table>

Reproductive toxicity

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental effects</td>
<td>Due to partial or complete lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Quartz (SiO2)</td>
<td>0</td>
</tr>
<tr>
<td>Developmental effects - EU category</td>
<td>0</td>
</tr>
<tr>
<td>Quartz (SiO2)</td>
<td>0</td>
</tr>
<tr>
<td>Embryotoxicity</td>
<td>0</td>
</tr>
<tr>
<td>Quartz (SiO2)</td>
<td>0</td>
</tr>
<tr>
<td>Reproductivity</td>
<td>0</td>
</tr>
<tr>
<td>Quartz (SiO2)</td>
<td>0</td>
</tr>
</tbody>
</table>

Specific target organ toxicity

- single exposure
  Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity
- repeated exposure
Due to partial or complete lack of data the classification is not possible.

Aspiration hazard
Due to partial or complete lack of data the classification is not possible.

Mixture versus substance information
No information available.

Other information
This product has no known adverse effect on human health.

SECTION 12: Ecological information

12.1. Toxicity
Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

12.2. Persistence and degradability
No data is available on the degradability of any ingredients in the mixture.

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
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Residual waste
Not available.

Contaminated packaging
Not available.

EU waste code
Not available.

Disposal methods/information
This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

SECTION 14: Transport information

ADR
14.1. - 14.6.: Not regulated as dangerous goods.

RID
14.1. - 14.6.: Not regulated as dangerous goods.

ADN
14.1. - 14.6.: Not regulated as dangerous goods.

IATA
14.1. - 14.6.: Not regulated as dangerous goods.

IMDG
14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations
Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.

Material name: HPV 110 CASTABLE
SDS UK
329B Version #: 01 Issue date: 06-May-2019
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.
Not listed.
Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations
Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Restrictions on use
Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed.
Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.
Cristobalite (CAS 14464-46-1)
Quartz (SiO2) (CAS 14808-60-7)

Other EU regulations
Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended
Not listed.

Other regulations
The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations
Follow national regulation on the protection of workers from the risks of exposure to carcinogens and mutagens at work, in accordance with Directive 2004/37/EC.

15.2. Chemical safety assessment
No Chemical Safety Assessment has been carried out.

SECTION 16: Other information
List of abbreviations
Not available.
References
Not available.
Information on evaluation method leading to the classification of mixture
Not available.
Full text of any H-statements not written out in full under Sections 2 to 15
None.
Revision information
Composition / Information on Ingredients: Ingredients
Training information
Not available.
Disclaimer
This information is based on our present knowledge on creation date. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.