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

1.1. Product identifier
Trade name or designation of the mixture: TUFLINE 90 DM
Registration number: -
Synonyms: None.
Brand Code: 2730
Issue date: 24-May-2019
Version number: 02
Revision date: 23-September-2019
Supersedes date: 24-May-2019

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.

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
United States

Division
Telephone: General Phone: 412-375-6743
CHEMTREC EMERGENCY 1-800-424-9300
US/CAN ONLY

E-mail: sds@thinkHWI.com
Contact person: HWI USA

1.4. Emergency telephone number
General Phone: 412-375-6600

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 Directive 67/548/EEC or 1999/45/EC as amended
This item is defined as an article per OSHA and REACH and is therefore exempt from labeling. A Safety Data Sheet is available.

This item is not classified as hazardous per CLP Regulations. However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. Limit skin contact. Wash hands after handling. Wear protective gloves/protective clothing/eye protection.

Classification according to Regulation (EC) No 1272/2008 as amended
This item is defined as an article per OSHA and REACH and is therefore exempt from labeling. A Safety Data Sheet is available.

This item is not classified as hazardous per CLP Regulations. However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. Limit skin contact. Wash hands after handling. Wear protective gloves/protective clothing/eye protection.

2.2. Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
This item is defined as an article per OSHA and REACH and is therefore exempt from labeling. A Safety Data Sheet is available.

This item is not classified as hazardous per CLP Regulations. However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. Limit skin contact. Wash hands after handling. Wear protective gloves/protective clothing/eye protection.

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>Mullite</td>
<td>30 - 50</td>
<td>1302-93-8</td>
<td>215-113-2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Classification:</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td>70 - 90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

SECTION 4: First aid measures

General information

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.

Special fire fighting procedures
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
Avoid prolonged exposure. Observe good industrial hygiene practices.

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

7.3. Specific end use(s)
Industrial refractory material

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
- Occupational exposure limits: No exposure limits noted for ingredient(s).
- 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
Zirconium silicates (zircon sands) contain trace amounts (106-120 pCi/g) of naturally occurring radioactive uranium and thorium. Overexposure by inhalation to respirable dust containing uranium and thorium may cause lung cancer. Eye contact with the dust may cause eye irritation. Measurements made by Dupont during the use of a similar mineral sand indicated the observance of the 5 mg/m³ OSHA PEL for respirable dust and/or the PEL for quartz ensures the user is below the exposure limits established for uranium and thorium. No LD50 or LC50 can be found for zircon sand.

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: Brick or Cast Shape
  - Colour: Not available.
  - Odour: Not available.
  - Odour threshold: Not available.
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not oxidising.</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td>No relevant additional information available.</td>
</tr>
</tbody>
</table>

**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  
Contact with incompatible materials.

10.5. Incompatible materials  
Strong oxidising agents.  
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  

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Prolonged inhalation may be harmful.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No adverse effects due to skin contact are expected.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Direct contact with eyes may cause temporary irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.</td>
</tr>
</tbody>
</table>

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

11.1. Information on toxicological effects  

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not known.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Due to partial or complete lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Due to partial or complete lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td>Due to partial or complete lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>Due to partial or complete lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Due to partial or complete lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Due to partial or complete lack of data the classification is not possible.</td>
</tr>
</tbody>
</table>
Reproductive toxicity Due to partial or complete lack of data the classification is not possible.

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 Not available.

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.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture. Not 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 (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.
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.
Not listed.

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

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

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.

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: After Reaction Composition

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.