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

1.1. Product identifier

   Trade name or designation of the mixture: KORUNDAL XD
   Registration number: -
   Synonyms: 2278, 573C
   Brand Code: 2278, 573C
   Issue date: 24-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.

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: 412-375-6600
              CHEMTREC EMERGENCY 1-800-424-9300
              US/CAN ONLY
   e-mail: sds@thinkHWI.com
   Contact person: HWI USA

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 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>20 - 40</td>
<td>1302-93-8</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>215-113-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classification:</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum Sodium Oxide</td>
<td>1 - 2,5</td>
<td>11138-49-1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>234-391-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classification:</td>
<td>Skin Corr. 1C; H314, Eye Dam. 1; H318</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass, oxide, chemicals</td>
<td>1 - 2,5</td>
<td>65997-17-3</td>
<td>-</td>
<td>650-016-00-2</td>
<td>#</td>
</tr>
<tr>
<td></td>
<td></td>
<td>266-046-0</td>
<td></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).

SECTION 4: First aid measures

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

5.1. Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Not available.

5.3. Advice for firefighters

Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. For personal protection, see 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)
Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Netherlands. OELs (binding) Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass, oxide, chemicals (CAS 65997-17-3)</td>
<td>TWA</td>
<td>0,5 fibers/cc</td>
<td>Respirable fibers.</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>
</tr>
</thead>
<tbody>
<tr>
<td>Glass, oxide, chemicals (CAS 65997-17-3)</td>
<td>TWA</td>
<td>0,3 fibers/mL</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.

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.

Material name: KORUNDAL XD
14068 Version #: 01
Issue date: 24-May-2019
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: 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:
- 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.
Due to partial or complete lack of data the classification is not possible.

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.

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
Not 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 (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.
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
  Glass, oxide, chemicals (CAS 65997-17-3)
Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.
  Glass, oxide, chemicals (CAS 65997-17-3)

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.

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
  H314 Causes severe skin burns and eye damage.
  H318 Causes serious eye damage.

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.