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

1.1. Product identifier

Trade name or designation of the mixture: JADE 50 DCX; JADE 50 DCX-G
Registration number: -
Synonyms: None.
Brand Code: 7027, 034B
Issue date: 16-September-2016
Version number: 01

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For Industrial Use Only
Uses advised against: None known.

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 24 HOUR EMERGENCY #: 1-800-424-9300
INTERNATIONAL #: 1-703-527-3887
E-mail: REACH@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

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

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
### Warning Information

#### General information

**Chemical name**

<table>
<thead>
<tr>
<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>Chromium (III) oxide</td>
<td>50 - &lt; 60</td>
<td>1308-38-9</td>
<td>215-160-9</td>
<td>-</td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD: -</td>
<td>CLP: -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminium Oxide (Non-Fibrous)</td>
<td>40 - &lt; 50</td>
<td>1344-28-1</td>
<td>215-691-6</td>
<td>01-2119529248-35-0134</td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD: -</td>
<td>CLP: -</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels 5 - < 10

#### List of abbreviations and symbols that may be used above

- DSD: Directive 67/548/EEC.
- M: M-factor
- vPvB: very persistent and very bioaccumulative substance.
- PBT: persistent, bioaccumulative and toxic substance.
- #: This substance has been assigned Community workplace exposure limit(s).

### 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

Direct contact with eyes may cause temporary irritation.

#### 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.
- **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.

6.4. Reference to other sections
Not available.

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 in original 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>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)</td>
<td>VME</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Chromium (III) oxide (CAS 1308-38-9)</td>
<td>VME</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Titanium dioxide (CAS 13463-67-7)</td>
<td>VME</td>
<td>10 mg/m³</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 level (DNEL)
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: 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.
  - Solubility (other): Not available.
- Partition coefficient (n-octanol/water): Not available.
- Auto-ignition temperature: Not available.
- Decomposition temperature: Not available.
- Viscosity: Not available.
- Explosive properties: Not available.
- Oxidizing properties: Not available.

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
- 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
No data available.

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

IARC Monographs. Overall Evaluation of Carcinogenicity
Chromium (III) oxide (CAS 1308-38-9) 3 Not classifiable as to carcinogenicity to humans.

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
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability
No data is available on the degradability of this product.

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 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
As sold, this product is not RCRA hazardous. Final used condition must be evaluated prior to disposal. Dispose of waste product in accordance with Federal, State and Local regulations. The chrome compounds (Cr III) in this product may be altered to a hexavalent compound (Cr VI) under certain use conditions, such as exposure to alkali salts and/or high temperatures. Proper waste testing (such as TCLP) must be done to determine the waste status of used product. Reuse and recycling of chrome Refractories is recommended whenever possible.

Contaminated packaging
Not available.

EU waste code
Not available.

Special precautions
As sold, this product is not RCRA hazardous. Final used condition must be evaluated prior to disposal. Dispose of waste product in accordance with Federal, State and Local regulations. The chrome compounds (Cr III) in this product may be altered to a hexavalent compound (Cr VI) under certain use conditions, such as exposure to alkali salts and/or high temperatures. Proper waste testing (such as TCLP) must be done to determine the waste status of used product. Reuse and recycling of chrome Refractories is recommended whenever possible.

SECTION 14: Transport information

ADR
Not regulated as dangerous goods.

RID
Not regulated as dangerous goods.
 SECTION 15: Regulatory information

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

EU regulations

- Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I
  Not listed.
- Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II
  Not listed.
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V
  Not listed.
- Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
  Chromium (III) oxide (CAS 1308-38-9)
  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 Annex XVII Substances subject to restriction on marketing and use
  Not regulated.
- Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work
  Not listed.
- Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding
  Not listed.

Other EU regulations

- Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances
  Not listed.
- Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work
  Not listed.
- Directive 94/33/EC on the protection of young people at work
  Not listed.

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.
### SECTION 16: Other information

<table>
<thead>
<tr>
<th>References</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on evaluation method leading to the classification of mixture</td>
<td>Not available.</td>
</tr>
<tr>
<td>Full text of any statements or R-phrases and H-statements under Sections 2 to 15</td>
<td>None.</td>
</tr>
<tr>
<td>Revision information</td>
<td>Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: After Reaction Composition</td>
</tr>
<tr>
<td>Training information</td>
<td>Not available.</td>
</tr>
<tr>
<td>Disclaimer</td>
<td>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.</td>
</tr>
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</table>