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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Trade name or designation of the mixture</th>
<th>SERV 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration number</td>
<td>-</td>
</tr>
<tr>
<td>Synonyms</td>
<td>None.</td>
</tr>
<tr>
<td>Brand Code</td>
<td>9246</td>
</tr>
<tr>
<td>Issue date</td>
<td>31-January-2012</td>
</tr>
<tr>
<td>Version number</td>
<td>02</td>
</tr>
<tr>
<td>Revision date</td>
<td>16-September-2016</td>
</tr>
<tr>
<td>Supersedes date</td>
<td>31-January-2012</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>For Industrial Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses advised against</td>
<td>None known.</td>
</tr>
</tbody>
</table>

1.3. Details of the supplier of the safety data sheet

Supplier

<table>
<thead>
<tr>
<th>Company name</th>
<th>HarbisonWalker International</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>1305 Cherrington Parkway, Suite 100</td>
</tr>
<tr>
<td></td>
<td>Moon Township, PA  15108, USA</td>
</tr>
<tr>
<td></td>
<td>United States</td>
</tr>
<tr>
<td>Division</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>General Phone: 412-375-6600</td>
</tr>
<tr>
<td></td>
<td>CHEMTREC 24 HOUR 1-800-424-9300</td>
</tr>
<tr>
<td></td>
<td>EMERGENCY # 1-703-527-3887</td>
</tr>
<tr>
<td>e-mail</td>
<td><a href="mailto:REACH@thinkHWI.com">REACH@thinkHWI.com</a></td>
</tr>
<tr>
<td>Contact person</td>
<td>HWI USA</td>
</tr>
</tbody>
</table>

1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Address</th>
<th>Not available.</th>
</tr>
</thead>
</table>

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

None known.
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>Aluminium Oxide (Non-Fibrous)</td>
<td>50 - &lt; 60</td>
<td>1344-28-1 215-691-6</td>
<td>01-2119529248-35-0134</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Classification:</td>
<td>DSD:</td>
<td>-</td>
<td>CLP:</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Chromium (III) oxide</td>
<td>20 - &lt; 30</td>
<td>1308-38-9 215-160-9</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Classification: DSD: - CLP: -

Other components below reportable levels 10 - < 20

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
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion
Rinse mouth. Get medical attention if symptoms occur.

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

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

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

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

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. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.

For emergency responders
Keep unnecessary personnel away.

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

6.3. Methods and material for containment and cleaning up
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections
Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not get this material in contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. 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>
</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. Provide eyewash station.

Individual protection measures, such as personal protective equipment

General information
Use personal protective equipment as required. 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) and a face shield.

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
  Causes serious eye damage.

- Ingestion
  May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

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
Causes serious eye damage.

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

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.

- 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.

SECTION 14: Transport information

ADR
Not regulated as dangerous goods.

RID
Not regulated as dangerous goods.

ADN
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

14.7. Transport in bulk
Not applicable.

according to Annex II of MARPOL 73/78 and the IBC Code

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
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

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. 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

References
   Not available.

Information on evaluation method leading to the classification of mixture
   Not available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15
   None.

Revision information
   This document has undergone significant changes and should be reviewed in its entirety.

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.