SAFETY DATA SHEET

Date: June 2015

Section #1: PRODUCT AND COMPANY IDENTIFICATION

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Product Identification: Aluminum Oxide Polishing Powder
Product Name: Polishing Powder #METS-ALPD-XXX-XXXX

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
  - Classification according to Regulation (EC) No 1272/2008
    The product is not classified according to the CLP regulation.
  - Classification according to Directive 67/548/EEC or Directive 1999/45/EC Void
  - Information concerning particular hazards for human and environment: Void
    - Classification system:
      The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  - 2.2 Label elements
    - Labelling according to Regulation (EC) No 1272/2008 Void
      - Hazard pictograms Void
      - Signal word Void
      - Hazard statements Void
  - 2.3 Other hazards
    - Results of PBT and vPvB assessment
      - PBT: Not applicable.
      - vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterization: Mixtures
  - Description: Aqueous mixture
  - Dangerous components: Void

(Cont'd. on page 2)
### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
  - **General information:** Remove contaminated clothing.
  - **After inhalation:** Supply fresh air; consult doctor in case of symptoms.
  - **After skin contact:**
    - The product is not skin irritating.
    - Wash with soap and water.
    - If skin irritation continues, consult a doctor.
  - **After eye contact:**
    - Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
    - Remove contact lenses, if present and easy to do.
  - **After swallowing:**
    - Rinse out mouth and then drink plenty of water.
    - Get medical advice for safety reasons.

- **4.2 Most important symptoms and effects, both acute and delayed**
  - No further relevant information available.

- **4.3 Indication of any immediate medical attention and special treatment needed**
  - No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents**
    - Carbon dioxide (CO₂), extinguishing powder or water spray/fog. Fight larger fires with water spray/fog or alcohol-resistant foam.
  - **For safety reasons unsuitable extinguishing agents**
    - Water with a full water jet.

- **5.2 Special hazards arising from the substance or mixture**
  - Can be released in case of fire:
    - Carbon monoxide (CO)
    - Carbon dioxide (CO₂)

- **5.3 Advice for firefighters**
  - **Protective equipment:** Wear self-contained breathing apparatus.

- **Additional information**
  - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
  - Wear protective equipment. Keep unprotected persons away.
  - Ensure adequate ventilation.

- **6.2 Environmental precautions:**
  - Do not allow to enter drainage system, surface or ground water.
  - Prevent material from reaching sewage system, holes and cellars.
SECTION 6: Physical and chemical properties

6.3 Methods and material for containment and cleaning up:
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable containers.
Dispose of the material collected according to regulations.

6.4 Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Do not inhale aerosols.
Wear personal protection equipment.
Avoid contact with skin and eyes.

Information about protection against explosions and fires: The product is not flammable.

7.2 Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and containers:
Observe all local and national regulations for storage of water polluting products.
Store in the original container.
Information about storage in one common storage facility: Store away from foodstuffs.
Further information about storage conditions:
Store container in a well ventilated position.
Protect from frost.
Store in cool, dry conditions in well sealed containers.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with critical values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Substance</th>
<th>WEL (Great Britain)</th>
<th>Long-term value:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1 Aluminium oxide (10-&lt;25%)</td>
<td>Long-term value:</td>
<td>10* 4** mg/m³</td>
</tr>
<tr>
<td></td>
<td>WEL (%)</td>
<td>*inhalable dust  **respirable dust</td>
</tr>
<tr>
<td>57-55-6 1,2-propanediol (≤10%)</td>
<td>Long-term value:</td>
<td>474* 10** mg/m³, 150* ppm</td>
</tr>
<tr>
<td></td>
<td>WEL (%)</td>
<td>*total vapour and particulates **particulates</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Personal protective equipment

General protective and hygienic measures
Keep away from foodstuffs, beverages and food.
Wash hands during breaks and at the end of the work.
Use skin protection cream for preventive skin protection.
Do not inhale gases / fumes / aerosols.
Do not eat, drink or smoke while working.
· Breathing equipment:
   Not necessary if room is well-ventilated.
   Use breathing protection in case of insufficient ventilation.
   Use breathing protection when aerosol or mist is formed.

· Recommended filter device for short term use: Partikelfilter EN 143 Type P2

· Protection of hands:
   Protective gloves
   To avoid skin problems reduce the wearing of gloves to the required minimum.
   Sensibilization by the components in the glove materials is possible.
   Check the permeability prior to each renewed use of the glove.
   The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
   Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
   Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

· Material of gloves
   The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material
   Protective gloves should be replaced at first signs of wear.
   The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· As protection from splashes gloves made of the following materials are suitable:
   Butyl rubber - BR
   Nitrile rubber - NBR
   Fluorocarbon rubber (Viton) - FKM
   Poly vinyl chloride - PVC

· Eye protection: Tightly sealed safety glasses

· Body protection:
   Protective work clothing
   Body protection must be chosen depending on activity and possible exposure.

· Limitation and supervision of exposure into the environment
   Do not allow to enter drainage system, surface or ground water.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

   · Form: liquid
   · Colour: white
   · Smell: odourless
   · Odour threshold: not determined

· pH-value at 20 °C:
   7 - 8

· Change in condition

   · Melting point/Melting range: 0 °C
   · Boiling point/Boiling range: 100 °C

· Flash point: not applicable

· Inflammability (solid, gaseous) not applicable
**SECTION 10: Stability and reactivity**

- **10.1 Reactivity** see 10.3
- **10.2 Chemical stability**
  - **Thermal decomposition / conditions to be avoided:**
    - No decomposition if used according to specifications.
    - Protect from frost.
  - **10.3 Possibility of hazardous reactions** No dangerous reactions known.
  - **10.4 Conditions to avoid** No further relevant information available.
  - **10.5 Incompatible materials:** No further relevant information available.
  - **10.6 Hazardous decomposition products:**
    - No dangerous decomposition products known.
    - Carbon monoxide (CO)

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1 Aluminium oxide</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>57-55-6 1,2-propanediol</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
</tbody>
</table>
· Primary irritant effect:
  · on the skin: Longer lasting and/or repeated skin contact may cause irritation.
  · on the eye: Short time, reversible irritating effect.
· Additional toxicological information:
The product is not subject to classification according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version. When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
· Sensitisation No sensitizing effect known.
· Repeated dose toxicity According to information currently no known toxic effects
· CMR effects (carcinogenity, mutagenicity and toxicity for reproduction) According to present knowledge no CMR-effects known.

SECTION 12: Ecological information

· 12.1 Toxicity

  · Aquatic toxicity:

    1344-28-1 Aluminium oxide
    - NOEC/48 h > 100 mg/l (water flea (daphnia magna))
    - NOEC/72 h > 100 mg/l (algae)
    - NOEC/96 h > 100 mg/l (rainbow trout (oncorhynchus mykiss))

    57-55-6 1,2-propanediol
    - EC50 > 20000 mg/l (pseudomonas putida)
    - LC0/24 h 50000 mg/l (salmo gairdneri)
    - LC50/48 h 43500 mg/l (water flea (daphnia magna))
    - LC50/96 h > 100 mg/l (carassius auratus)
    - 54900 mg/l (fathead minnow (pimephales promelas))

· 12.2 Persistence and degradability No further relevant information available.
· 12.3 Bioaccumulative potential No further relevant information available.
· 12.4 Mobility in soil No further relevant information available.
· Additional ecological information:
  · Chemical Oxygen Demand (COD-value): not determined
  · Biochemical Oxygen Demand (BOD5-value): not determined
  · AOX-indication: The product does not contain organically bounded halogens (AOX-free).
· General notes:
  Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
  Water hazard class 1 (Self-assessment): slightly hazardous for water
· 12.5 Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.
· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods
  · Recommendation Disposal must be made according to official regulations.
· European waste catalogue:
  Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
· Uncleaned packagings:
  · Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

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<tr>
<td>· 14.1 UN-Number</td>
<td>Void</td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>· 14.2 UN proper shipping name</td>
<td>Void</td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>· 14.3 Transport hazard class(es)</td>
<td>Void</td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>· Class</td>
<td>Void</td>
</tr>
<tr>
<td>· 14.4 Packing group</td>
<td>Void</td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>· 14.6 Special precautions for user</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Transport/Additional information:</td>
<td>Not dangerous according to the above specifications.</td>
</tr>
<tr>
<td>· UN &quot;Model Regulation&quot;:</td>
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SECTION 15: Regulatory information

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<table>
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<tbody>
<tr>
<td>· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</td>
<td></td>
</tr>
<tr>
<td>· National regulations</td>
<td></td>
</tr>
<tr>
<td>· Decree to be applied in case of technical fault: Directive 96/82/EC does not apply.</td>
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</tr>
<tr>
<td>· Water hazard class: Water hazard class I (Self-assessment): slightly hazardous for water</td>
<td></td>
</tr>
<tr>
<td>· Other regulations, limitations and prohibitive regulations</td>
<td></td>
</tr>
<tr>
<td>· Substances of very high concern (SVHC) according to REACH, Article 57 This mixture does not contain any substances, that are included in the candidate list for eventual authorisation.</td>
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<tr>
<td>· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.</td>
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SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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<tbody>
<tr>
<td>· Relevant phrases</td>
<td></td>
</tr>
<tr>
<td>· The(se) R- resp. H-phrase(s) are those of the ingredient(s) and do(es) not necessarily represent the classification of the preparation/mixture.</td>
<td></td>
</tr>
</tbody>
</table>

| · Department issuing MSDS: |  |
| C.S.B. GmbH | Phone: +49 - 2151 - 652086-0 |
| Düsseldorfer Str. 113 | Fax: +49 - 2151 - 652086-9 |
| 47809 Krefeld / Germany |  |

(Contd. on page 8)
Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Sources: These data are based on information submitted by pre-suppliers.

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