SAFETY DATA SHEET

eConduct Aluminium 202000

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : eConduct Aluminium 202000
Product code : 020764B20

Manufacturer or supplier’s details
Company name of supplier : ECKART GmbH
Address : Guentersthal 4
Hartenstein  91235
Telephone : +499152770
Telefax : +499152777008
Emergency telephone : CHEMTREC: 800-424-9300
CHEMTREC: 1-703-527-3387 (International)
GBK Gefahrgut Buero GmbH, Ingelheim, Germany:
From outside US: (001) 352-323-3500
(First call in English, response in your language is possible)
US & Canada (toll free):1-800-5355-053

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Acute aquatic toxicity : Category 1
Chronic aquatic toxicity : Category 1

GHS label elements
Hazard pictograms :

Signal Word : Warning
Hazard Statements : H410 Very toxic to aquatic life with long lasting effects.
Precautionary Statements

Prevention:
P273 Avoid release to the environment.

Response:
P391 Collect spillage.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous ingredients which must be listed on the label:
Silver

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>&gt;= 70 - &lt; 90</td>
</tr>
<tr>
<td>Silver</td>
<td>7440-22-4</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>Silica</td>
<td>7631-86-9</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice
Take the victim into fresh air.
No hazards which require special first aid measures.

If inhaled
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact
Wash off immediately with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
### SECTION 5. FIRE-FIGHTING MEASURES

| Suitable extinguishing media | : | Dry sand  
| : | : | Special powder against metal fire  

| Unsuitable extinguishing media | : | ABC powder  
| : | : | Carbon dioxide (CO2)  
| : | : | Water  
| : | : | Foam  

| Specific hazards during fire fighting | : | Contact with water liberates extremely flammable gas (hydrogen).  

Do not allow run-off from fire fighting to enter drains or water courses.  

| Specific extinguishing methods | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
| : | : | Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  

| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary.  

### SECTION 6. ACCIDENTAL RELEASE MEASURES

| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.  
| : | : | Evacuate personnel to safe areas.  
| : | : | Avoid dust formation.  

| Environmental precautions | : | Prevent product from entering drains.  
| : | : | Prevent further leakage or spillage if safe to do so.  
| : | : | If the product contaminates rivers and lakes or drains inform respective authorities.  

| Methods and materials for | : | Use mechanical handling equipment.  

Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : None known.
SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion: Use explosion-proof equipment.
During processing, dust may form explosive mixture in air. Take measures to prevent the build-up of electrostatic charge. When transferring from one container to another apply earthing measures and use conductive hose material.
Normal measures for preventive fire protection.

Advice on safe handling: Avoid creating dust.
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
Store away from heat.

For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Hygiene measures: Wash hands before breaks and at the end of workday.

Conditions for safe storage: Earthing of containers and apparatuses is essential.
Reaction with water liberates extremely flammable gas (hydrogen)
Use explosion-proof equipment.
Store in original container.
Keep containers tightly closed in a cool, well-ventilated place.
Keep away from sources of ignition - No smoking.
Keep container closed when not in use.

Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid: Do not store together with oxidizing and self-igniting products.
Never allow product to get in contact with water during storage.
Keep away from oxidizing agents, strongly alkaline and...
strongly acid materials in order to avoid exothermic reactions.

Further information on storage stability: Keep in a dry place.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>LMPE-PPT</td>
<td>10 mg/m³</td>
<td>MX OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LMPE-PPT (Dust)</td>
<td>10 mg/m³</td>
<td>MX OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>1 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>1 mg/m³ (Aluminum)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Silver</td>
<td>7440-22-4</td>
<td>VLE-PPT</td>
<td>0.01 mg/m³ (Silver)</td>
<td>NOM-010-STPS-2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VLE-PPT (Dust and fume)</td>
<td>0.1 mg/m³ (Silver)</td>
<td>NOM-010-STPS-2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dust and fume)</td>
<td>0.1 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dust and fume)</td>
<td>0.1 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Silica</td>
<td>7631-86-9</td>
<td>LMPE-PPT (Respirable)</td>
<td>3 mg/m³</td>
<td>MX OEL</td>
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<tr>
<td></td>
<td></td>
<td>LMPE-PPT (Inhalable)</td>
<td>10 mg/m³</td>
<td>MX OEL</td>
</tr>
</tbody>
</table>

**Personal protective equipment**

**Respiratory protection**: Use suitable breathing protection if workplace concentration requires. Breathing apparatus with filter. P1 filter

**Hand protection Material**: Leather
Glove length: Long sleeve gloves

Remarks: Leather gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection: Safety glasses

Skin and body protection: Lab coat
Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: powder
Color: silver
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting point/range: 660 °C
Initial boiling point and boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): Combustible Solids
Burning number: 1
Upper explosion limit / Upper flammability limit: No data available
Lower explosion limit / Lower flammability limit: 30 g/m3
Vapor pressure: No data available
Relative density: No data available
Solubility(ies): No data available
Partition coefficient: n-octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available
SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions: Contact with acids and alkalis may release hydrogen. Stable under recommended storage conditions. Dust may form explosive mixture in air.

Conditions to avoid : No data available

Incompatible materials : Acids
Bases
Oxidizing agents
Water

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Ingredients:

Silica:
Acute oral toxicity : LD50 (Rat): 5,000 mg/kg
(Mouse): 15,000 mg/kg

Acute inhalation toxicity : (Rat): 0.139 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.
Respiratory sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Further information

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

Silver:
M-Factor (Acute aquatic toxicity): 10
M-Factor (Chronic aquatic toxicity): 10

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects.

Silica:
Toxicity to daphnia and other aquatic invertebrates: (Daphnia): 7,600 mg/l
Toxicity to algae: (Chlorella pyrenoidosa): 440 mg/l
Persistence and degradability
No data available

Bioaccumulative potential
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
In accordance with local and national regulations.

Contaminated packaging: Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
UN/ID No.: UN 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Silver)
Class: 9
Packing group: III
Labels: Miscellaneous Dangerous Goods
Packing instruction (cargo aircraft): 956
Packing instruction (passenger aircraft): 956

IMDG-Code
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver)
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Class: 9
Packing group: III
Labels: 9
EmS Code: F-A, S-F
Marine pollutant: yes
Remarks: For single packagings <=5L / 5 kg, or combination packagings containing inner packagings <= 5L / 5 kg net per inner packaging, SV375 ADR, 2.10.2.7 IMDG-Code, A197 IATA-DGR may be applied.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

NOM-002-SCT
Not regulated as a dangerous good

Special precautions for user

Remarks: For single packagings <=5L / 5 kg, or combination packagings containing inner packagings <= 5L / 5 kg net per inner packaging, SV375 ADR, 2.10.2.7 IMDG-Code, A197 IATA-DGR may be applied.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
Federal Law for the control of chemical precursors, essential chemical products and machinery for producing capsules, tablets and pills:
Not applicable

The ingredients of this product are reported in the following inventories:
DSL: All components of this product are on the Canadian DSL
TSCA: On TSCA Inventory

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
ACGIH: USA. ACGIH Threshold Limit Values (TLV)
MX OEL: Mexico. Occupational Exposure Limits
NOM-010-STPS-2014: Mexico. Norm NOM-010-STPS-2014 on Chemicals Polluting the Work Environment - Identification, Assessment and Control - Appendix 1 Occupational Exposure Limits
SAFETY DATA SHEET

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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
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<tr>
<td>1.0</td>
<td>03/27/2018</td>
<td>102000022007</td>
<td>-</td>
</tr>
</tbody>
</table>

ACGIH / TWA : 8-hour, time-weighted average
MX OEL / LMPE-PPT : Time weighted average
NOM-010-STPS-2014 / VLE-PPT: Time weighted average limit value

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 03/27/2018

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MX / Z8