SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

METALSTAR 07 0020 Gloss Silver

Version: 2.0  Revision Date: 11.11.2018  SDS Number: 102000023597  Print Date: 20.11.2018  Date of first issue: 07.09.2015

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

1.1 Product identifier
Trade name: METALSTAR 07 0020 Gloss Silver
Product code: 056281RC0M1

1.2 Relevant identified uses of the substance or mixture and uses advised against
This information is not available.

1.3 Details of the supplier of the safety data sheet
Company: ECKART GmbH
Guentersthal 4
91235 Hartenstein

Telephone: +499152770
Telefax: +499152777008
E-mail address of person responsible for the SDS: msds.eckart@altana.com

1.4 Emergency telephone number
GBK Gefahrgut Büro 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

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)
Not a dangerous substance according to GHS.

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Additional Labelling
EUH210  Safety data sheet available on request.
EUH208  Contains Fatty acids, tall-oil, cobalt salts. May produce an allergic reaction.

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification REGULATION (EC) No 1272/2008</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>7429-90-5</td>
<td>231-072-3</td>
<td>013-002-00-1</td>
<td>Flam. Sol. 1; H228</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td></td>
<td>263-065-6</td>
<td>01-2119529243-45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distillates (petroleum), solvent-refined middle; Gasoil - unspecified</td>
<td>64741-91-9</td>
<td>265-093-4</td>
<td>01-2119457735-29</td>
<td>Asp. Tox. 1; H304</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Distillates (petroleum), acid-treated middle; Gasoil - unspecified</td>
<td>64742-13-8</td>
<td>265-113-1</td>
<td>649-216-00-2</td>
<td>Asp. Tox. 1; H304</td>
<td>&gt;= 1 - &lt; 10</td>
</tr>
<tr>
<td></td>
<td>263-065-6</td>
<td>01-2119448343-41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatty acids, tall-oil, cobalt salts</td>
<td>61789-52-4</td>
<td>263-065-6</td>
<td>01-2119448343-41</td>
<td>Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Chronic 2; H411 Repr. 2; H361</td>
<td>&gt;= 0,25 - &lt; 1</td>
</tr>
<tr>
<td>1-isopropyl-2,2-dimethyltrimethylene diisobutyrate</td>
<td>6846-50-0</td>
<td>229-934-9</td>
<td>01-2119451093-47</td>
<td>Repr. 2; H361d Aquatic Chronic 3; H412</td>
<td>&gt;= 0,25 - &lt; 1</td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

| General advice                                    | Move the victim to fresh air. Do not leave the victim unattended. |
| 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                            | Immediately flush eye(s) with plenty of water. Remove contact lenses. If eye irritation persists, consult a specialist. |
If swallowed:
- Keep respiratory tract clear.
- Do not give milk or alcoholic beverages.
- Never give anything by mouth to an unconscious person.
- If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed
None known.

4.3 Indication of any immediate medical attention and special treatment needed
This information is not available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media:
- Dry sand
- ABC powder
- Foam

Unsuitable extinguishing media:
- High volume water jet

5.2 Special hazards arising from the substance or mixture

5.3 Advice for firefighters
Special protective equipment for firefighters:
- Wear self-contained breathing apparatus for firefighting if necessary.

Further information:
- Standard procedure for chemical fires.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions:
- Evacuate personnel to safe areas.

6.2 Environmental precautions

6.3 Methods and material for containment and cleaning up
Methods for cleaning up:
- Use mechanical handling equipment.
- Soak up with inert absorbent material (e.g., sand, silica gel, acid binder, universal binder, sawdust).
- Wipe up with absorbent material (e.g., cloth, fleece).
- Do not flush with water.
- Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling: For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion: Normal measures for preventive fire protection.

Hygiene measures: General industrial hygiene practice.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers: Earthing of containers and apparatuses is essential. Reaction with water liberates extremely flammable gas (hydrogen). Take measures to prevent the build up of electrostatic charge. 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.

Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions: Protect from humidity and water.

Advice on common storage: Do not store near acids. 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: No decomposition if stored and applied as directed.

7.3 Specific end use(s)
This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
</table>

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aluminium powder (stabilised) | 7429-90-5 | TWA (Respirable fraction) | 1,5 mg/m³ | SK OEL
---|---|---|---|---
| | | TWA (Inhalable fraction) | 4 mg/m³ | SK OEL
| | | TWA (Solid aerosols, total fraction) | 10 mg/m³ | SK OEL
| | | TWA (Solid aerosols, respirable fraction) | 1,5 mg/m³ | SK OEL
| Fatty acids, tall-oil, cobalt salts | 61789-52-4 | TWA | 0,05 mg/m³ (Cobalt) | SK OEL

Further information: Sensitizing, these substances have sensitizing effects, which cause a extremely higher effect of the allergic sensitivity as usual. During working with these substances caution is essential. Following these guidelines, will not guarantee that the allergic reaction do not occur.

### Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Sampling time</th>
<th>Basis</th>
</tr>
</thead>
</table>
| aluminium powder (stabilised) | 7429-90-5 | Aluminium (Aluminium): 60 µg/g creatinine (Urine) | No restrictions | SI OEL
| | | Aluminium (Aluminium): 0.2518 micromoles per millimole creatinine (Urine) | No restrictions | SI OEL
| Fatty acids, tall-oil, cobalt salts | 61789-52-4 | Cobalt (Cobalt): 30 µg/l (Urine) | No restrictions | SI OEL
| | | Cobalt (Cobalt): 0.5098 micromol per litre (Urine) | No restrictions | SI OEL
| | | Cobalt (Cobalt): 20.03 µg/g creatinine (Urine) | No restrictions | SI OEL
| | | Cobalt (Cobalt): 0.03845 micromoles per millimole creatinine (Urine) | No restrictions | SI OEL

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – local</td>
<td>3,72 mg/m³</td>
</tr>
<tr>
<td>(stabilised)</td>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>18,8 mg/kg</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>3,72 mg/m³</td>
<td></td>
</tr>
<tr>
<td>1-isopropyl-2,2-dimethyltrimethylene diisobutyrate</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>110 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>18,8 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>18,8 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>32,60 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>Fresh water</td>
<td>0.0749 mg/l</td>
</tr>
<tr>
<td>1-isopropyl-2,2-dimethyltrimethylene diisobutyrate</td>
<td>Fresh water</td>
<td>0.014 mg/l</td>
</tr>
<tr>
<td>1-isopropyl-2,2-dimethyltrimethylene diisobutyrate</td>
<td>Fresh water sediment</td>
<td>5.29 mg/kg</td>
</tr>
<tr>
<td>1-isopropyl-2,2-dimethyltrimethylene diisobutyrate</td>
<td>Soil</td>
<td>1.05 mg/kg</td>
</tr>
<tr>
<td>1-isopropyl-2,2-dimethyltrimethylene diisobutyrate</td>
<td>STP</td>
<td>3 mg/l</td>
</tr>
<tr>
<td>1-isopropyl-2,2-dimethyltrimethylene diisobutyrate</td>
<td>Marine sediment</td>
<td>0.529 mg/kg</td>
</tr>
</tbody>
</table>

**8.2 Exposure controls**

**Personal protective equipment**

**Eye protection**

Goggles

Safety glasses

**Hand protection**

Material: Solvent-resistant gloves (butyl-rubber)

Remarks: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The exact break through time can be obtained from the protective glove producer and this has to be observed. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Recommended preventive skin protection Skin should be washed after contact. The suitability for a specific workplace should be discussed with the producers of the protective
gloves.

Respiratory protection : Use suitable breathing protection if workplace concentration requires.

No personal respiratory protective equipment normally required.

Environmental exposure controls
Water : The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>silver</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Self-ignition</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Smoldering temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Lower explosion limit / Lower flammability limit: No data available
Vapour pressure: No data available
Relative vapour density: No data available
Relative density: No data available
Density: No data available
Bulk density: No data available
Water solubility: No data available
Solubility in other solvents: No data available
Partition coefficient: n-octanol/water: No data available
Decomposition temperature: No data available
Viscosity
Viscosity, dynamic: No data available
Viscosity, kinematic: > 21 mm²/s (40 °C)
Flow time: No data available

9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No decomposition if stored and applied as directed.

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

10.3 Possibility of hazardous reactions
Hazardous reactions: Contact with acids and alkalis may release hydrogen.
Stable under recommended storage conditions.

10.4 Conditions to avoid
Conditions to avoid: Do not allow evaporation to dryness.
No data available
10.5 Incompatible materials

Materials to avoid:
- Acids
- Bases
- Oxidizing agents

10.6 Hazardous decomposition products

Contact with water or humid air:
This information is not available.

Thermal decomposition:
This information is not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Not classified based on available information.

Components:
aluminium powder (stabilised):
Acute inhalation toxicity:
- LC50 (Rat): > 5 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist

Distillates (petroleum), solvent-refined middle; Gasoil - unspecified:
Acute oral toxicity:
- LD50 (Rat): > 5.000 mg/kg

Acute dermal toxicity:
- LD50 (Rabbit): > 2.000 mg/kg

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate:
Acute dermal toxicity:
- LD50 Dermal (Rabbit): > 2.000 mg/kg
  Method: OECD Test Guideline 402

Skin corrosion/irritation
Not classified based on available information.

Components:
Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: No skin irritation
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12.1 Toxicity

Ecotoxicology Assessment

Short-term (acute) aquatic hazard: This product has no known ecotoxicological effects.

Long-term (chronic) aquatic: This product has no known ecotoxicological effects.
hazard

Components:

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate:
Toxicity to daphnia and other aquatic invertebrates:
(Daphnia (water flea)): 2.46 mg/l

Ecotoxicology Assessment
Long-term (chronic) aquatic hazard:
Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
Product:
Assessment:
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Product:
Additional ecological information:
No data available

SECTION 13: Disposal considerations

European Waste Catalogue:
12 01 04 - non-ferrous metal dust and particles
100321 - other particulates and dust (including ball-mill dust) containing dangerous substances

13.1 Waste treatment methods
Product:
In accordance with local and national regulations.

Contaminated packaging:
Empty containers should be taken to an approved waste handling site for recycling or disposal.
In accordance with local and national regulations.
SECTION 14: Transport information

14.1 UN number

14.2 UN proper shipping name

14.3 Transport hazard class(es)

14.4 Packing group

14.5 Environmental hazards

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

15.2 Chemical safety assessment

SECTION 16: Other information

Full text of H-Statements

H228 : Flammable solid.
H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H317 : May cause an allergic skin reaction.
H361 : Suspected of damaging fertility or the unborn child.
H361d : Suspected of damaging the unborn child.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Chronic : Long-term (chronic) aquatic hazard
Asp. Tox. : Aspiration hazard
Flam. Sol. : Flammable solids
Repr. : Reproductive toxicity
Skin Sens. : Skin sensitisation
SI OEL : Slovakia. Biological Limit Values
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</tbody>
</table>

Date of first issue: 07.09.2015

SK OEL : Slovakia. Chemical factors at work - Maximum acceptable exposure limits for chemical factors in the working environment

SK OEL / TWA : Long term exposure limit

Further information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SK / EN