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

1.1 Product identifier
   Trade name : STAPA METALLIC 501 Aluminium Paste
   Material number : 057307G60M1

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)
   Chronic aquatic toxicity, Category 3 H412: Harmful to aquatic life with long lasting effects.

   Classification (67/548/EEC, 1999/45/EC)
   Dangerous for the environment R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

<table>
<thead>
<tr>
<th>Hazard statements</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H412</td>
<td>Flam. Sol. 1; H228</td>
<td>&gt;= 50 - &lt;= 100</td>
<td></td>
</tr>
<tr>
<td>Prevention: P273</td>
<td>Asp. Tox. 1; H304</td>
<td>&gt;= 10 - &lt; 20</td>
<td></td>
</tr>
<tr>
<td>Disposal: P501</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Harmful to aquatic life with long lasting effects.
Avoid release to the environment.
Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Combustible Solids
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.
No information available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</th>
<th>Classification (67/548/EEC)</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>01-2119529243-45</td>
<td>F; R11</td>
<td>Flam. Sol. 1; H228</td>
<td>&gt;= 50 - &lt;= 100</td>
</tr>
<tr>
<td>low boiling point hydrogen treated naphtha</td>
<td>64742-48-9</td>
<td>265-150-3</td>
<td></td>
<td>Xn; R65</td>
<td>Asp. Tox. 1; H304</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>solvent naphtha (petroleum), light arom.</td>
<td>64742-95-6</td>
<td>265-199-0</td>
<td>01-2119455851-35</td>
<td>Xn; R65; R37; R51/53; R10; R66; R67</td>
<td>Flam. Liq. 3; H226 Asp. Tox. 1; H304 STOT SE 3; H335, H336 Aquatic Chronic 2; H411</td>
<td>&gt;= 5 - &lt; 20</td>
</tr>
</tbody>
</table>

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.
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. 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: 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

Symptoms: No information available.

Risks: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Dry sand Special powder against metal fire

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

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.
5.3 Advice for firefighters

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

Further information: 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Evacuate personnel to safe areas. Use personal protective equipment. Remove all sources of ignition. Avoid dust formation.

6.2 Environmental precautions

Environmental precautions: Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.

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).
Sweep up and shovel. 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: Keep away from heat and sources of ignition. Avoid dust formation. Ensure adequate ventilation.

For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Advice on protection against fire and explosion: Keep away from open flames, hot surfaces and sources of ignition. Earthing of containers and apparatuses is essential.

Hygiene measures: General industrial hygiene practice.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers: Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep container closed when not in use. Keep away from sources of ignition - No smoking.

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

Further information on storage conditions: Protect from humidity and water. Do not allow to dry.

Advice on common storage: 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.

Storage class (TRGS 510): 11, Combustible Solids

Other data: 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

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>7429-90-5</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m3</td>
<td>GB EH40</td>
</tr>
</tbody>
</table>

Further information: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m-3 8-hour TWA of inhalable dust or 4 mg/m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

TWA (Respirable): 4 mg/m3 GB EH40

Further information: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10
mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable
dust. This means that any dust will be subject to COSHH if people are ex-
posed above these levels. Some dusts have been assigned specific WELs
and exposure to these must comply with the appropriate limit., Where no spe-
cific short-term exposure limit is listed, a figure three times the long-term ex-
posure should be used.

**Further information**

For the purposes of these limits, respirable dust and inhalable dust are those
fractions of airborne dust which will be collected when sampling is undertaken
in accordance with the methods described in MDHS14/3 General methods for
sampling and gravimetric analysis of respirable and inhalable dust, The
COSHH definition of a substance hazardous to health includes dust of any
kind when present at a concentration in air equal to or greater than 10 mg.m-3
8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust.
This means that any dust will be subject to COSHH if people are exposed
above these levels. Some dusts have been assigned specific WELs and ex-
posure to these must comply with the appropriate limit., Most industrial dusts
contain particles of a wide range of sizes. The behaviour, deposition and fate
of any particular particle after entry into the human respiratory system and the
body response that it elicits, depend on the nature and size of the particle.
HSE distinguishes two size fractions for limit-setting purposes termed 'inhala-
ble' and 'respirable'., Inhalable dust approximates to the fraction of airborne
material that enters the nose and mouth during breathing and is therefore
available for deposition in the respiratory tract. Respirable dust approximates
to the fraction that penetrates to the gas exchange region of the lung. Fuller
definitions and explanatory material are given in MDHS14/3., Where dusts
contain components that have their own assigned WEL, all the relevant limits
should be complied with., Where no specific short-term exposure limit is listed,
a figure three times the long-term exposure should be used.

<table>
<thead>
<tr>
<th>TWA (Inhalable)</th>
<th>10 mg/m3</th>
<th>GB EH40</th>
</tr>
</thead>
</table>

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This means that any dust will be subject to COSHH if people are exposed
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definitions and explanatory material are given in MDHS14/3., Where dusts
contain components that have their own assigned WEL, all the relevant limits
should be complied with., Where no specific short-term exposure limit is listed,
a figure three times the long-term exposure should be used.

| TWA (Respira-
bale) | 4 mg/m3 | GB EH40 |
|--------|---------|---------|

TWA (inhalable) | 10 mg/m3 | GB EH40
Further information
For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed ‘inhale-
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<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>Naphtha (petroleum), hydrotreated heavy</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>300 mg/kg</td>
</tr>
</tbody>
</table>
STAPA METALLIC 501 Aluminium Paste

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses

Hand protection

Material : Solvent-resistant gloves

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 break-through 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.

Skin and body protection : Long sleeved clothing

Safety shoes

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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

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>Pasty solid</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>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Combustible Solids</td>
</tr>
<tr>
<td>Auto-flammability</td>
<td>not auto-flammable</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.3 - 2.0 g/cm³</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>insoluble</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Flow time</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 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: Reacts with alkalis, acids, halogenes and oxidizing agents. Contact with acids and alkalis may release hydrogen. Mixture reacts slowly with water resulting in evolution of hydrogen.
Vapour/air-mixtures are explosive at intense warming.

Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid: Do not allow to dry.

No data available

10.5 Incompatible materials

Materials to avoid:
- Acids
- Bases
- Oxidizing agents
- Highly halogenated compounds

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

**Components:**

7429-90-5:
- Acute inhalation toxicity: LC50 (Rat): > 5 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist

64742-48-9:
- Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
- Acute inhalation toxicity: LC50 (Rat): Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

64742-95-6:
- Acute oral toxicity: LD50 (Rat): 2,000 - 5,000 mg/kg
- Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg
Further information

Product:
Remarks: No data available

Components:
64742-48-9:
Remarks: Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity
No data available

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 : Remarks: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

Components:
64742-48-9:
Additional ecological information : Remarks: No data available

SECTION 13: Disposal considerations

European Waste Catalogue : 12 01 04 - non-ferrous metal dust and particles

13.1 Waste treatment methods
Product: 
The product should not be allowed to enter drains, water courses or the soil.
In accordance with local and national regulations.

Contaminated packaging : 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 73/78 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

This information is not available.

SECTION 16: Other information

Full text of R-Phrases

R10 : Flammable.
R11 : Highly flammable.
R37 : Irritating to respiratory system.
R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 : Harmful: may cause lung damage if swallowed.
R66 : Repeated exposure may cause skin dryness or cracking.
R67 : Vapours may cause drowsiness and dizziness.

Full text of H-Statements

H226 : Flammable liquid and vapour.
H228 : Flammable solid.
H304 : May be fatal if swallowed and enters airways.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STAPA METALLIC 501 Aluminium Paste

Version: 2.0
Revision Date: 31.08.2015
MSDS Number: 102000000255
Print Date: 20.11.2018
Date of first issue: 03.01.2014

H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H411: Toxic to aquatic life with long lasting effects.

Full text of other abbreviations:
- Aquatic Chronic: Chronic aquatic toxicity
- Asp. Tox.: Aspiration hazard
- Flam. Liq.: Flammable liquids
- Flam. Sol.: Flammable solids
- STOT SE: Specific target organ toxicity - single exposure
- (Q)SAR: (Quantitative) Structure Activity Relationship
- ADN: European Agreement concerning the International Carriage of Dangerous Goods by Road
- ASTM: American Society for the Testing of Materials
- CLP: Classification Labelling Packaging Regulation
- DIN: Standard of the German Institute for Standardisation
- ECHA: European Chemicals Agency
- EC: European Community number
- ECx: Concentration associated with x% response
- Elx: Loading rate associated with x% response
- EmS: Emergency Schedule
- ErCx: Concentration associated with x% growth rate response
- GHS: Globally Harmonized System
- 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
- IMDG: International Maritime Dangerous Goods
- ISO: International Organisation for Standardization
- 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
- NO(A)EC: No Observed (Adverse) Effect Concentration
- NO(A)EL: No Observed (Adverse) Effect Level
- OECD: Organization for Economic Co-operation and Development
- PBT: Persistent, Bioaccumulative and Toxic substance
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- SDS: Safety Data Sheet
- TRGS: Technical Rule for Hazardous Substances
- vPvB: Very Persistent and Very Bioaccumulative
- DSL: Domestic Substances List (Canada)
- KECI: Korea Existing Chemicals Inventory
- TSCA: Toxic Substances Control Act (United States)
- AICS: Australian Inventory of Chemical Substances
- IECSC: Inventory of Existing Chemical Substances in China
- ENCS: Existing and New Chemical Substances (Japan)
- ISHL: Industrial Safety and Health Law (Japan)
- DCS: Philippines Inventory of Chemicals and Chemical Substances
- NZIoC: New Zealand Inventory of Chemicals
- CMR: Carcinogen, Mutagen or Reproductive Toxicant
- GLP: Good Laboratory Practice

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.