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

1.1 Product identifier

Trade name: ROTOVARIO 530 221 Silver

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: 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)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable solids, Category 1</td>
<td>H228: Flammable solid.</td>
</tr>
<tr>
<td>Eye irritation, Category 2</td>
<td>H319: Causes serious eye irritation.</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure, Category 3, Central nervous system</td>
<td>H336: May cause drowsiness or dizziness.</td>
</tr>
</tbody>
</table>

Classification (67/548/EEC, 1999/45/EC)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly flammable</td>
<td>R11: Highly flammable.</td>
</tr>
<tr>
<td>Irritant</td>
<td>R36: Irritating to eyes.</td>
</tr>
<tr>
<td></td>
<td>R66: Repeated exposure may cause skin dryness or cracking.</td>
</tr>
<tr>
<td></td>
<td>R67: Vapours may cause drowsiness and dizziness.</td>
</tr>
</tbody>
</table>
2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal word: Danger

Hazard statements:
- H228 Flammable solid.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

Supplemental Hazard Statements:
- EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

Prevention:
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Response:
- P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P370 + P378 In case of fire: Use for extinction: Dry sand.

Storage:
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

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>Classification</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>isopropyl acetate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hazardous components which must be listed on the label:
108-21-4
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Move the victim to fresh air.
Do not leave the victim unattended.

If inhaled: Consult a physician after significant exposure.
If unconscious place in recovery position and seek medical advice.

In case of skin contact: If on skin, rinse well with water.
If on clothes, remove clothes.
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.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
Immediately flush eye(s) with plenty of water.

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 : ABC powder, Carbon dioxide (CO2), Water, Foam

5.2 Special hazards arising from the substance or mixture

This information is not available.

5.3 Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment.
Further information : Wear self contained breathing apparatus for fire fighting if necessary.

Use a water spray to cool fully closed containers. 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.

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 : Use personal protective equipment. Avoid dust formation.
6.2 Environmental precautions
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.

6.3 Methods and materials for containment and cleaning up
Methods for cleaning up:
- Do not flush with water.
- Keep in suitable, closed containers for disposal.
- Use mechanical handling equipment.
- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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:
- Avoid formation of respirable particles. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion:
- Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures:
- When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers:
- No smoking. Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the
technical safety standards.

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.

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. Keep away from oxidising agents and strongly acid or alkaline materials. Never allow product to get in contact with water during storage. Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

German storage class: 4.1B, Flammable solid hazardous materials

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium</td>
<td>7429-90-5</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m³</td>
<td>2011-12-01</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.
### 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.

<table>
<thead>
<tr>
<th>Aluminium</th>
<th>7429-90-5</th>
<th>TWA (Respirable)</th>
<th>4 mg/m(^3)</th>
<th>2011-12-01</th>
<th>GB EH40</th>
</tr>
</thead>
</table>

### 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 ‘inhalable’ 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>Aluminium</th>
<th>7429-90-5</th>
<th>TWA (Inhalable)</th>
<th>10 mg/m(^3)</th>
<th>2005-04-06</th>
<th>GB EH40</th>
</tr>
</thead>
</table>

### 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
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<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>isopropyl acetate</td>
<td>108-21-4</td>
<td>STEL</td>
<td>200 ppm 849 mg/m(^3)</td>
<td>2005-04-06</td>
<td>GB EH40</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

**Personal protective equipment**

Eye protection
- Eye wash bottle with pure water
- Wear face-shield and protective suit for abnormal processing problems.

Hand protection
- Goggles

Material
- Solvent-resistant gloves (butyl-rubber)

Remarks
- The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- 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.

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

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

: Use suitable breathing protection if workplace concentration requires.

Environmental exposure controls
General advice : 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.

: 

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
### ROTOVARIO 530 221 Silver

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Pasty solid</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>silver</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>solvent-like</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Freezing point</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>88 °C</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>4 °C</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Auto-flammability</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Upper explosion limit</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Lower explosion limit</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>2.06 g/cm³</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Thermal decomposition</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Viscosity, dynamic</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Viscosity, kinematic</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flow time</strong></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: Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid: Heat, flames and sparks.
Do not allow evaporation to dryness.

10.5 Incompatible materials

Materials to avoid: no data available

10.6 Hazardous decomposition products

Other information: no data 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

Skin corrosion/irritation

Product
May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Product
May cause irreversible eye damage.
Respiratory or skin sensitisation
   no data available

Carcinogenicity
   no data available

Toxicity to reproduction/fertility
   no data available

Reprod.Tox./Development/Teratogenicity
   no data available

STOT - single exposure
   no data available

STOT - repeated exposure
   no data available

Aspiration toxicity
   no data available

Further information

Product
   Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.,
   Concentrations substantially above the TLV value may cause narcotic effects., 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
   no data available

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

13.1 Waste treatment methods
   Product : Do not dispose of waste into sewer.  
             Do not contaminate ponds, waterways or ditches with chemical or used container.  
             Send to a licensed waste management company.
   Contaminated packaging : Empty remaining contents.  
                            Dispose of as unused product.  
                            Do not re-use empty containers.  
                            Do not burn, or use a cutting torch on, the empty drum.
SECTION 14: Transport information

14.1 UN number
ADR : 1325
IMDG : 1325
IATA : 1325

14.2 Proper shipping name
ADR : FLAMMABLE SOLID, ORGANIC, N.O.S. (Aluminium pigment paste)
IMDG : FLAMMABLE SOLID, ORGANIC, N.O.S. (Aluminium pigment paste)
IATA : FLAMMABLE SOLID, ORGANIC, N.O.S. (Aluminium pigment paste)

14.3 Transport hazard class
ADR : 4.1
IMDG : 4.1
IATA : 4.1

14.4 Packing group
ADR
Packaging group : II
Classification Code : F1
Hazard identification No : 40
Labels : 4.1
Tunnel restriction code : (E)

IMDG
Packaging group : II
Labels : 4.1
EmS Number : F-G, S-G

IATA
Packing instruction (cargo aircraft) : 448
Packing instruction : 445
(passenger aircraft)
Packing instruction (LQ) : Y441
Packaging group : II
Labels : 4.1

14.5 Environmental hazards

IMDG :

14.6 Special precautions for user

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

no data available

SECTION 16: Other information

Full text of R-Phrases

R11 Highly flammable.
R36 Irritating to eyes.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

Full text of H-Statements

H225 Highly flammable liquid and vapour.
H28 Flammable solid.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
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.