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

ROTOVARIO UV FPG 950 204 Silver

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

1.1 Product identifier
   Trade name : ROTOVARIO UV FPG 950 204 Silver
   Product code : 022190N20 022190N20

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)
   Eye irritation, Category 2
      H319: Causes serious eye irritation.
   Skin sensitisation, Category 1
      H317: May cause an allergic skin reaction.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms : !
   Signal word : Warning
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

ROTOVARIO UV FPG 950 204 Silver

Version 1.0  Revision Date: 28.11.2017  SDS Number: 102000024280  Print Date: 19.11.2018  Date of first issue: 29.11.2017

Hazard statements

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Precautionary statements:

Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ eye protection/ face protection.

Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

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

Hazardous components which must be listed on the label:
Propylidynetrimethanol, ethoxylated, esters with acrylic acid
Glycerol, propoxylated, esters with acrylic acid
2,2-bis(acryloyloxymethyl)butyl acrylate

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

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</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>01-2119529243-45</td>
<td>Flam. Sol. 1; H228</td>
<td>&gt;= 25 - &lt; 50</td>
</tr>
<tr>
<td>Propylidynetrimethanol, ethoxylated, esters with acrylic acid</td>
<td>28961-43-5</td>
<td>500-066-5</td>
<td>01-2119489900-30</td>
<td></td>
<td>Eye Irrit. 2; H319 Skin Sens. 1; H317</td>
<td>&gt;= 25 - &lt; 50</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic acid</td>
<td>52408-84-1</td>
<td>500-114-5</td>
<td>01-2119489798-12</td>
<td></td>
<td>Eye Irrit. 2; H319 Skin Sens. 1; H317</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
<tr>
<td>hexadecyl dihydrogen phosphate</td>
<td>3539-43-3</td>
<td>222-581-1</td>
<td></td>
<td></td>
<td>Skin Corr. 2; H315 Eye Dam. 1; H318</td>
<td>&gt;= 1 - &lt; 3</td>
</tr>
<tr>
<td>2,2-bis(acryloyloxymethyl)butyl acrylate</td>
<td>15625-89-5</td>
<td>239-701-3</td>
<td></td>
<td></td>
<td>Skin Irrit. 2; H315 Eye Irrit. 2; H319</td>
<td>&gt;= 0.1 - &lt; 1</td>
</tr>
</tbody>
</table>
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. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.

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. If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact: 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: Water
Foam
ABC powder
Carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

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: 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.
Use personal protective equipment.
Remove all sources of ignition.
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.

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).

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.

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. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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. Avoid dust formation.

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: 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.

Keep container tightly closed in a dry and well-ventilated place. 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.

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

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 (Version Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>7429-90-5</td>
<td>NGV (Total)</td>
<td>5 mg/m³</td>
<td>SE AFS (2011-12-16)</td>
</tr>
</tbody>
</table>

Further information
Inhalable dust refers to the dust fraction as defined in the Swedish Standard SS-EN 481, Workplace Atmospheres - Size fraction definitions for measurement of airborne particles, 1st ED., 1993., Section 2.3 and having sampling characteristics as specified in paragraph 5.1. Respirable dust refers to the dust fraction as defined in the Swedish Standard SS-EN 481, Workplace Atmospheres - Size fraction definitions for measurement of airborne particles, 1st ED., 1993., Section 2.11 and having sampling characteristics as specified in paragraph 5.3. Total dust refers to all the particles (aerosols) trapped in a filter in the sampling apparatus described in Methods, Sampling of total dust and respirable dust, method nr 1010, published by the National Board of Occupational Safety and Health, now Work Environment Authority. The filter diameter shall normally be 37 mm but can also be 25 mm. Despite its name, not the total amount of airborne particles is measured by this method.

<table>
<thead>
<tr>
<th></th>
<th>NGV (Respirable)</th>
<th>2 mg/m³</th>
<th>SE AFS (2011-12-16)</th>
</tr>
</thead>
</table>
| 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>Propylidynetrimethanol, ethoxylated, esters with acrylic acid</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>0,8 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>16,2 mg/m³</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>Propylidynetrimethanol, ethoxylated, esters with acrylic acid</td>
<td>Soil</td>
<td>0.00587 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.00195 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.0082 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.000195 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.00082 mg/kg</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic acid</td>
<td>Soil</td>
<td>0.00111 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.00574 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.01697 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.000574 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.001697 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>10 mg/l</td>
</tr>
<tr>
<td>2,2-bis(acryloyloxymethyl)butyl acrylate</td>
<td>Soil</td>
<td>0.0043 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.00147 mg/l</td>
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<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.0062 mg/kg</td>
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<tr>
<td></td>
<td>Marine water</td>
<td>0.000147 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.00062 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>6.25 mg/l</td>
</tr>
</tbody>
</table>
8.2 Exposure controls

**Personal protective equipment**

**Eye protection**
- Wear face-shield and protective suit for abnormal processing problems.

**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 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**
- **Long sleeved clothing**
- **Safety shoes**
- Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- 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.

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**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

**Appearance**: Pasty solid

**Colour**: silver

**Odour**: No data available
Odour Threshold : No data available
pH : No data available
Freezing point : No data available
Boiling point/boiling range : No data available
Flash point : No data available
Evaporation rate : No data available
Flammability (solid, gas) : The product is not flammable.
Self-ignition : not auto-flammable
Auto-ignition temperature : No data available
Smoldering temperature : No data available
Decomposition temperature : No data available
Explosive properties : Not explosive
Oxidizing properties : No data available
Upper explosion limit / Upper flammability limit : No data available
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
Solubility(ies)
  Water solubility : insoluble
Solubility in other solvents : No data available
Partition coefficient: n-octanol/water : No data available
Decomposition temperature : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
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 : 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:

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

Skin corrosion/irritation

Product:
Remarks: May cause skin irritation and/or dermatitis.

Components:

- Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
  Remarks: May cause skin irritation and/or dermatitis.

- hexadecyl dihydrogen phosphate:
  Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Product:
Remarks: May cause irreversible eye damage.

Components:

- Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
  Remarks: May cause irreversible eye damage.

- hexadecyl dihydrogen phosphate:
  Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation

Product:
Remarks: Causes sensitisation.

Components:

- Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
  Remarks: Causes sensitisation.
Further information

Product:
Remarks: No data available

Components:
Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Remarks: No data available

hexadecyl dihydrogen phosphate:
Remarks: No data available

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 : No data available

Components:
Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Additional ecological information : No data available

hexadecyl dihydrogen phosphate:
Additional ecological information : No data available
SECTION 13: Disposal considerations

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.
- 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

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
- This information is not available.
SECTION 16: Other information

Full text of H-Statements

H228 : Flammable solid.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

Full text of other abbreviations

Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Flam. Sol. : Flammable solids
Skin Corr. : Skin corrosion
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
SE AFS : Sweden. Occupational Exposure Limit Values
SE AFS / NGV : Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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 % growth rate response; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative.
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.

SE / EN