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

ROTOVARIO UV FPG 950 211 RG

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

1.1 Product identifier
   Trade name : ROTOVARIO UV FPG 950 211 RG
   Product code : 022047N50 022047N50

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
   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)
   Acute toxicity, Category 4 H302: Harmful if swallowed.
   Eye irritation, Category 2 H319: Causes serious eye irritation.
   Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.
   Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.
   Chronic aquatic toxicity, Category 2 H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms: ![Exclamation mark]  

Signal word: Warning

Hazard statements:
- **H302**: Harmful if swallowed.
- **H317**: May cause an allergic skin reaction.
- **H319**: Causes serious eye irritation.
- **H410**: Very toxic to aquatic life with long lasting effects.

Precautionary statements:
**Prevention:**
- **P261**: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- **P273**: Avoid release to the environment.
- **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.

Hazardous components which must be listed on the label:
- Copper
- Propylidynetrimethanol, ethoxylated, esters with acrylic acid
- Glycerol, propoxylated, esters with acrylic acid

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>Registration number</th>
<th>Classification REGULATION (EC) No 1272/2008</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>7440-50-8</td>
<td>231-159-6</td>
<td>00-00-0</td>
<td>01-2119480154-42</td>
<td>Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 2; H411</td>
<td>&gt;= 25 - &lt; 50</td>
</tr>
<tr>
<td>Propylidynetrimethanol</td>
<td>28961-43-5</td>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2; H319</td>
<td>&gt;= 25 - &lt; 50</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Move the victim to fresh air.
- 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 on skin, rinse well with 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.

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:
- Special powder against metal fire
- Dry sand
- ABC powder

Unsuitable extinguishing media:
- Water
- High volume water jet

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:
Wear self-contained breathing apparatus for firefighting if necessary.

Further information:
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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.
- Ensure adequate ventilation.
- 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 material for containment and cleaning up

Methods for cleaning up:
Use mechanical handling equipment.
Pick up and transfer to properly labelled containers. Do not flush with water. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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: 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 heat and sources of ignition. No smoking. Avoid dust formation.

Hygiene measures: General industrial hygiene practice. 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: Keep away from sources of ignition - No smoking. Do not store near combustible materials. Keep containers tightly closed in a cool, well-ventilated place. To maintain product quality, do not store in heat or direct sunlight.
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.

Advice on common storage: Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Do not store together with oxidizing and self-igniting products.

Dampness: Keep in a dry, cool and well-ventilated place.

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>copper</td>
<td>7440-50-8</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m³</td>
<td>GB EH40 (2011-12-01)</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 (2011-12-01)

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 1 mg/m³ GB EH40 (2005-12-01)
Further information

The word 'fume' is often used to include gases and vapours. This is not the case for exposure limits where 'fume' should normally be applied to solid particles generated by chemical reactions or condensed from the gaseous state, usually after volatilisation from melted substances. The generation of fume is often accompanied by a chemical reaction such as oxidation or thermal breakdown. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used

TWA (Fumes) 0.2 mg/m³ (Copper) GB EH40 (2011-12-01)
TWA (Dusts and mists) 1 mg/m³ (Copper) GB EH40 (2011-12-01)
STEL (Dusts and mists) 2 mg/m³ (Copper) GB EH40 (2011-12-01)

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 (2011-12-01)

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>copper</td>
<td>Workers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>273 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>137 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>273 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>Substance Name</td>
<td>Environmental Compartment</td>
<td>Value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------</td>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>copper</td>
<td>Soil</td>
<td>65.5 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.0078 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>87 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0052 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>676 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>0.230 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propylidynetrimethanol, ethoxylated, esters with acrylic acid</td>
<td>Soil</td>
<td>0.00587 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.00195 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.0082 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>10 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.000195 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.000082 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**
zinc powder - zinc dust (stabilized) | Fresh water | 0.0206 mg/l
--- | --- | ---
 | Fresh water sediment | 117.8 mg/kg
 | Marine water | 0.0061 mg/l
 | Soil | 35.6 mg/kg
 | Marine sediment | 56.5 mg/kg
Glycerol, propoxylated, esters with acrylic acid | Soil | 0.00111 mg/kg
--- | --- | ---
 | Fresh water | 0.00574 mg/l
 | Fresh water sediment | 0.01697 mg/kg
 | Marine water | 0.000574 mg/l
 | Marine sediment | 0.001697 mg/kg
 | STP | 10 mg/l

### 8.2 Exposure controls

**Personal protective equipment**

**Eye protection**

- Safety glasses
- Wear face-shield and protective suit for abnormal processing problems.

**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.

**Skin and body protection**

- 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.
- Respirator with a vapour filter (EN 141)

**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

- **Appearance**: Pasty solid
- **Colour**: gold
- **Odour**: characteristic
- **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**: No data available
- **Auto-ignition temperature**: No data available
- **Smoldering temperature**: No data available
- **Decomposition temperature**: No data available
- **Explosive properties**: No data available
- **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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

ROTOVARIO UV FPG 950 211 RG

Version 2.2  Revision Date: 13.09.2017  SDS Number: 102000024108  Print Date: 19.11.2018  Date of first issue: 23.11.2015

---

11 / 17

---

9.2 Other information
No data available

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.
No decomposition if stored and applied as directed.

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

10.5 Incompatible materials

10.6 Hazardous decomposition products
Thermal decomposition : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

**Product:**
- Acute oral toxicity: Acute toxicity estimate: 1,021 mg/kg
  Method: Calculation method

**Components:**
- **zinc powder - zinc dust (stabilized):**
  - Acute oral toxicity: (Rat): > 2,000 mg/kg
  - Acute inhalation toxicity: LC50 (Rat): 5.41 mg/l
    Exposure time: 4 h

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.

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.

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:
copper:
Remarks: No data available

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

SECTION 12: Ecological information

12.1 Toxicity

Components:
copper:
M-Factor (Acute aquatic toxicity) : 10

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 : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

ROTOVARIO UV FPG 950 211 RG

Components:
copper:
Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
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: 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

14.1 UN number
ADR: UN 3077
IMDG: UN 3077
IATA: UN 3077

14.2 UN proper shipping name
ADR: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder)
IATA: Environmentally hazardous substance, solid, n.o.s.
(Copper metal powder)

14.3 Transport hazard class(es)

ADR : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADR
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Remarks : IMDG Code segregation group 7 - Heavy metals and their salts

IATA (Cargo)
Packing instruction (cargo aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous Dangerous Goods

IATA (Passenger)
Packing instruction (passenger aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous Dangerous Goods

14.5 Environmental hazards

ADR
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

IATA (Passenger)
Environmentally hazardous : yes

IATA (Cargo)
Environmentally hazardous : yes

14.6 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.
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
H302 : Harmful if swallowed.
H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations
Acute Tox. : Acute toxicity
Aquatic Acute : Acute aquatic toxicity
Aquatic Chronic : Chronic aquatic toxicity
Eye Irrit. : Eye irritation
Skin Sens. : Skin sensitisation
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

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 x% 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 -
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.

GB / EN