

4000 RG

Version 1.0 Revision Date: 03/26/2018 SDS Number: 102000029169 Date of last issue: -
Date of first issue: 03/26/2018

SECTION 1. IDENTIFICATION

Product name : 4000 RG
Product code : 046477F00

Manufacturer or supplier's details

Company name of supplier : ECKART GmbH
Address : Guentersthal 4
Hartenstein 91235
Telephone : +499152770
Telefax : +499152777008
Emergency telephone : CHEMTREC: 800-424-9300
CHEMTREC: 1-703-527-3387 (International)

GBK Gefahrgut Buero 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**GHS classification in accordance with 29 CFR 1910.1200**

Flammable solids : Category 1
Combustible dust
Acute toxicity (Oral) : Category 4
Eye irritation : Category 2A

GHS label elements

Hazard pictograms :  

Signal Word : Danger

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Hazard Statements : H228 Flammable solid.
May form combustible dust concentrations in air.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**

| | |
|------|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ ventilating/ lighting/ equipment. |
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/ eye protection/ face protection. |

Response:

| | |
|--------------------|--|
| P301 + P312 + P330 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P370 + P378 | In case of fire: Use for extinction: Special powder for metal fires. |
| P370 + P378 | In case of fire: Use for extinction: Dry sand. |

Disposal:

| | |
|------|---|
| P501 | Dispose of contents/ container to an approved waste disposal plant. |
|------|---|

Hazardous ingredients which must be listed on the label:

Copper

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**Hazardous ingredients**

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| Chemical name | CAS-No. | Concentration (% w/w) |
|-------------------|-----------|-----------------------|
| Copper | 7440-50-8 | >= 70 - < 90 |
| Zinc | 7440-66-6 | >= 20 - < 30 |
| Octadecanoic acid | 57-11-4 | >= 1 - < 5 |

SECTION 4. FIRST AID MEASURES

- General advice : Take the victim into fresh air.
 Do not leave the victim unattended.
 Move out of dangerous area.
 Show this material 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.
 If on clothes, remove clothes.
- 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.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
 Causes serious eye irritation.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Special powder against metal fire
 Dry sand
 ABC powder
- Unsuitable extinguishing media : Water
 High volume water jet

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- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- 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.
Use a water spray to cool fully closed containers.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Evacuate personnel to safe areas.
Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Remove all sources of ignition.
- 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.
- Methods and materials for containment and cleaning up : Use mechanical handling equipment.
- Pick up and transfer to properly labeled containers.
- Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against : Normal measures for preventive fire protection.

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fire and explosion

Avoid dust formation.
Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling

: Avoid creating dust.
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

Avoid formation of respirable particles.
Do not breathe vapors/dust.
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.

Conditions for safe storage

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

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.

No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Technical measures/Precautions

: Protect from humidity and water.

Materials to avoid

: 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.

Further information on storage stability

: Keep in a dry place.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Ingredients | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|-------------|-----------|----------------------------------|---|-----------|
| Copper | 7440-50-8 | TWA | 1 mg/m ³ (Copper) | ACGIH |
| | | TWA (dust and mists) | 1 mg/m ³ (Copper) | NIOSH REL |
| | | TWA | 1 mg/m ³ (Copper) | OSHA P0 |
| | | TWA | 0.2 mg/m ³ (Copper) | ACGIH |
| | | TWA | 0.1 mg/m ³ (Copper) | OSHA P0 |
| | | TWA (Dust and mist) | 1 mg/m ³ (Copper) | ACGIH |
| | | TWA (Fumes) | 0.2 mg/m ³ (Copper) | ACGIH |
| | | TWA (Dust) | 1 mg/m ³ (Copper) | NIOSH REL |
| | | TWA (Mist) | 1 mg/m ³ (Copper) | NIOSH REL |
| | | TWA (dusts and mists) | 1 mg/m ³ (Copper) | OSHA Z-1 |
| | | TWA (Fumes) | 0.1 mg/m ³ (Copper) | OSHA Z-1 |
| | | TWA (Fumes) | 0.1 mg/m ³ (Copper) | OSHA P0 |
| | | TWA (Dust and mist) | 1 mg/m ³ (Copper) | OSHA P0 |
| Zinc | 7440-66-6 | TWA (total dust) | 50 Million particles per cubic foot | OSHA Z-3 |
| | | TWA (total dust) | 15 mg/m ³ | OSHA Z-3 |
| | | TWA (respirable fraction) | 5 mg/m ³ | OSHA Z-3 |
| | | TWA (respirable fraction) | 15 Million particles per cubic foot | OSHA Z-3 |

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|-------------------|---------|-----|----------|-------|
| Octadecanoic acid | 57-11-4 | TWA | 10 mg/m3 | ACGIH |
|-------------------|---------|-----|----------|-------|

Personal protective equipment

- Respiratory protection : Use suitable breathing protection if workplace concentration requires.
Respirator with a dust filter
P1 filter
- Hand protection
Material : Leather
- Remarks : Leather gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed. Recommended preventive skin protection
The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Safety glasses
Wear face-shield and protective suit for abnormal processing problems.
- Skin and body protection : Long sleeved clothing
Safety shoes
Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : General industrial hygiene practice.
Do not smoke.
Wash hands before breaks and at the end of workday.
Keep away from food and drink.
Keep away from tobacco products.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

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| | | |
|--|---|--|
| Color | : | gold |
| Odor | : | characteristic |
| Odor Threshold | : | No data available |
| pH | : | No data available |
| Melting point/freezing point | : | No data available |
| Initial boiling point and boiling range | : | No data available |
| Flash point | : | No data available |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | The substance or mixture is a flammable solid with the category 1. |
| | | combustible dust |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative density | : | No data available |
| Density | : | 7.6 g/cm ³ |
| Solubility(ies) | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Autoignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity | : | No data available |

SECTION 10. STABILITY AND REACTIVITY

| | | |
|------------------------------------|---|---|
| Reactivity | : | No decomposition if stored and applied as directed. |
| | | No decomposition if stored and applied as directed. |
| Chemical stability | : | No decomposition if stored and applied as directed. |
| Possibility of hazardous reactions | : | Stable under recommended storage conditions. No hazards to be specially mentioned. No decomposition if stored and applied as directed. Dust may form explosive mixture in air. |
| Conditions to avoid | : | No data available |
| | | Heat, flames and sparks. |

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SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Harmful if swallowed.

Ingredients:**Copper:**

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Zinc:

Acute oral toxicity : (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 5.41 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Skin corrosion/irritation

Not classified based on available information.

Ingredients:**Copper:**

Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Causes serious eye irritation.

Ingredients:**Copper:**

Result: Eye irritation

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

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Carcinogenicity

Not classified based on available information.

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information**Ingredients:****Copper:**

Remarks: No data available

Zinc:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Ingredients:****Copper:**

M-Factor (Acute aquatic toxicity) : 10

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Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Zinc:**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Other adverse effects

No data available

Ingredients:**Copper:**

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

Zinc:

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

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : 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.

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Dispose of as unused product.
 Do not re-use empty containers.
 Do not burn, or use a cutting torch on, the empty drum.
 In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION
International Regulations**IATA-DGR**

| | | |
|--|---|---|
| UN/ID No. | : | UN 3089 |
| Proper shipping name | : | Metal powder, flammable, n.o.s. (Gold bronze powder) |
| Class | : | 4.1 |
| Packing group | : | II |
| Labels | : | Flammable Solid |
| Packing instruction (cargo aircraft) | : | 448 |
| Packing instruction (passenger aircraft) | : | 445 |

IMDG-Code

| | | |
|----------------------|---|--|
| UN number | : | UN 3089 |
| Proper shipping name | : | METAL POWDER, FLAMMABLE, N.O.S. (Gold bronze powder, Copper metal powder) |
| Class | : | 4.1 |
| Packing group | : | II |
| Labels | : | 4.1 |
| EmS Code | : | F-G, S-G |
| Marine pollutant | : | yes |
| Remarks | : | IMDG Code segregation group 7 - Heavy metals and their salts, IMDG Code segregation group 15 - Powdered metals |

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

Not applicable for product as supplied.

Domestic regulation**49 CFR**

| | | |
|----------------------|---|--|
| UN/ID/NA number | : | UN 3089 |
| Proper shipping name | : | Metal powders, flammable, n.o.s. (Gold bronze powder) |
| Class | : | 4.1 |
| Packing group | : | II |
| Labels | : | FLAMMABLE SOLID |
| ERG Code | : | 170 |
| Marine pollutant | : | no |

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SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know**CERCLA Reportable Quantity**

| Ingredients | CAS-No. | Component RQ (lbs) |
|-------------|-----------|--------------------|
| Zinc | 7440-66-6 | 1000 |

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
 Combustible dust
 Acute toxicity (any route of exposure)
 Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|--------|-----------|----------------|
| Copper | 7440-50-8 | >= 70 - < 90 % |
| Zinc | 7440-66-6 | >= 20 - < 30 % |

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

| | | |
|--------|-----------|------|
| Copper | 7440-50-8 | 71 % |
|--------|-----------|------|

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| | | |
|------|-----------|--------|
| Zinc | 7440-66-6 | 27.4 % |
|------|-----------|--------|

US State Regulations**Massachusetts Right To Know**

| | |
|--------|-----------|
| Copper | 7440-50-8 |
| Zinc | 7440-66-6 |

Pennsylvania Right To Know

| | |
|----------|-----------|
| Copper | 7440-50-8 |
| Zinc | 7440-66-6 |
| Aluminum | 7429-90-5 |

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.



WARNING: This product can expose you to chemicals including lead and cadmium, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

| | |
|--------|-----------|
| Copper | 7440-50-8 |
| Zinc | 7440-66-6 |

California Permissible Exposure Limits for Chemical Contaminants

| | |
|--------|-----------|
| Copper | 7440-50-8 |
| Zinc | 7440-66-6 |

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

TSCA : On TSCA Inventory

TSCA list

No substances are subject to a Significant New Use Rule.

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No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION
Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
 NIOSH REL : USA. NIOSH Recommended Exposure Limits
 OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
 OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
 OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
 ACGIH / TWA : 8-hour, time-weighted average
 NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
 OSHA P0 / TWA : 8-hour time weighted average
 OSHA Z-1 / TWA : 8-hour time weighted average
 OSHA Z-3 / TWA : 8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification 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; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the

SAFETY DATA SHEET



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European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Material 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.

US / Z8