Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

Version 2.0

Revision Date 09.12.2019

Print Date 21.02.2022

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

1.1 Product identifier

| Trade name | : | ROTOFLEX XA 4-209 Rich Gold |
|-----------------|---|-----------------------------|
| Material number | : | 024371C20 |

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 |
| Responsible/issuing person | |

1.4 Emergency telephone number

NCEC: (contract no.: ECKART29003-NCEC) +44 1235 239671 (Middle East/Africa, call and response in your language) +1 215 207 0061 (Americas, call and response in your language) +65 3158 1074 (Asia-Pacific, call and response in your language)

SECTION 2: Hazards identification

GHS Classification

: Flammable solids, Category 1, H228 Acute toxicity, Category 4, Oral, H302 Serious eye damage/eye irritation, Category 2A, H319

| Page 1 / 19 | 102000031078 | A member of C ALTANA |
|-------------|--------------|-----------------------------|
|-------------|--------------|-----------------------------|



copper

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)



ROTOFLEX XA 4-209 Rich Gold

| rsion 2.0 | Revision Date 09.12.2019 | Print Date 21.02.202 |
|--------------------------|--|---|
| | Short-term (acute) aquatic hazaro Long-term (chronic) aquatic haza | |
| GHS-Labelling | | |
| Symbol(s) | | 2 |
| Signal word | : Danger | |
| Hazard statements | H228: Flammable solid. H302: Harmful if swallowed. H319: Causes serious eye irritation H410: Very toxic to aquatic life with the series of the ser | |
| Precautionary statements | powder for metal fires. P370 + P378 In case of fire: Us Disposal: | . No smoking. ronment. protective clothing/ eye |
| - | hich must be listed on the label | |
| Identification | CAS-No. | |

| Page 2 / 19 | 102000031078 | A member of C ALTANA |
|-------------|--------------|-----------------------------|

7440-50-8

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

| Version 2.0 | Revision Date 09.12.2019 | Print Date 21.02.2022 |
|-------------|--------------------------|-----------------------|
| | | |

SECTION 3: Composition/information on ingredients

Substance name: RG 4.AG 4 209 PO SPKSubstance No.:

Hazardous components

| Chemical name | CAS-No. EINECS-No. | Classification and labelling | Concentration[%] |
|---|------------------------|--|------------------|
| Copper | 7440-50-8 231-159-6 | Acute Tox.;4;H302 ;2A;H319 Aquatic Acute;1;H400 Aquatic Chronic;1;H410 | 50 - 100 |
| zinc powder — zinc dust (stabilised) | 7440-66-6 231-175-3 | Aquatic Acute;1;H400 Aquatic Chronic;1;H410 | 25 - 50 |

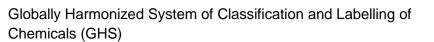
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

| General advice | : Move the victim to fresh air. | | |
|----------------|---|--|--|
| | Do not leave the victim unattended. | | |
| | 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 | | |
| Page 3 / 19 | 102000031078 A member of C ALTANA | | |







ROTOFLEX XA 4-209 Rich Gold

| Version 2.0 | Revision Date 09.12.2019 | Print Date 21.02.2022 |
|-------------------------|--|-----------------------|
| | | |
| | 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 Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a spectrum | |
| If swallowed | : Keep respiratory tract clear. Do not give milk or alcoholic beverag Never give anything by mouth to an If symptoms persist, call a physician | unconscious person. |

4.2 Most important symptoms and effects, both acute and delayed

This information is not available.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not 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 fig courses. | Do not allow run-off from fire fighting to enter drains or water courses. | | |
|---|---|---|--|--|
| Page 4 / 19 | 102000031078 | A member of C ALTANA | | |

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

| Version 2.0 | Revision Date 09.12.2019 | Print Date 21.02.2022 |
|-------------|--------------------------|-----------------------|
| | | |

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. Use a water spray to cool fully closed containers. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

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. |

| Page 5 / 19 | 102000031078 | A member of C ALTANA |
|-------------|--------------|-----------------------------|
|-------------|--------------|-----------------------------|



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)



ROTOFLEX XA 4-209 Rich Gold

| Version 2.0 | Revision Date 09.12.2019 | Print Date 21.02.2022 |
|-------------|--------------------------|-----------------------|
| | | |

6.3 Methods and materials for containment and cleaning up

| Methods for cleaning up | : Use mechanical handling equipment. |
|-------------------------|---|
| | Pick up and transfer to properly labelled containers. |
| | Keep in suitable, closed containers for disposal. |

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

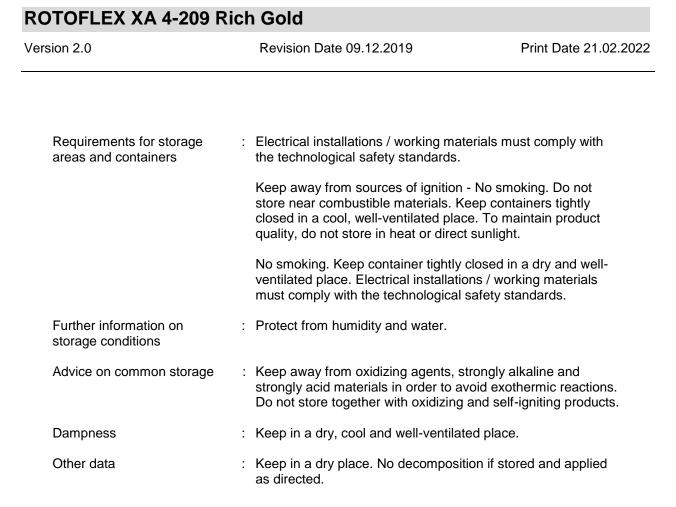
7.1 Precautions for safe handling

| Advice on safe handling | : | Avoid creating dust. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. |
|---|---|---|
| | | Avoid formation of respirable particles. Do not breathe vapours/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. |
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |
| | | Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. |
| 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. |

7.2 Conditions for safe storage, including any incompatibilities

| Page 6 / 19 | 102000031078 | A member of C ALTANA |
|-------------|--------------|-----------------------------|
|-------------|--------------|-----------------------------|

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)



D ECKART

7.3 Specific end use(s)

This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Germany:

| D 7 | Copper | 7440-50-8 | exposure) AGW (inhalable | parameters 1 mg/m3 | | DE TRGS 900 | |
|--------|--------|-----------|-----------------------------|-----------------------|---------|----------------|---|
| Page 7 | / 19 | | 1020 | 00031078 | A membe | er of C ALTANA | 1 |



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

Version 2.0

Revision Date 09.12.2019

Print Date 21.02.2022

| 1 | l | | 1 | 1 | 1 1 | |
|--|-----------|---|------------|------------|-------------|--|
| | | fraction) | | | | |
| zinc powder | 7440-66-6 | AGW (Inhalable | 10 mg/m3 | 2014-04-02 | DE TRGS 900 | |
| — zinc dust | | fraction) | | | | |
| (stabilised) | | | | | | |
| Peak-limit: exc | ursion | 2;(II) | | | | |
| factor (categor | y) | | | | | |
| Further informa | ation | Commission for dangerous substancesSenate commission for the review of compounds at the work place dangerous for the health (MAK-commission). | | | | |
| zinc powder — zinc dust (stabilised) | 7440-66-6 | AGW (Alveolate fraction) | 1,25 mg/m3 | 2014-04-02 | DE TRGS 900 | |
| Peak-limit: exc | ursion | 2;(II) | | | | |
| factor (categor | y) | | | | | |
| Further information | | Commission for dangerous substancesSenate commission for the review of compounds at the work place dangerous for the health (MAK-commission). | | | | |

8.2 Exposure controls

| Personal protective equipm | ent | | |
|----------------------------|-----|--|--------------------------------|
| Eye protection | : | Safety glasses | |
| | : | Wear face-shield and protective problems. | e suit for abnormal processing |
| Hand protection | | | |
| Material | : | Leather | |
| Remarks | : | Leather gloves | |
| | | The choice of an appropriate gluits material but also on other qui from one producer to the other. | |
| Page 8 / 19 | | 102000031078 | A member of C ALTANA |



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

| ROTOFLEX XA 4-209 Rich Gold | | | | |
|---|--------------|--|--|--|
| Version 2.0 | R | evision Date 09.12.2019 | Print Date 21.02.2022 | |
| | | | | |
| | | | | |
| | | e exact break through time c otective glove producer and th | | |
| | Re | commended preventive skin | protection | |
| | | e suitability for a specific wor h the producers of the protec | | |
| Skin and body protection | | ng sleeved clothing fety shoes | | |
| | Ch | ist impervious protective suit loose body protection accord ncentration of the dangerous | ing to the amount and substance at the work place. | |
| Respiratory protection | | e suitable breathing protectic quires. | on if workplace concentration | |
| | | espirator with a dust filter filter | | |
| Environmental exposure c o General advice | ontrols : | | | |
| | | event product from entering c event further leakage or spilla | | |
| | lf t | he product contaminates rive spective authorities. | • | |
| Water | | : The product should not be allowed to enter drains, water courses or the soil. | | |
| | : | | | |
| Page 9 / 19 | | 102000031078 | A member of C ALTANA | |
| | | | | |

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

Version 2.0

Revision Date 09.12.2019

Print Date 21.02.2022

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Appearance | : powder |
|--|--|
| Colour | : gold |
| Odour | : odourless |
| рН | : No data available |
| Freezing point | : No data available |
| Boiling point/boiling range | : No data available |
| Flash point | : No data available |
| Bulk density | : No data available |
| Flammability (solid, gas) | : The substance or mixture is a flammable solid with the category 1. |
| Auto-flammability | : No data available |
| Upper explosion limit | : No data available |
| Lower explosion limit | : No data available |
| Vapour pressure | : No data available |
| Density | : No data available |
| Water solubility | : No data available |
| Miscibility with water | : immiscible |
| Solubility in other solvents | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Ignition temperature | : No data available |
| Thermal decomposition | : No data available |
| Viscosity, dynamic | : No data available |
| | |

| Page 10 / 19 | 102000031078 | A member of C ALTANA |
|--------------|--------------|-----------------------------|
| | | |



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

| Version 2.0 | Revision Date 09.12.2019 | Print Date 21.02.2022 |
|-------------|--------------------------|-----------------------|
| | | |

Viscosity, kinematic 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. **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., No hazards to be specially mentioned. |
|-----------------------------|---|
| | No decomposition if stored and applied as directed. |
| | Dust may form explosive mixture in air. |
| 10.4 Conditions to avoid | |
| Conditions to avoid | No data available |
| | Heat, flames and sparks. |
| 10.5 Incompatible materials | |
| Materials to avoid | : No data available |

10.6 Hazardous decomposition products

| Page 11 / 19 | 102000031078 | A member of C ALTANA |
|--------------|--------------|-----------------------------|
|--------------|--------------|-----------------------------|



: No data available



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

| Revision Date 09.12.2019 | Print Date 21.02.2022 |
|--------------------------|-----------------------|
| | |
| | |
| : No data available | |
| : No data available | |
| | : No data available |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

Copper :

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

zinc powder — zinc dust (stabilised) :
Acute oral toxicity : Rat: > 2 000 mg/kg

Skin corrosion/irritation

Product

May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Product

Eye irritation

Respiratory or skin sensitisation

| Page 12 / 19 102000031078 | A member of C ALTANA |
|---------------------------|-----------------------------|
|---------------------------|-----------------------------|



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

Version 2.0

Revision Date 09.12.2019

Print Date 21.02.2022

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

No data available

SECTION 12: Ecological information

12.1 Toxicity

| Page 13 / 19 | 102000031078 | A member of 🜔 ALTANA |
|--------------|--------------|----------------------|
|--------------|--------------|----------------------|



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

Version 2.0

Revision Date 09.12.2019

Print Date 21.02.2022

Components: copper (7440-50-8) : M-Factor : 10 **Ecotoxicology Assessment** Short-term (acute) aquatic : Very toxic to aquatic life. hazard Long-term (chronic) aquatic : Very toxic to aquatic life with long lasting effects. hazard zinc (7440-66-6) : **Ecotoxicology Assessment** Short-term (acute) aquatic : Very toxic to aquatic life. hazard Long-term (chronic) aquatic : Very toxic to aquatic life with long lasting effects. hazard

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

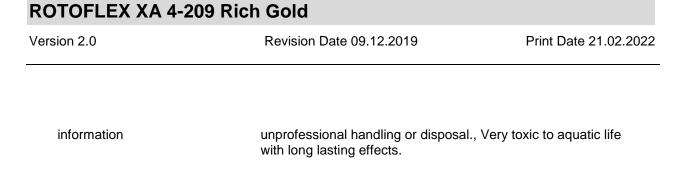
12.6 Other adverse effects

Product:

Additional ecological : An environmental hazard cannot be excluded in the event of

| Page 14 / 19 | 102000031078 | A member of C ALTANA |
|--------------|--------------|-----------------------------|
| | | |

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)



SECTION 13: Disposal considerations

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. Do not burn, or use a cutting torch on, the empty drum. In accordance with local and national regulations. |

SECTION 14: Transport information

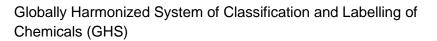
14.1 UN number

| ADR | : | 3089 |
|------|---|------|
| TDG | : | 3089 |
| CFR | : | 3089 |
| IMDG | : | 3089 |
| ΙΑΤΑ | : | 3089 |

14.2 Proper shipping name

| Page 15 / 19 | 102000031078 | A member of C ALTANA |
|--------------|--------------|-----------------------------|
|--------------|--------------|-----------------------------|







| Version 2.0 | | Revision Date 09.12.2019 | | Print Date 21.02.202 |
|------------------------------|-----------------------------------|---|-----------|----------------------|
| | | | | |
| ADR | : | METAL POWDER, FLAMMABLE | | |
| TDO | | (Gold bronze powder ,Copper me | • • | |
| TDG | • | METAL POWDER, FLAMMABLE (Gold bronze powder) | ., N.O.S. | |
| CFR | | METAL POWDERS, FLAMMABL | ENOS | |
| | • | (Gold bronze powder) | , | |
| IMDG | : | METAL POWDER, FLAMMABLE | . N.O.S. | |
| | - | (,Gold bronze powder ,Copper metal powder) | | |
| ΙΑΤΑ | : METAL POWDER, FLAMMABLE, N.O.S. | | | |
| 14.3 Transport hazard class | | | | |
| ADR | : | 4.1 | | |
| TDG | : | 4.1 | | |
| CFR | : | 4.1 | | |
| IMDG | : | 4.1 | | |
| ΙΑΤΑ | : | 4.1 | | |
| 14.4 Packing group | | | | |
| ADR | | | | |
| Packaging group | : | II | | |
| Classification Code | : | F3 | | |
| Hazard Identification Number | | | | |
| | | 4.1 | | |
| Tunnel restriction code | : | (E) | | |
| TDG | | | | |
| Packaging group | | | | |
| Labels | : | 4.1 | | |
| CFR | | | | |
| Packaging group | : | II | | |



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

| Version 2.0 | Revision Date 09.12.2019 | Print Date 21.02.2022 |
|--|-----------------------------|-----------------------|
| | | |
| Labels | : 4.1 | |
| IMDG | | |
| Packaging group | : 11 | |
| Labels | : 4.1 | |
| EmS Number | : F-G, S-G | |
| ΙΑΤΑ | | |
| Packing instruction (cargo aircraft) | : 448 | |
| Packing instruction (passenger aircraft) | : 445 | |
| Packing instruction (LQ) | : Y441 | |
| Packaging group | : 11 | |
| Labels | : 4.1 | |
| 14.5 Environmental hazards | | |
| ADR | : Environmentally hazardous | |
| IMDG | : Marine pollutant | |

14.6 Special precautions for user

IMDG Code- segregation group:

- : IMDG Code segregation group 7 Heavy metals and their salts
- : IMDG Code segregation group 15 Powdered metals

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

No data available

| Page 17 / 19 | 102000031078 | A member of C ALTANA |
|--------------|--------------|-----------------------------|
| | | |

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

| Version 2.0 | Revision Date 09.12.2019 | Print Date 21.02.2022 |
|-------------|--------------------------|-----------------------|
| | | |

SECTION 15: Regulatory information

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

| Prohibition/Restriction REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). | : Not applicable |
|--|------------------|
| Prohibition/Restriction Regulation (EC) No 1005/2009 on substances that deplete the ozone layer | : Not applicable |
| Prohibition/Restriction Regulation (EC) No 850/2004 on persistent organic pollutants | : Not applicable |

15.2 Chemical safety assessment

No data available

SECTION 16: Other information

| Full text of H-Statements | |
|---------------------------|---|
| H228 | : Flammable solid. |
| H302 | : Harmful if swallowed. |
| H319 | : Causes serious eye irritation. |
| H400 | : Very toxic to aquatic life. |
| H410 | : Very toxic to aquatic life with long lasting effects. |

| Page 18 / 19 | 102000031078 | A member of C ALTANA |
|--------------|--------------|-----------------------------|
|--------------|--------------|-----------------------------|





Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

ROTOFLEX XA 4-209 Rich Gold

Version 2.0

Revision Date 09.12.2019

Print Date 21.02.2022

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.

| A member of C ALTANA | Page 19 / 19 | 102000031078 | A member of C ALTANA |
|----------------------|--------------|--------------|----------------------|
|----------------------|--------------|--------------|----------------------|