

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

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

· **1.1 Product identifier**

· **Trade name:** P 76050 ROTBRAUN - ÄTZE
· Silberdiffusions-Farbe

· **Article number:** P 76050

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture** Preparation of ceramic parts and coatings

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Rüger & Günzel GmbH
D 63263 Neu-Isenburg - Dornhofstraße 71
Telefon +49- 61 02 / 812940 - Telefax +49 61 02 / 8129440
E-Mail: info@rgfarben.de

www.rgfarben.de

· **Informing department:** Product safety department.

· **1.4 Emergency telephone number:**

Mo-Fr. 7.30 - 16.00 Uhr - Tel.+49-6102/812940 // 24h-emergency phone no. +49 151 54 62 77 41
poison emergency call:

or

Beratungsstelle bei Vergiftungen
II. Medizinische Klinik und Polyklinik der Universität Mainz
Langenbeckstr. 1
55131 Mainz
www.giftinfo.uni-mainz.de 06131 - 19240

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 1)

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS03 GHS05 GHS07 GHS09

Signal word Danger

Hazard-determining components of labelling:

copper(II) sulfate, pentahydrate

disilver oxide

Hazard statements

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat. - No smoking.

P220 Keep/Store away from clothing/combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH044 Risk of explosion if heated under confinement.







2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
Description: Zubereitung bestehend u.a. aus Fe-Ba-Cu-Ag.

Dangerous components:

CAS: 7758-99-8	copper(II) sulfate, pentahydrate	25-50%
EINECS: 231-847-6	 Eye Dam. 1, H318;  Aquatic Acute 1, H400;  Aquatic Chronic 1, H410;  Acute Tox. 4, H302	
CAS: 20667-12-3	disilver oxide	10-25%
EINECS: 243-957-1	 Ox. Sol. 2, H272;  Eye Dam. 1, H318	

Additional information For the wording of the listed hazard phrases refer to section 16.

GB

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 2)

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact**
Rinse with warm water.
Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing** Inform doctor. Do not give milk or fatty oils.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Use only in well-ventilated areas.
Wear suitable protective clothing.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or water bodies.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Do not empty into drains.
- **6.3 Methods and material for containment and cleaning up:** Use neutralising agent.
- **6.4 Reference to other sections**
Do not handle until all safety precautions have been read and understood.
Wear suitable protective clothing and gloves.
Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Take note of emission threshold.
Prevent formation of dust.

(Contd. on page 4)

Safety data sheet
 according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 3)

- Use only in well-ventilated areas.
- Handle and open container with care.
- **Information about protection against explosions and fires:** Protect from heat.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store in cool, dry conditions in well sealed containers.
 - Protect from heat and direct sunlight.
- **Storage class 5.1 B**
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

· **8.1 Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 20667-12-3 disilver oxide

WEL	Long-term value: 0.01 mg/m ³ as Ag
-----	--

- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
 - Keep away from foodstuffs, beverages and food.
 - Wash hands during breaks and at the end of the work.
 - Do not inhale dust / smoke / mist.
 - Avoid contact with the eyes.
 - Avoid contact with the eyes and skin.
 - Do not eat, drink or smoke while working.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **Protection of hands:**
 - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
 - Solvent resistant gloves
- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - For the mixture of chemicals mentioned below the penetration time has to be at least > 480 minutes (Permeation according to EN 374).
- **Eye protection:** Tightly sealed safety glasses.

GB

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 4)

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Powder
· Colour:	Brown
· Odour:	Odourless
· Odour threshold:	Not determined.

· pH-value at 20 °C:	5 Slightly acidic
-----------------------------	----------------------

· Change in condition

· Melting point/freezing point:	>1,000 °C
· Initial boiling point and boiling range:	Not determined

· Flash point:	Not applicable
-----------------------	----------------

· Inflammability (solid, gaseous)	Not determined.
--	-----------------

· Decomposition temperature:	Not determined.
-------------------------------------	-----------------

· Self-inflammability:	Product is not selfigniting.
-------------------------------	------------------------------

· Explosive properties:	Product is not explosive.
--------------------------------	---------------------------

· Critical values for explosion:

· Lower:	Not determined.
· Upper:	Not determined.

· Vapour pressure:	Not applicable.
---------------------------	-----------------

· Density at 20 °C	1.73 g/cm ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.

· Solubility in / Miscibility with Water:	Soluble
--	---------

· Partition coefficient: n-octanol/water:	Not determined.
--	-----------------

· Viscosity:

· dynamic:	Not applicable.
· kinematic:	Not applicable.

· Solvent content:

· Solids content:	100.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided:

To avoid thermal decomposition do not overheat.

No decomposition if used and stored according to specifications.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 5)

Stable up to melting point.

- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

- **Acute toxicity**
Harmful if swallowed.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Behaviour in sewage processing plants:**
The product can be mechanically separated.
Heavy metal can be dissolved by liquids containing acid or alkali.
Then elimination out of the water through chemical flocculation.
- **Additional ecological information:**
- **General notes:**
The product contains materials that are harmful to the environment.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into soil.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 7)

GB

Safety data sheet
 according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 6)

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

After prior treatment product has to be landfilled under adherence to the regulations pertaining to the disposal of particularly hazardous waste.

· **Waste disposal key number:**

55515 (Pigmente und Farbstoffe anorganisch)

51310 (Metalloxyde außer Eisen)

· **European waste catalogue**

08 02 99 wastes not otherwise specified

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Waste disposal key number:**

18715 (Verpackungsmaterial mit schädlichen Verunreinigungen oder Restinhalten, vorwiegend anorganisch)

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3085

· **14.2 UN proper shipping name**

· **ADR**

3085 OXIDIZING SOLID, CORROSIVE, N.O.S. (disilver oxide), ENVIRONMENTALLY HAZARDOUS

· **IMDG, IATA**

OXIDIZING SOLID, CORROSIVE, N.O.S. (disilver oxide)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

5.1 (OC2) Oxidising substances.

· **Label**

5.1+8

· **IMDG**



· **Class**

5.1 Oxidising substances.

(Contd. on page 8)

Safety data sheet
 according to 1907/2006/EC, Article 31


Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 7)

· Label	5.1/8
· IATA	
	
· Class	5.1 Oxidising substances.
· Label	5.1 (8)
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	no
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Oxidising substances.
· Kemler Number:	58
· EMS Number:	F-A,S-Q
· Stowage Category	B
· Handling Code	H1 Keep as dry as reasonably practicable
· Segregation Code	SG38 Stow "separated from" SGG2-ammonium compounds. SG49 Stow "separated from" SGG6-cyanides SG60 Stow "separated from" SGG16-peroxides
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S. (DISILVER OXIDE), 5.1 (8), II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I None of the ingredients is listed.

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.11.2019

Version number 1

Revision: 11.11.2019

Trade name: P 76050 ROTBRAUN - ÄTZE

(Contd. of page 8)

- **Seveso category**
 P8 OXIDISING LIQUIDS AND SOLIDS
 E1 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **National regulations**
- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 H272 May intensify fire; oxidiser.
 H302 Harmful if swallowed.
 H318 Causes serious eye damage.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
- **Classification according to Regulation (EC) No 1272/2008**
 The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Oxidizing solids	On basis of test data
Acute toxicity - oral Serious eye damage/eye irritation Hazardous to the aquatic environment - short-term (acute) aquatic hazard Hazardous to the aquatic environment - long-term (chronic) aquatic hazard	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

- **Department issuing data specification sheet:** Environment protection department.
- **Contact:** Hr. Frank Bauer
- **Abbreviations and acronyms:**
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organisation
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Ox. Sol. 2: Oxidizing solids – Category 2
 Acute Tox. 4: Acute toxicity - oral – Category 4
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1