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

1.1 Product identifier

Trade name/designation:

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1.2 Relevant identified uses of the substance or mixture and uses advised against **Use of the substance/mixture:**

Plating agents and metal surface treating agents Blacking solution for brass, bronze, copper

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

LUPUS-Professional

Hochstraße 150 47877 Willich **GERMANY**

Telephone: +49 (0) 21 54 - 81 25 93 Telefax: +49 (0) 21 54 - 81 25 94

E-mail: info@lupus-pro.de Website: www.lupus-pro.de

E-mail (competent person): info@lupus-pro-de

1.4 Emergency phone number

24h: +49 (0) 5 51 - 19 24 0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard classes and hazard categories		Classification procedure
Hazardous to the aquatic environment (Aquatic Chronic 2)	H411: Toxic to aquatic life with long lasting effects.	Calculation

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:



GHS09 Environment

Signal word: Warning

Hazard statements	for environmental hazards
H411	Toxic to aquatic life with long lasting effects.

Supplemental Hazard information (EU): -

Precautionary statements			
P102	Keep out of reach of children.		

Precautionary statements Prevention		
P273	Avoid release to the environment.	
P280	Wear protective gloves/protective clothing/eye protection/face protection.	

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Precautionary statements Response			
P302 + P352	IF ON SKIN: Wash with plenty of water/soap.		

Precautionary statements Disposal			
P501	Dispose of contents/container to hazardous or special waste collection point.		

2.3 Other hazards

Adverse human health effects and symptoms:

May cause skin irritation. May cause eye irritation.

SECTION 3: Composition / information on ingredients

3.2 Mixtures

Description:

inorganic salts in aqueous solution

Ingredients / Impurities / Stabilisers::

Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Content
CAS No.: 7758-98-7 EC No.: 231-847-6	copper sulphate Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Aqua. Acute 1, Aqua. Chronic 1 Warning H302-H315-H319-H410	< 1 Wt %
	Selenium compounds with exception of cadmium sulphosele nide (Index-No. 034-002-00-8) Acute Tox. 3, STOT RE 2, Aqua. Acute 1, Aqua. Chronic 1 Toxic Danger H301 + H331-H373-H410	< 1 Wt %
CAS No.: 7733-02-0 EC No.: 231-793-3	zinc sulphate (anhydrous) Eye Dam. 1, Acute Tox. 4, Aqua. Acute 1, Aqua. Chronic 1 Ohio Danger H302-H318-H410	< 1 Wt %

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious place in recovery position and seek medical advice. Do not leave affected person unattended. Warning First aider: Pay attention to self-protection!

Following inhalation:

Provide fresh air. Get medical advice/attention if you feel unwell.

In case of skin contact:

Take off contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

After eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

After ingestion

Rinse mouth. Let water be drunken in little sips (dilution effect). Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed May cause skin irritation. May cause eye irritation.

4.3 Indication of any immediate medical attention and special treatment neededTreat symptomatically.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Coordinate fire-fighting measures to the fire surroundings.

5.2 Special hazards arising from the substance or mixture

The product is not: Combustible **Hazardous combustion products:**

In case of fire may be liberated: Gases/vapours, toxic

5.3 Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

5.4 Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Personal precautions:

Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes and clothes. Special danger of slipping by leaking/spilling product. Remove persons to safety.

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection. See section 8.

6.1.2 For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

6.3 Methods and material for containment and cleaning up

For containment:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up:

Water

6.4 Reference to other sections

Safe handling: see section 7.

Personal protection equipment: see section 8.

Disposal: see section 13.

6.5 Additional information

Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

Advices on safe handling:

Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes and clothes. Wear personal protection equipment (refer to section 8).

Fire prevent measures:

No special measures are necessary.

Environmental precautions:

Discharge into the environment must be avoided.

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Advices on general occupational hygiene

When using do not eat, drink or smoke. Wash hands and face before breaks and after work and take a shower if necessary. Apply skin care products after work.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep container tightly closed. Store in a cool dry place.

Requirements for storage rooms and vessels:

Floors should be impervious, resistant to liquids and easy to clean. Keep/Store only in original container.

Hints on storage assembly:

Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

Recommendation:

Plating agents and metal surface treating agents

Observe instructions for use.

SECTION 8: Exposure controls / Personal protection

8.1 Control parameters

8.1.1 Occupational exposure limit values

Limit value type (country)	Substance name	 Long-term occupational exposure limit value Short-term occupational exposure limit value Instantaneous value Monitoring and observation processes Remark
WEL (GB)	copper sulphate CAS No.: 7758-98-7	① 0.2 mg/m³ ⑤ Smoke
WEL (GB)	copper sulphate CAS No.: 7758-98-7	① 1 mg/m³ ② 2 mg/m³ ⑤ Dusts and mist calculated as Cu

8.1.2 Biological limit values

No data available.

8.1.3 DNEL-/PNEC-values

No data available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

See section 7. No additional measures necessary.

8.2.2 Personal protection equipment







Eye/face protection:

Eye glasses with side protection (EN 166).

Skin protection:

Wear suitable gloves (EN 374).

Suitable material: NBR (Nitrile rubber)

Material thickness: 0,11 mm Breakthrough time: > 480 min

Breakthrough times and swelling properties of the material must be taken into consideration. Check leak tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In the case of wanting to use the gloves again, clean them before taking off and air them well.

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Respiratory protection:

Usually no personal respirative protection necessary. Provide adequate ventilation.

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Filtering device (full mask or mouthpiece) with filter: E-P2

Other protection measures:

Wear suitable protective clothing.

8.2.3 Environmental exposure controls

No data available.

8.3 Additional information

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: liquid Colour: blue

Odour: characteristic

Safety relevant basic data

Parameter		at	Method	Remark
рН	4 - 5	20 °C		
Melting point/freezing point	not determined			
Freezing point	not determined			
Initial boiling point and boiling range	> 100 °C			
Decomposition temperature	not determined			
Flash point	not applicable			
Evaporation rate	not determined			
Ignition temperature	not applicable			
Upper/lower flammability or explosive limits	not applicable			
Vapour pressure	23 hPa	20 °C		
Vapour density	not determined			
Density	≈ 1.05 g/cm³	20 °C		
Bulk density	not applicable			
Water solubility	completely mis- cible			
Partition coefficient: n-octanol/ water	not determined			
Dynamic viscosity	not determined			
Kinematic viscosity	not determined			

9.2 Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is not: Combustible

10.2 Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

UV-radiation/sunlight.

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10.5 Incompatible materials

Oxidising agent, strong; Acid, concentrated

10.6 Hazardous decomposition products

In case of fire may be liberated: Gases/vapours, toxic

Additional information

No data available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity:

Based on available data, the classification criteria are not met.

Acute dermal toxicity:

Based on available data, the classification criteria are not met.

Acute inhalation toxicity:

Based on available data, the classification criteria are not met.

Skin corrosion/irritation:

Based on available data, the classification criteria are not met. May cause skin irritation.

Eye damage/irritation:

Based on available data, the classification criteria are not met. May cause eye irritation.

Respiratory or skin sensitisation:

Based on available data, the classification criteria are not met.

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.

Additional information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Toxic to aquatic life with long lasting effects.

Additional ecotoxicological information:

No data available..

12.2 Persistence and degradability

Biodegradation:

No data available.

12.3 Bioaccumulative potential

Accumulation / Evaluation:

No data available.

12.4 Mobility in soil

No data available.

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12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

11 01 11 *	aqueous rinsing liquids containing dangerous substances
11 01 98 *	other wastes containing dangerous substances
	Wastes from chemical surface treatment and coating of metals and other materials (eg. galvanic processes, zinc coating processes, pickling processes, etching, phosphatising, alkaline degreasing, anodising): Wastes not otherwise specified

^{*:} Evidence for disposal must be provided.

Remark:

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Waste code packaging:

15 01 02 Plastic packaging

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal. For recycling, contact manufacturer.

Appropriate disposal / Package:

Disposal according to applicable legislation. Completely emptied packages can be recycled.

Other disposal recommendations:

Collect in closed and suitable containers for disposal.

13.2 Additional information

Waste for disposal is to be classified and labelled.

SECTION 14: Transport information

Land transport (ADR / RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO- TI / IATA-DGR)
14.1 UN-No.			
3082	3082	3082	3082
14.2 UN proper ship	ping name		
ENVIRONMENTALLY HA- ZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulphate, Zinc sulfate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulphate, Zinc sulfate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulphate, Zinc sulfate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulphate, Zinc sulfate)
14.3 Transport haza	rd class(es)		
9	9	9	9
14.4 Packing group			
III	III	III	III

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Land transport (ADR / RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO- TI / IATA-DGR)				
14.5 Environmental	14.5 Environmental hazards						
***	¥2	¥2	¥2				
·	·	MARINE POLLUTANT	·				
14.6 Special precaut	tions for user						
Special provisions: 274, 335, 375, 601 Limited Quantity (LQ): 5 L	Special provisions: not determined Limited Quantity (LQ): not determined	Special provisions: not determined Limited Quantity (LQ): not determined	Special provisions: not determined Limited Quantity (LQ): not determined				
Hazard identification number (KemlerNo.): 90 Classification code: M6	Classification code: M6 Remark: -	EmS-No.: F-A; S-F Remark: -	Remark: -				
Tunnel restriction code: E							
Remark: -							

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

not relevant

Additional information:

Transport as "Excepted Quantity" according to chapter 3.5 ADR/RID. Transport as "Limited Quantity" according to chapter 3.4 ADR/RID.

SECTION 15: Regulatory information

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

15.1.1 EU legislation

Other EU regulations:

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

15.1.2 National regulations

No data available.

15.2 Chemical Safety Assessment

No data available.

15.3 Additional information

No data available.

SECTION 16: Other information

16.1 Indication of changes

Changes with version 1.1:

Section 8: Skin protection, Hand protection

General revision

16.2 Abbreviations and acronyms

See overview table at www.euphrac.eu

16.3 Key literature references and sources for data

No data available.

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16.4 Classification for mixtures and used evaluation method according to regulation (EC) No. 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard classes and hazard categories		Classification procedure
Hazardous to the aquatic environment (Aquatic Chronic 2)	H411: Toxic to aquatic life with long lasting effects.	Calculation

16.5 Relevant H- and EUH-phrases

Hazard statements	
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

16.6 Training advice

No data available.

16.6 Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.