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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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

Grease

1.3. Details of the supplier of the safety data sheet

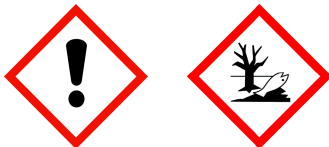
Company name:	Zeller+Gmelin GmbH & Co. KG	
Street:	Schlossstr. 20	
Place:	D-73054 Eislingen	
Telephone:	+49 (0) 7161 / 802-0	Telefax: +49 (0) 7161 / 802-290
E-mail:	info@zeller-gmelin.de	
Contact person:	Thorsten Grönig	Telephone: +49 (0) 7161 / 802-268
E-mail:	produktsicherheit@zeller-gmelin.de	
Internet:	www.zeller-gmelin.de	
Responsible Department:	Produktsicherheit / Product Safety	

1.4. Emergency telephone number:

In England and Wales: NHS Direct: 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**Eye Irrit. 2; H319
Aquatic Acute 1; H400
Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Signal word:** Warning**Pictograms:****Hazard statements**H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.**Precautionary statements**P102 Keep out of reach of children.
P273 Avoid release to the environment.
P280 Wear eye protection/face protection.
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.**2.3. Other hazards**

No further relevant information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Mineral oil-based mixture. Mineral oil with DMSO extract < 3 % as measured by IP 346.

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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
7440-50-8	copper flakes (coated with aliphatic acid)			10 - < 20 %
	231-159-6	029-019-01-X	01-2119480154-42	
	Acute Tox. 3, Acute Tox. 4, Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H302 H319 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7440-50-8	231-159-6	copper flakes (coated with aliphatic acid)	10 - < 20 %
	inhalation: ATE 0,733 mg/l (dusts or mists); oral: ATE 500 mg/kg Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=10		

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

When in doubt or if symptoms are observed, get medical advice. If unconscious but breathing normally, place in recovery position and seek medical advice. Remove contaminated, saturated clothing immediately.

After inhalation

Remove casualty to fresh air and keep warm and at rest.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Let water be drunken in little sips (dilution effect). Call a physician immediately. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

When in doubt or if symptoms are observed, get medical advice.

4.3. Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5: Firefighting measures
5.1. Extinguishing media
Suitable extinguishing media

alcohol resistant foam, Extinguishing powder, Carbon dioxide (CO₂).

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products: Carbon monoxide Carbon dioxide (CO₂). Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Do not allow to enter into soil/subsoil.

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SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
General advice

Protective measures: see section 7 + 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Clean contaminated articles and floor according to the environmental legislation.

6.3. Methods and material for containment and cleaning up
Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Protective measures: see section 7 + 8.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Advice on safe handling

Use personal protection equipment. Do not eat, drink or smoke when using this product. Provide fresh air. Handle and open container with care. Conditions to avoid: generation/formation of aerosols.

Advice on protection against fire and explosion

No special measures are necessary.

Advice on general occupational hygiene

When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels

Protect against: Frost. Keep away from heat. Protect from direct sunlight. Keep container tightly closed in a cool, well-ventilated place.

7.3. Specific end use(s)

Observe technical data sheet.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7440-50-8	Copper, dusts and mists (as Cu)	-	1		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL

Additional advice on limit values

- a no restriction
- b End of exposure or end of shift
- c at long-term exposure:
- d before next shift

Y: A risk of reproductive effects needs not to be feared if the occupational exposure limit value (AGW) and the biological limit value (BGW) is kept

Z: A risk of reproductive effects cannot to be excluded if the occupational exposure limit value (AGW) and the biological limit value (BGW) is kept

- blood (B)
- Urine (U)

8.2. Exposure controls

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Appropriate engineering controls

See section 7. No additional measures necessary.

Individual protection measures, such as personal protective equipment
Eye/face protection

Eye glasses with side protection (EN ISO 16321).

Hand protection

Wear suitable gloves. Recommended glove articles: EN ISO 374. Suitable material: NBR (Nitrile rubber). Breakthrough time: > 480 min (Thickness of the glove material: 0.4 mm). Breakthrough times and swelling properties of the material must be taken into consideration. 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. Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Skin protection

Protective clothing.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required. When splashes or fine mist form, a permitted breathing apparatus suitable for these purposes must be used. Suitable respiratory protection apparatus: Filtering Half-face mask (EN 149), e.g. FFA P / FFP3.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state:	Paste
Colour:	red brown
Odour:	characteristic

	Test method
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	not determined
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Flash point:	> 220 °C EN ISO 2592
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic:	not determined
Water solubility:	insoluble
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	< 0,1 hPa
Density (at 15 °C):	1,15 g/cm ³
Relative vapour density:	not determined
Particle characteristics:	not applicable

9.2. Other information
Other safety characteristics

Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

Further Information

No further relevant information available.

SECTION 10: Stability and reactivity

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10.1. Reactivity

No information available.

10.2. Chemical stability

No information available.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No information available.

SECTION 11: Toxicological information
11.1. Information on hazard classes as defined in GB CLP Regulation
Acute toxicity

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

ATEmix calculated

ATE (oral) 3846 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 5,638 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-50-8	copper flakes (coated with aliphatic acid)				
	oral	ATE 500 mg/kg			
	inhalation dust/mist	ATE 0,733 mg/l			

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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.

11.2. Information on other hazards
Other information

Keeping to the general worker's protection rules and the industrial hygienics, there is no risk in handling this product through the personnel.

SECTION 12: Ecological information
12.1. Toxicity

There are no data available on the mixture itself.

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

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12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

List of Wastes Code - residues/unused products

120112 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; spent waxes and fats; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Consult the appropriate local waste disposal expert about waste disposal.

SECTION 14: Transport information**Land transport (ADR/RID)****14.1. UN number or ID number:**

UN 3077

14.2. UN proper shipping name:ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(COPPER METAL POWDER)**14.3. Transport hazard class(es):**

9

14.4. Packing group:

III

Hazard label:

9



Classification code:

M7

Special Provisions:

274 335 375 601

Limited quantity:

5 kg

Excepted quantity:

E1

Transport category:

3

Hazard No:

90

Tunnel restriction code:

-

Marine transport (IMDG)**14.1. UN number or ID number:**

UN 3077

14.2. UN proper shipping name:ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(COPPER METAL POWDER)**14.3. Transport hazard class(es):**

9

14.4. Packing group:

III

Hazard label:

9



Marine pollutant:

YES

Special Provisions:

274, 335, 966, 967, 969

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Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER METAL POWDER)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9



Special Provisions: A97 A158 A179 A197
Limited quantity Passenger: 30 kg G
Passenger LQ: Y956
Excepted quantity: E1
IATA-packing instructions - Passenger: 956
IATA-max. quantity - Passenger: 400 kg
IATA-packing instructions - Cargo: 956
IATA-max. quantity - Cargo: 400 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: COPPER METAL POWDER

14.6. Special precautions for user

No data available

14.7. Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
Entry 3, Entry 75

Directive 2010/75/EU on industrial emissions: 0 %

Information according to Directive 2012/18/EU (SEVESO III): E1 Hazardous to the Aquatic Environment

National regulatory information

Water hazard class (D): 3 - highly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,8,9,11,12,13,14,16.

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Abbreviations and acronyms

Acute Tox: Acute toxicity
 Eye Irrit: Eye irritation
 Aquatic Acute: Acute aquatic hazard
 Aquatic Chronic: Chronic aquatic hazard
 ADR: Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement concernant le transport international ferroviaire des marchandises dangereuses (Regulations concerning the International Carriage of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 ICAO: International Civil Aviation Organization
 CAS: Chemical Abstracts Service (a division of the American Chemical Society)
 DNEL/DMEL: Derived No-Effect Level / Derived Minimal Effect Level
 PNEC: Predicted No Effect Concentration
 WEL (UK): Workplace Exposure Limits
 TWA (EC): Time-Weighted Average
 STEL (EC): Short Term Exposure Limit
 ATE: Acute Toxicity Estimate
 LD50: Lethal Dose, 50% (median lethal dose)
 LC50: Lethal Concentration, 50% (median lethal concentration)
 EC50: half maximal Effective Concentration
 ErC50: EC50 in terms of reduction of growth rate
 AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Eye Irrit. 2; H319	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.
 H319 Causes serious eye irritation.
 H331 Toxic if inhaled.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.

Further Information

Safety Data Sheet according to COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006

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.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)