

**Safety Data Sheet**

according to UK REACH Regulation

**Copper electrolyte alkaline**

Revision date: 11.11.2022

Product code: 0104

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

Copper electrolyte alkaline

UFI: R119-C9JU-800S-X968

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

Galvanic copper-plating

**Uses advised against**

No further relevant information available.

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

Company name:	MARAWE GmbH & Co. KG	
Street:	Donaustaufer Str. 378 - Gebäude 64	
Place:	D-93055 Regensburg	
Telephone:	+49 941 / 29020439	Telefax: +49 941 / 29020593
e-mail:	info@marawe.de	
Contact person:	Product safety department	
Internet:	www.marawe.de	

**1.4. Emergency telephone number:** +49 941 / 29020439, Mo-Do 9:00 - 16:00 Uhr; Fr 9:00 - 14:00 Uhr

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Eye Dam. 1; H318  
Aquatic Acute 1; H400  
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****GB CLP Regulation****Hazard components for labelling**

tetrasodium ethylene diamine tetraacetate  
copper sulphate pentahydrate

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

H318 Causes serious eye damage.  
H400 Very toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P273 Avoid release to the environment.  
P280 Wear protective gloves and eye/face protection.

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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 to an appropriate recycling or disposal facility according to local/national regulations.

## SECTION 3: Composition/information on ingredients

## 3.2. Mixtures

## Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
Classification (GB CLP Regulation)				
584-08-7	potassium carbonate			5 - < 10 %
	209-529-3		01-2119532646-36	
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335			
64-02-8	tetrasodium ethylene diamine tetraacetate			5 - < 10 %
	200-573-9		01-2119486762-27	
	Acute Tox. 4, Acute Tox. 4, Eye Dam. 1, STOT RE 2; H332 H302 H318 H373			
7758-99-8	copper sulphate pentahydrate			1.9 - < 5 %
	231-847-6		01-2119520566-40	
	Acute Tox. 4, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H318 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			
584-08-7	209-529-3	potassium carbonate	5 - < 10 %
inhalation: LC50 = > 4,96 mg/l (dusts or mists); dermal: LD50 = >2001 mg/kg; oral: LD50 = >2001 mg/kg			
64-02-8	200-573-9	tetrasodium ethylene diamine tetraacetate	5 - < 10 %
inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 1 - 5 mg/l (dusts or mists); oral: LD50 = 1000 - 2000 mg/kg			
7758-99-8	231-847-6	copper sulphate pentahydrate	1.9 - < 5 %
oral: LD50 = 300 mg/kg M acute; H400: M=10			

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

## After inhalation

Provide fresh air. In case of troubles or persistent symptoms, consult a doctor.

## After contact with skin

Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

## 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

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

No information available.

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

In the case of lung irritation: Primary treatment using corticosteroid spray, e.g. Auxiloson spray, Pulmicort-dosage-spray. (Auxiloson and Pulmicort are registered trademarks.)  
Treat symptomatically.

## SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

##### **Unsuitable extinguishing media**

High power water jet.

#### **5.2. Special hazards arising from the substance or mixture**

Ambient fire may liberate hazardous vapours. metal oxide vapours, Sulphur oxides (SxOy), Nitrogen oxides (NOx), Carbon monoxide (CO).

#### **5.3. Advice for firefighters**

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

#### **Additional information**

Suppress gases/vapours/mists with water spray jet. 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**

##### **General advice**

Provide adequate ventilation. Do not inhale vapours and spray mist. Avoid contact with skin, eyes and clothes.  
Use personal protection equipment. Keep unprotected persons away.

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

#### **6.3. Methods and material for containment and cleaning up**

##### **For containment**

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

##### **For cleaning up**

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**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Avoid contact with skin, eyes and clothes.

##### **Advice on protection against fire and explosion**

No special fire protection measures are necessary.

##### **Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

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#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep container tightly closed.

##### Hints on joint storage

The regulations of the Ordinance on Hazardous Substances with its respective technical rules (TRGS 510) have to be respected.

Do not store together with: Acids

#### 7.3. Specific end use(s)

Galvanic copper-plating

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
584-08-7	potassium carbonate			
Worker DNEL, long-term	dermal	local	16 mg/cm <sup>2</sup>	
Consumer DNEL, long-term	dermal	local	8 mg/cm <sup>2</sup>	
Worker DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
64-02-8	tetrasodium ethylene diamine tetraacetate			
Consumer DNEL, long-term	oral	systemic	25 mg/kg bw/day	
Worker DNEL, long-term	inhalation	systemic	2,5 mg/m <sup>3</sup>	
Worker DNEL, long-term	inhalation	local	2,5 mg/m <sup>3</sup>	
Worker DNEL, acute	inhalation	systemic	2,5 mg/m <sup>3</sup>	
Worker DNEL, acute	inhalation	local	2,5 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	systemic	1,5 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	local	1,5 mg/m <sup>3</sup>	
Consumer DNEL, acute	inhalation	systemic	1,5 mg/m <sup>3</sup>	
Consumer DNEL, acute	inhalation	local	1,5 mg/m <sup>3</sup>	

##### PNEC values

CAS No	Substance	Value
	Environmental compartment	
64-02-8	tetrasodium ethylene diamine tetraacetate	
Freshwater		2,2 mg/l
Freshwater (intermittent releases)		1,2 mg/l
Marine water		0,22 mg/l
Marine water (intermittent releases)		1,2 mg/l
Micro-organisms in sewage treatment plants (STP)		43 mg/l
Soil		0,72 mg/kg

##### Additional advice on limit values

To date, no national critical limit values exist.

#### 8.2. Exposure controls

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#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Tight sealing protective goggles (DIN EN 166).

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

##### Skin protection

Wear suitable protective clothing.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	blue
Odour:	characteristic, faint

#### Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	> 100 °C
Flash point:	> 100 °C

#### Flammability

Solid/liquid:	not applicable
Gas:	not applicable

Lower explosion limits:	not determined
Upper explosion limits:	not determined

#### Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:

pH-Value (at 25 °C): 11 - 12

Water solubility: easily soluble

#### Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	not determined
Relative vapour density:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

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Oxidizing properties  
Not oxidising.

#### Other safety characteristics

Solid content: not determined  
Evaporation rate: not determined

#### Further Information

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts strongly with acids

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Develops carbon dioxide when exposed to acids.

### 10.4. Conditions to avoid

none

### 10.5. Incompatible materials

Acids, Oxidising agent, Light metal

### 10.6. Hazardous decomposition products

Carbon dioxide (CO<sub>2</sub>), Sulphur oxides (SxO<sub>y</sub>), metal oxide vapours

## 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.

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
584-08-7	potassium carbonate					
	oral	LD50 mg/kg	>2001	Rat	Manufacturer	
	dermal	LD50 mg/kg	>2001	Rabbit	Manufacturer	
	inhalation (4 h) dust/mist	LC50 mg/l	> 4,96	Rat	Manufacturer	
64-02-8	tetrasodium ethylene diamine tetraacetate					
	oral	LD50 2000 mg/kg	1000 -	Rat	Pre-supplier/manufacturer	
	inhalation vapour	ATE	11 mg/l			
	inhalation dust/mist	LC50	1 - 5 mg/l	Rat	Pre-supplier/manufacturer	OECD 403
7758-99-8	copper sulphate pentahydrate					
	oral	LD50 mg/kg	300	Rat	Manufacturer	

#### Irritation and corrosivity

Causes serious eye damage.

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

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**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.

**Additional information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**SECTION 12: Ecological information**
**12.1. Toxicity**

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
584-08-7	potassium carbonate						
	Acute fish toxicity	LC50	68 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	Manufacturer	FIFRA Guideline 72-1
	Acute crustacea toxicity	EC50	200 mg/l	48 h	Daphnia pulex (water flea)	Manufacturer	FIFRA Guideline 72-1
	Fish toxicity	NOEC	33 mg/l	4 d	Oncorhynchus mykiss (Rainbow trout)	Manufacturer	FIFRA Guideline 72-1
	Crustacea toxicity	NOEC	120 mg/l	2 d	Daphnia pulex (water flea)	Manufacturer	FIFRA Guideline 72-1
64-02-8	tetrasodium ethylene diamine tetraacetate						
	Acute fish toxicity	LC50	> 100 mg/l	96 h	Lepomis macrochirus (Bluegill)	Pre-supplier/manufacturer	
	Acute algae toxicity	ErC50	> 100 mg/l	72 h	Scenedesmus subspicatus	Pre-supplier/manufacturer	
	Acute crustacea toxicity	EC50	> 100 mg/l	48 h	Daphnia magna (Big water flea)	Pre-supplier/manufacturer	
	Fish toxicity	NOEC	> 36,9 mg/l	35 d	Danio rerio (zebrafish)	Pre-supplier/manufacturer	
	Crustacea toxicity	NOEC	25 mg/l	21 d	Daphnia magna (Big water flea)	Pre-supplier/manufacturer	
	Acute bacteria toxicity	(EC50	> 500 mg/l)	0,5 h	Activated sludge	Pre-supplier/manufacturer	
7758-99-8	copper sulphate pentahydrate						
	Acute fish toxicity	LC50	< 1 mg/l	96 h		Manufacturer	

**12.2. Persistence and degradability**

The product has not been tested.

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CAS No	Chemical name	Method	Value	d	Source
	Evaluation				
64-02-8	tetrasodium ethylene diamine tetraacetate	Chemical oxygen demand (COD)	570 mg/g		
		Biochemical Oxygen Demand (BOD)	20 mg/g	5	

**12.3. Bioaccumulative potential**

The product has not been tested.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
64-02-8	tetrasodium ethylene diamine tetraacetate	-13

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

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

The product has not been tested.

**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 information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

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

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

060313 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of salts and their solutions and metallic oxides; solid salts and solutions containing heavy metals; hazardous waste

**List of Wastes Code - used product**

060313 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of salts and their solutions and metallic oxides; solid salts and solutions containing heavy metals; hazardous waste

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

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

UN 1719

**14.2. UN proper shipping name:**

CAUSTIC ALKALI LIQUID, N.O.S.

**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

Hazard label:

8

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C5

274

5 L

E1

3

80

E

## Inland waterways transport (ADN)

**14.1. UN number or ID number:**

UN 1719

**14.2. UN proper shipping name:**

CAUSTIC ALKALI LIQUID, N.O.S.

**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

Hazard label:



C5

274

5 L

E1

Classification code:

Special Provisions:

Limited quantity:

Excepted quantity:

## Marine transport (IMDG)

**14.1. UN number or ID number:**

UN 1719

**14.2. UN proper shipping name:**

CAUSTIC ALKALI LIQUID, N.O.S.

**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

Hazard label:



223, 274

5 L

E1

F-A, S-B

Special Provisions:

Limited quantity:

Excepted quantity:

EmS:

Segregation group:

## Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:**

UN 1719

**14.2. UN proper shipping name:**

CAUSTIC ALKALI LIQUID, N.O.S.

**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

Hazard label:



A3 A803

1 L

Y841

E1

Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Excepted quantity:

IATA-packing instructions - Passenger:

852

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IATA-max. quantity - Passenger: 5 L  
IATA-packing instructions - Cargo: 856  
IATA-max. quantity - Cargo: 60 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



#### 14.6. Special precautions for user

No information available.

#### 14.7. Maritime transport in bulk according to IMO instruments

not applicable

## 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

#### **National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).  
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

#### **Abbreviations and acronyms**

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 Harmonized 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  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%

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

Classification	Classification procedure
Eye Dam. 1; H318	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 2; H411	Calculation method

#### **Relevant H and EUH statements (number and full text)**

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.

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H335	May cause respiratory irritation.
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.
H411	Toxic to aquatic life with long lasting effects.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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