

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 1 of 13

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

Zinc electrolyte

UFI: 8RJF-N90S-U00J-W1N9

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

Galvanization - galvanic zinc-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:	Donaustauer 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	
e-mail:	produktsicherheit@marawe.de	
Internet:	www.marawe.de	

1.4. Emergency telephone number: National Health Service: (UK) 111**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Eye Dam. 1; H318

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

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

Zinc sulfate Heptahydrate

propionic acid

Signal word: Danger**Pictograms:****Hazard statements**

H318

Causes serious eye damage.

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.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 2 of 13

P310 present and easy to do. Continue rinsing.
P391 Immediately call a POISON CENTER/doctor.
P501 Collect spillage.
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)			
7446-20-0	Zinc sulfate Heptahydrate			5 - < 10 %
	231-793-3		01-2119474684-27	
	Acute Tox. 4, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H318 H400 H410			
12125-02-9	ammonium chloride			5 - < 10 %
	235-186-4		01-2119487950-27	
	Acute Tox. 4, Eye Irrit. 2; H302 H319			
79-09-4	propionic acid			1.9 - < 5 %
	201-176-3			
	Flam. Liq. 3, Skin Corr. 1B, Eye Dam. 1, STOT SE 3; H226 H314 H318 H335			
1336-21-6	ammonia			< 1 %
	215-647-6		01-2119488876-14	
	Skin Corr. 1B, Eye Dam. 1, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 2; H314 H318 H335 H400 H411			

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		
7446-20-0	231-793-3	Zinc sulfate Heptahydrate	5 - < 10 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 926 mg/kg		
12125-02-9	235-186-4	ammonium chloride	5 - < 10 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = 1410 mg/kg		
79-09-4	201-176-3	propionic acid	1.9 - < 5 %
	inhalation: LC50 = > 20 mg/l (vapours); dermal: LD50 = 3235 mg/kg; oral: LD50 = 3455,1 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100		
1336-21-6	215-647-6	ammonia	< 1 %
	STOT SE 3; H335: >= 5 - 100		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Be careful with contaminated clothes and shoes of the victim - they could still contain the product.

After inhalation

Provide fresh air. In case of breathing difficulties administer oxygen. Immediately call a doctor.

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 3 of 13

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Seek medical advice immediately.

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

Irritation of the mucous membranes and skin.

Cauterisation of the eyes.

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

Treat symptomatically.

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

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

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. Upon heating and in case of fire, the following may be released:

Oxocarbons (CO, CO₂), zinc oxide, Ammonia (NH₃), sulfur oxides (SO_x), nitrogen oxides (NO_x).

5.3. Advice for firefighters

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

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 breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Wear protective gloves and eye/face protection.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Keep away from drains or surface- and ground water. In case of release of larger quantities, inform the responsible authorities.

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

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 4 of 13

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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

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.

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

Keep container tightly closed.

Hints on joint storage

Store separately from: strong oxidising agents, strong alkalis.
Store away from food.

7.3. Specific end use(s)

Metal surface treatment products

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

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7664-41-7	Ammonia, anhydrous	25	18		TWA (8 h)	WEL
		35	25		STEL (15 min)	WEL
12125-02-9	Ammonium chloride, fume	-	10		TWA (8 h)	WEL
		-	20		STEL (15 min)	WEL
79-09-4	Propionic acid	10	31		TWA (8 h)	WEL
		15	46		STEL (15 min)	WEL

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 5 of 13

DNEL/DMEL values

CAS No	Substance			
DNEL type	Exposure route		Effect	Value
7446-20-0	Zinc sulfate Heptahydrate			
Worker DNEL, long-term	inhalation		systemic	1 mg/m ³
Worker DNEL, long-term	dermal		systemic	8,3 mg/kg bw/day
12125-02-9	ammonium chloride			
Consumer DNEL, long-term	oral		systemic	55,2 mg/kg bw/day
Worker DNEL, long-term	dermal		systemic	128,9 mg/kg bw/day
Consumer DNEL, long-term	dermal		systemic	55,2 mg/kg bw/day
Worker DNEL, long-term	inhalation		systemic	43,97 mg/m ³
Consumer DNEL, long-term	inhalation		systemic	9,4 mg/m ³
79-09-4	propionic acid			
Consumer DNEL, long-term	dermal		systemic	10,5 mg/kg bw/day
Worker DNEL, long-term	dermal		systemic	20,9 mg/kg bw/day
Consumer DNEL, acute	inhalation		local	30,8 mg/m ³
Worker DNEL, acute	inhalation		local	62 mg/m ³
Consumer DNEL, long-term	inhalation		local	3,7 mg/m ³
Worker DNEL, long-term	inhalation		local	31 mg/m ³
Consumer DNEL, long-term	inhalation		systemic	18,3 mg/m ³
Worker DNEL, long-term	inhalation		systemic	73 mg/m ³
Consumer DNEL, long-term	oral		systemic	10,5 mg/kg bw/day
1336-21-6	ammonia			
Worker DNEL, acute	dermal		systemic	6,8 mg/kg bw/day
Worker DNEL, long-term	dermal		systemic	6,8 mg/kg bw/day
Worker DNEL, acute	inhalation		systemic	47,6 mg/m ³
Worker DNEL, acute	inhalation		local	36 mg/m ³
Worker DNEL, long-term	inhalation		systemic	47,6 mg/m ³
Worker DNEL, long-term	inhalation		local	14 mg/m ³
Consumer DNEL, acute	dermal		systemic	68 mg/kg bw/day
Consumer DNEL, long-term	dermal		systemic	68 mg/kg bw/day
Consumer DNEL, acute	inhalation		systemic	23,8 mg/m ³
Consumer DNEL, acute	inhalation		local	7,2 mg/m ³
Consumer DNEL, long-term	inhalation		systemic	23,8 mg/m ³
Consumer DNEL, long-term	inhalation		local	2,8 mg/m ³
Consumer DNEL, acute	oral		systemic	6,8 mg/kg bw/day
Consumer DNEL, long-term	oral		systemic	6,8 mg/kg bw/day

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 6 of 13

PNEC values

CAS No	Substance	
Environmental compartment		Value
7446-20-0	Zincsulfate Heptahydrate	
Freshwater		0,0206 mg/l
Marine water		0,0061 mg/l
Freshwater sediment		117,8 mg/kg
Marine sediment		56,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,1 mg/l
Soil		35,6 mg/kg
12125-02-9	ammonium chloride	
Freshwater		0,25 mg/l
Marine water		0,025 mg/l
Freshwater sediment		0,9 mg/kg
Marine sediment		0,09 mg/kg
Micro-organisms in sewage treatment plants (STP)		13,1 mg/l
Soil		50,7 mg/kg
79-09-4	propionic acid	
Freshwater		0,5 mg/l
Freshwater (intermittent releases)		5 mg/l
Marine water		0,05 mg/l
Freshwater sediment		1,86 mg/kg
Marine sediment		0,186 mg/kg
Micro-organisms in sewage treatment plants (STP)		5 mg/l
Soil		0,1258 mg/kg
1336-21-6	ammonia	
Freshwater		0,0011 mg/l
Freshwater (intermittent releases)		0,0068 mg/l
Marine water		0,0011 mg/l
Marine water (intermittent releases)		0,0068 mg/l

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

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

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 7 of 13

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

If there can be contact with skin, wear protective clothes impermeable by this solution.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

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

Physical state:	Liquid
Colour:	colourless
Odour:	neutral

Changes in the physical state

Melting point/freezing point:	not determined
-------------------------------	----------------

Boiling point or initial boiling point and boiling range:	>100 °C
---	---------

Flash point:	not determined
--------------	----------------

Flammability

Solid/liquid:	not applicable
---------------	----------------

Gas:	not applicable
------	----------------

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
-------------------------	----------------

Upper explosion limits:	not determined
-------------------------	----------------

Auto-ignition temperature:	not determined
----------------------------	----------------

Decomposition temperature:	not determined
----------------------------	----------------

pH-Value (at 20 °C):	5,0
----------------------	-----

Water solubility:	completely miscible
-------------------	---------------------

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
--	----------------

Vapour pressure:	not determined
------------------	----------------

Density (at 20 °C):	1,0 - 1,1 g/cm ³
---------------------	-----------------------------

Relative vapour density:	not determined
--------------------------	----------------

9.2. Other information**Information with regard to physical hazard classes**

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Solid content:	not determined
----------------	----------------

Evaporation rate:	not determined
-------------------	----------------

Further Information**SECTION 10: Stability and reactivity**

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 8 of 13

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Avoid high temperatures or direct sunlight.

10.5. Incompatible materials

Materials to avoid:
strong base
Oxidising agent, strong

10.6. Hazardous decomposition products

No further relevant 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.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7446-20-0	Zinc sulfate Heptahydrate				
	oral	LD50 mg/kg 926	Mouse (male)	ECHA	OECD 401
	dermal	LD50 mg/kg > 2000	Rat	ECHA	OECD 402
12125-02-9	ammonium chloride				
	oral	LD50 mg/kg 1410	Rat	Manufacturer	
	dermal	LD50 mg/kg >2000	Rabbit	Manufacturer	
79-09-4	propionic acid				
	oral	LD50 mg/kg 3455,1	Rat (male & female)	Manufacturer	OECD 401
	dermal	LD50 mg/kg 3235	rat, female	Manufacturer	OECD 402
	inhalation (4 h) vapour	LC50 > 20 mg/l	Rat (male & female)	Manufacturer	OECD 403

Irritation and corrosivity

Causes serious eye damage.

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.

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 9 of 13

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.

Further information

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

SECTION 12: Ecological information
12.1. Toxicity

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7446-20-0	Zinc sulfate Heptahydrate					
	Acute fish toxicity	LC50 0,33 mg/l	96 h	Pimephales promelas (fathead minnow)	ECHA	
	Acute crustacea toxicity	EC50 0,095 mg/l	48 h	Ceriodaphnia dubia	ECHA	
	Fish toxicity	NOEC 0,025 mg/l	25 d	Oncorhynchus mykiss (Rainbow trout)	ECHA	
	Algae toxicity	NOEC 0,02 mg/l	3 d	algae	ECHA	
	Crustacea toxicity	NOEC 0,01 mg/l	10 d	aquatic invertebrates	ECHA	
12125-02-9	ammonium chloride					
	Acute fish toxicity	LC50 42,91 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	Manufacturer	
	Acute crustacea toxicity	EC50 136,6 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer	
1336-21-6	ammonia					
	Acute fish toxicity	LC50 0,89 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	Manufacturer	
	Acute crustacea toxicity	EC50 101 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer	ASTM E 729-80
	Fish toxicity	NOEC 0,06 mg/l	27 d	Ictalurus punctatus (Channel Catfish)	Manufacturer	
	Crustacea toxicity	NOEC 0,79 mg/l	4 d	Daphnia magna (Big water flea)	Manufacturer	OPPTS 850.1300

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
79-09-4	propionic acid	0,25
1336-21-6	ammonia	-1,38

BCF

CAS No	Chemical name	BCF	Species	Source
7446-20-0	Zinc sulfate Heptahydrate	69,48		ECHA

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 10 of 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

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; 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 3264

14.2. UN proper shipping name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

14.3. Transport hazard class(es):

8

14.4. Packing group:

III

Hazard label:

8



Classification code:

C1

Special Provisions:

274

Limited quantity:

5 L

Excepted quantity:

E1

Transport category:

3

Hazard No:

80

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 11 of 13

Tunnel restriction code:

E

Inland waterways transport (ADN)

14.1. UN number or ID number:

UN 3264

14.2. UN proper shipping name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

14.3. Transport hazard class(es):

8

14.4. Packing group:

III

Hazard label:

8



Classification code:

C1

Special Provisions:

274

Limited quantity:

5 L

Excepted quantity:

E1

Marine transport (IMDG)

14.1. UN number or ID number:

UN 3264

14.2. UN proper shipping name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

14.3. Transport hazard class(es):

8

14.4. Packing group:

III

Hazard label:

8



Special Provisions:

223, 274

Limited quantity:

5 L

Excepted quantity:

E1

EmS:

F-A, S-B

Segregation group:

18 - alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:

UN 3264

14.2. UN proper shipping name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

14.3. Transport hazard class(es):

8

14.4. Packing group:

III

Hazard label:

8



Special Provisions:

A3 A803

Limited quantity Passenger:

1 L

Passenger LQ:

Y841

Excepted quantity:

E1

IATA-packing instructions - Passenger:

852

IATA-max. quantity - Passenger:

5 L

IATA-packing instructions - Cargo:

856

IATA-max. quantity - Cargo:

60 L

14.6. Special precautions for user

Warning: strongly corrosive.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 12 of 13

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 40

Information according to 2012/18/EU
(SEVESO III):

E2 Hazardous to the Aquatic Environment

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%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
intérieures)

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety

Safety Data Sheet

according to UK REACH Regulation

Zinc electrolyte

Revision date: 22.03.2024

Product code: 0106

Page 13 of 13

assessment, chapter R.20 (Table of terms and abbreviations).

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

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

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
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.)