

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 1 of 12

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

Bright copper electrolyte

UFI: 95NT-59WQ-0002-VJJC

**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: 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  
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**

Met. Corr. 1; H290  
Skin Irrit. 2; H315  
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**

copper sulphate pentahydrate  
sulphuric acid

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

H290      May be corrosive to metals.  
H315      Causes skin irritation.  
H318      Causes serious eye damage.  
H400      Very toxic to aquatic life.  
H411      Toxic to aquatic life with long lasting effects.

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 2 of 12

**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/protective clothing/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.
P310	Immediately call a POISON CENTER/doctor.
P391	Collect spillage.
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)			
7758-99-8	copper sulphate pentahydrate			15 - < 20 %
	231-847-6		01-2119520566-40	
	Acute Tox. 4, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H318 H400 H410			
7664-93-9	sulphuric acid			5 - < 10 %
	231-639-5	016-020-00-8	01-2119458838-20	
	Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318			
7647-01-0	hydrochloric acid			< 1 %
	231-595-7		01-2119484862-27	
	Met. Corr. 1, Skin Corr. 1A, STOT SE 3; H290 H314 H335			
141-43-5	2-aminoethanol			< 1 %
	205-483-3			
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, STOT SE 3; H332 H312 H302 H314 H318 H317 H335			

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	
7758-99-8	231-847-6	copper sulphate pentahydrate	15 - < 20 %
		oral: LD50 = 300 mg/kg M acute; H400: M=10	
7664-93-9	231-639-5	sulphuric acid	5 - < 10 %
		oral: LD50 = 2140 mg/kg Skin Corr. 1A; H314: >= 15 - 100 Skin Irrit. 2; H315: >= 5 - < 15 Eye Irrit. 2; H319: >= 5 - < 15	
7647-01-0	231-595-7	hydrochloric acid	< 1 %
		dermal: LD50 = > 5010 mg/kg Skin Corr. 1A; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100	
141-43-5	205-483-3	2-aminoethanol	< 1 %
		inhalation: LC50 = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 1000 mg/kg; oral: LD50 = 2050 mg/kg STOT SE 3; H335: >= 5 - 100	

**SECTION 4: First aid measures**

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 3 of 12

**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. Remove/Take off immediately all contaminated clothing. Remove affected person from the danger area and lay down.

**After inhalation**

Provide fresh air. Medical treatment necessary.

**After contact with skin**

Wash with plenty of water/soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation 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. Protect uninjured eye.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

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

Burning and aching eyes, skin and mucous membranes. In case of ingestion, strong irritation of oral cavities and throat as well as danger of perforation of the gullet.

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

In case of oral uptake: do not use sodium hydrogen carbonate  $\text{NaHCO}_3$  or calcium carbonate  $\text{CaCO}_3$  for neutralisation, because the created carbon dioxide  $\text{CO}_2$  can lead to perforation of the stomach. Make slowly drink magnesium oxide  $\text{MgO}$  suspended in water.

After inhalations of vapours, inhale dexamethasone spray (Auxilison).

In case of an assured diagnosis of acute copper intoxication, administer DMPS intravenously and/or penicillamin orally.

**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. Upon heating and in case of fire, the following may be released: Sulphur oxides ( $\text{SO}_x$ ), Hydrogen chloride ( $\text{HCl}$ ).

**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 breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

## Safety Data Sheet

according to UK REACH Regulation

### Bright copper electrolyte

Revision date: 31.01.2023

Product code: 0110

Page 4 of 12

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. 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

## 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.

##### 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 or drink.

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

##### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

##### Hints on joint storage

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

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

Galvanic copper-plating

## SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
111-40-0	2,2'-Iminodi(ethylamine)	1	4.3		TWA (8 h)	WEL
141-43-5	2-Aminoethanol	1	2.5		TWA (8 h)	WEL
		3	7.6		STEL (15 min)	WEL
7647-01-0	Hydrogen chloride (gas and aerosol mists)	1	2		TWA (8 h)	WEL
		5	8		STEL (15 min)	WEL
57-55-6	Propane-1,2-diol, particulates	-	10		TWA (8 h)	WEL
7664-93-9	Sulphuric acid (mist)	-	0.05		TWA (8 h)	WEL

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 5 of 12

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
7664-93-9	sulphuric acid			
Worker DNEL, acute		inhalation	local	0,1 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	0,05 mg/m <sup>3</sup>
57-55-6	propylene glycol; propane-1,2-diol			
Worker DNEL, long-term		inhalation	systemic	168 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	10 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	213 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	50 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	85 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	10 mg/m <sup>3</sup>
7647-01-0	hydrochloric acid			
Worker DNEL, acute		inhalation	local	15 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	8 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	15 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	8 mg/m <sup>3</sup>

**PNEC values**

CAS No	Substance	Value
7664-93-9	sulphuric acid	
Freshwater		0,0025 mg/l
Marine water		0,25 mg/l
Freshwater sediment		0,002 mg/kg
Marine sediment		0,25 mg/l
Micro-organisms in sewage treatment plants (STP)		8,8 mg/l
57-55-6	propylene glycol; propane-1,2-diol	
Freshwater		260 mg/l
Freshwater (intermittent releases)		183 mg/l
Marine water		26 mg/l
Marine water (intermittent releases)		183 mg/l
Freshwater sediment		572 mg/kg
Marine sediment		57,2 mg/kg
Micro-organisms in sewage treatment plants (STP)		20000 mg/l
Soil		50 mg/kg
7647-01-0	hydrochloric acid	
Freshwater		0,036 mg/l
Marine water		0,036 mg/l
Micro-organisms in sewage treatment plants (STP)		0,036 mg/l

**8.2. Exposure controls**

## Safety Data Sheet

according to UK REACH Regulation

### Bright copper electrolyte

Revision date: 31.01.2023

Product code: 0110

Page 6 of 12



#### 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 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.

##### 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:	blue
Odour:	odourless

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

#### Self-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
pH-Value (at 25 °C):	0 - 1
Water solubility:	easily soluble

#### Solubility in other solvents

not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	1,1 - 1,2 g/cm <sup>3</sup>

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 7 of 12

Relative vapour density: not determined

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

See subsection 10.3

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**Exothermic reaction with: Base, Peroxides, Oxidizing agent. Corrosive to metals.  
May cause strong formation of hydrogen by contact with amphoteric metals (e.g. alumina, lead, zinc) - danger of explosion.**10.4. Conditions to avoid**

No further relevant information available.

**10.5. Incompatible materials**

Keep away from: Base, Oxidizing agent, Peroxides, base metals.

**10.6. Hazardous decomposition products**

See subsection 5.2

**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.

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 8 of 12

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7758-99-8	copper sulphate pentahydrate				
	oral	LD50 mg/kg 300	Rat	Manufacturer	
7664-93-9	sulphuric acid				
	oral	LD50 mg/kg 2140	Rat	GESTIS	OECD 401
7647-01-0	hydrochloric acid				
	dermal	LD50 mg/kg > 5010	Rabbit	Manufacturer	
141-43-5	2-aminoethanol				
	oral	LD50 mg/kg 2050	Rat	Pre-supplier/manufact urer	
	dermal	LD50 mg/kg 1000	Rabbit	Pre-supplier/manufact urer	
	inhalation (4 h) vapour	LC50 11 mg/l		Pre-supplier/manufact urer	Acute toxicity estimate (ATE)
	inhalation dust/mist	ATE 1,5 mg/l			

**Irritation and corrosivity**

Causes skin irritation.

Causes serious eye damage.

**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.



## Safety Data Sheet

according to UK REACH Regulation

### Bright copper electrolyte

Revision date: 31.01.2023

Product code: 0110

Page 9 of 12

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7758-99-8	copper sulphate pentahydrate					
	Acute fish toxicity	LC50	< 1 mg/l	96 h	Manufacturer	
7664-93-9	sulphuric acid					
	Acute fish toxicity	LC50 mg/l	16 - 28	96 h	Lepomis macrochirus (Bluegill)	
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	OECD 201
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna (Big water flea)	OECD 202
7647-01-0	hydrochloric acid					
	Acute fish toxicity	LC50 mg/l	3,25	96 h	Lepomis macrochirus (Bluegill)	Manufacturer
	Acute crustacea toxicity	EC50 mg/l	4,92	48 h	Daphnia magna (Big water flea)	Manufacturer
	Acute bacteria toxicity	(EC50 mg/l)	0,23		Activated sludge	Manufacturer OECD 209

#### 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
7647-01-0	hydrochloric acid	< 1

#### 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

## Safety Data Sheet

according to UK REACH Regulation

### Bright copper electrolyte

Revision date: 31.01.2023

Product code: 0110

Page 10 of 12

110106 WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY; wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising); acids not otherwise specified; hazardous waste

#### List of Wastes Code - used product

110106 WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY; wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising); acids not otherwise specified; 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. (CONTAINS SULFURIC ACID)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8



Classification code: C1  
 Special Provisions: 274  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 80  
 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. (CONTAINS SULFURIC ACID)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8



Classification code: C1  
 Special Provisions: 274  
 Limited quantity: 1 L  
 Excepted quantity: E2

#### 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. (CONTAINS SULFURIC ACID)

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 11 of 12

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

8

**14.4. Packing group:**

II

Hazard label:

8



Special Provisions:

274

Limited quantity:

1 L

Excepted quantity:

E2

EmS:

F-A, S-B

Segregation group:

1 - acids

**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. (CONTAINS SULFURIC ACID)

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

8

**14.4. Packing group:**

II

Hazard label:

8



Special Provisions:

A3 A803

Limited quantity Passenger:

0.5 L

Passenger LQ:

Y840

Excepted quantity:

E2

IATA-packing instructions - Passenger:

851

IATA-max. quantity - Passenger:

1 L

IATA-packing instructions - Cargo:

855

IATA-max. quantity - Cargo:

30 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS:

No

**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, Entry 75

**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**

**Safety Data Sheet**

according to UK REACH Regulation

**Bright copper electrolyte**

Revision date: 31.01.2023

Product code: 0110

Page 12 of 12

**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
Met. Corr. 1; H290	On basis of test data
Skin Irrit. 2; H315	Calculation method
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)**

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.  
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.)*