

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 1 of 11

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

### 1.1. Product identifier

Zinc plating solution

UFI: CP20-V05R-2001-ADW3

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### Use of the substance/mixture

Zinc plating of metals

#### Uses advised against

Other uses than those specified in section 1.2 of this safety data sheet are not recommended.

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

Company name: Thomas Henning e.K.  
Street: Buschurweg 4  
Place: D-76870 Kandel  
Telephone: +49 7275 94 78 199  
E-mail: info@drgalva.com  
Internet: drgalva.net

### 1.4. Emergency telephone number:

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

Eye Dam. 1; H318  
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### Regulation (EC) No 1272/2008

#### Hazard components for labelling

zinc sulphate  
Succinic 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.  
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 present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER/doctor.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 2 of 11

P501

Do not discard content with household waste and forward for disposal according to regional/national guidelines.

#### 2.3. Other hazards

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

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

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

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7446-19-7	zinc sulphate			10 - < 15 %
	231-793-3	030-006-00-9	01-2119474684-27	
	Acute Tox. 4, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H318 H400 H410			
110-15-6	Succinic acid			<3 %
	203-740-4			
	Eye Dam. 1; H318			
497-19-8	sodium carbonate			1 - < 2.5 %
	207-838-8	011-005-00-2	01-2119485498-19	
	Eye Irrit. 2; H319			

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	
7446-19-7	231-793-3	zinc sulphate	10 - < 15 %
		oral: ATE = 500 mg/kg	
497-19-8	207-838-8	sodium carbonate	1 - < 2.5 %
		oral: LD50 = 2800 mg/kg	

##### Further Information

The percentages of the ingredients not listed here are all below the level of consideration.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

In case of troubles or persistent symptoms, consult an doctor/physician.

##### After inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

In case of irregular breathing or respiratory arrest, perform artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

##### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Wash contaminated clothing before reuse. Seek medical attention if problems persist.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 3 of 11

#### After contact with eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. Protect uninjured eye.

#### After ingestion

Rinse mouth, spit liquid again. Drink water for reasons of precaution. Do NOT induce vomiting. Call a physician immediately.

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

Following eye contact: irritation, burns  
Causes serious eye damage.

#### 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.  
Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. Atomized water. Foam.

##### Unsuitable extinguishing media

High power water jet.

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

Upon exposure to fire, harmful gases may be emitted.

#### 5.3. Advice for firefighters

Co-ordinate fire-fighting measures to the fire surroundings. Wear a self-contained breathing apparatus and chemical protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### General advice

Wear suitable protective clothing.  
Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

#### 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 (sand, diatomaceous earth, acid- or universal binding agents). Wear personal protection equipment. Treat the recovered material as prescribed in the section on waste disposal.

##### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

#### 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

Personal precautions: refer to section 8  
Provide adequate ventilation, especially in confined areas.  
Do not empty into drains; dispose of this material and its container in a safe way.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 4 of 11

#### Advice on general occupational hygiene

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

#### Further information on handling

Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

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

##### Requirements for storage rooms and vessels

Store only in original container. Keep container tightly closed in a cool, well-ventilated place.  
Protect from heat/overheating.  
Store separately from oxidizing agents.

##### Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

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

Zinc plating of metals

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
497-19-8	sodium carbonate			
Worker DNEL, long-term		inhalation	local	10 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	10 mg/m <sup>3</sup>

##### Additional advice on limit values

According to the currently valid lists, there are not further binding work place safety values.

#### 8.2. Exposure controls

##### Appropriate engineering controls

Do not breathe gas/fumes/vapour/spray. Provide protection equipment (eye wash bottles, etc.).

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

##### Eye/face protection

Tightly sealed safety glasses.

##### 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.

Suitable material:: NBR (Nitrile rubber).

Thickness of glove material: >0,11 mm

penetration time (maximum wearing period): >480 min.

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

Protective clothing: Chemical resistant safety shoes

The design of personal protective equipment must be selected specifically for the job, depending on the concentration and quantity of hazardous substances. The chemical resistance of the protective agents should be clarified with their suppliers.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 5 of 11

#### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Protective respiration apparatus not using surrounding air (breathing apparatus) (DIN EN 133).

### SECTION 9: Physical and chemical properties

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

Physical state:	liquid	
Colour:	transparent	
Odour:	characteristic	
Odour threshold:	no data available	
Melting point/freezing point:		no data available
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		no data available
Lower explosion limits:		no data available
Upper explosion limits:		no data available
Flash point:		not applicable
Auto-ignition temperature:		no data available
Decomposition temperature:		no data available
pH-Value (at 20 °C):		4,5
Viscosity / kinematic:		no data available
Water solubility:		no data available
Solubility in other solvents		no data available
Dissolution rate:		no data available
Partition coefficient n-octanol/water:		no data available
Dispersion stability:		no data available
Vapour pressure:		no data available
Density:		1,1-1,2 g/cm <sup>3</sup>
Relative density:		no data available
Bulk density:		no data available
Relative vapour density:		no data available
Particle characteristics:		no data available

#### 9.2. Other information

##### Information with regard to physical hazard classes

Explosive properties

not Explosive.

Self-ignition temperature

Solid:

no data available

Oxidizing properties

no data available

##### Other safety characteristics

Viscosity / dynamic:

no data available

##### Further Information

no data available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

none known

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 6 of 11

#### 10.2. Chemical stability

The product is stable under normal environmental conditions (room temperature).

#### 10.3. Possibility of hazardous reactions

No dangerous reactivity under regular conditions.

#### 10.4. Conditions to avoid

Protect against contaminations.

#### 10.5. Incompatible materials

Oxidising substances

Base

#### 10.6. Hazardous decomposition products

Upon exposure to fire, harmful gases may be emitted. Metal oxides.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Acute toxicity

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

##### ATEmix calculated

ATE (oral) 3788 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7446-19-7	zinc sulphate				
	oral	ATE mg/kg 500			
497-19-8	sodium carbonate				
	oral	LD50 mg/kg 2800	Rat	IUCLID	

##### 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.

##### 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

##### Endocrine disrupting properties

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

### SECTION 12: Ecological information

#### 12.1. Toxicity

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 7 of 11

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
497-19-8	sodium carbonate					
	Acute fish toxicity	LC50	740 mg/l	96 h	Gambusia affinis	
	Acute crustacea toxicity	EC50	265 mg/l	48 h	Daphnia magna	IUCLID

**12.2. Persistence and degradability**

No data available.

**12.3. Bioaccumulative potential**

No data available.

**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 REACH, annex XIII.

**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**

Disposal according to official regulations.

Consult the local waste disposal expert about waste disposal. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

**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 3082

**14.2. UN proper shipping name:**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc sulphate (hydrous) (hepta hydrate))

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

9

**14.4. Packing group:**

III

Hazard label:

9



Classification code:

M6

Special Provisions:

274 335 375 601

Limited quantity:

5 L

Excepted quantity:

E1

Transport category:

3

Hazard No:

90

Tunnel restriction code:

-

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 8 of 11

#### Inland waterways transport (ADN)

**14.1. UN number or ID number:**
**14.2. UN proper shipping name:**
**14.3. Transport hazard class(es):**
**14.4. Packing group:**

Hazard label:

UN 3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc sulphate (hydrous) (hepta hydrate))

9

III

9



Classification code:

Special Provisions:

Limited quantity:

Excepted quantity:

M6

274 335 375 601

5 L

E1

#### Marine transport (IMDG)

**14.1. UN number or ID number:**
**14.2. UN proper shipping name:**
**14.3. Transport hazard class(es):**
**14.4. Packing group:**

Hazard label:

UN 3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc sulphate (hydrous) (hepta hydrate))

9

III

9



Special Provisions:

Limited quantity:

Excepted quantity:

EmS:

Segregation group:

274, 335, 969

5 L

E1

F-A, S-F

alkalis

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

**14.1. UN number or ID number:**
**14.2. UN proper shipping name:**
**14.3. Transport hazard class(es):**
**14.4. Packing group:**

Hazard label:

UN 3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc sulphate (hydrous) (hepta hydrate))

9

III

9



Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Excepted quantity:

IATA-packing instructions - Passenger:

IATA-max. quantity - Passenger:

IATA-packing instructions - Cargo:

IATA-max. quantity - Cargo:

A97 A158 A197

30 kg G

Y964

E1

964

450 L

964

450 L

#### 14.5. Environmental hazards



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 9 of 11

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: zinc sulphate (hydrous) (hepta hydrate)

#### **14.6. Special precautions for user**

No special precautions known.

#### **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

Information according to 2012/18/EU E2 Hazardous to the Aquatic Environment  
(SEVESO III):

##### **Additional information**

Regulation (EC) No. 1907/2006 (REACH)

Regulation (EC) No. 648/2004 [Detergents regulation]: not applicable

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants: not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council concerning the export and import of dangerous chemicals: This mix contains no chemicals that are subject to the export notification procedures (annex 1).

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: none

##### **National regulatory information**

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

##### **Additional information**

Observe in addition any national regulations!

#### **15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:

zinc sulphate

sodium carbonate

### SECTION 16: Other information

#### **Changes**

This data sheet contains changes from the previous version in section(s): 2,3,4,6,7,8,9,10,11,12,15,16.

Version 1,00 - 18.03.2021 - first creation

Version 1,01 - 21.09.2023 - Change and revision of the SDS because of new information / recipe

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Zinc plating solution

Revision date: 21.09.2023

Product code: DG-005

Page 10 of 11

#### 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)  
 BImSchV (Fed.Imm.Prot.Act): Directive on the Implementation of the Federal Immission Protection Act  
 CAS: Chemical Abstracts Service  
 DIN: Norm of the Deutsche Institut für Normung (German Institute for Standardization)  
 EC: Effective Concentration  
 EG: European Community (Europäische Gemeinschaft)  
 EN: European Norm  
 IATA: International Air Transport Association  
 IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in Bulk  
 ICAO: International Civil Aviation Organization  
 IMDG: International Maritime Code for Dangerous Goods  
 ISO: Norm of the International Standards Organization  
 CLP: Classification, Labeling, Packaging  
 IUCLID: International Uniform Chemical Information Database  
 LC: Lethal concentration  
 LD: Lethal dose  
 log Kow: Octanol/water partition coefficient  
 MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships  
 OECD: Organisation for Economic Co-operation and Development  
 PBT: Persistent, bio-cumulative, toxic  
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail  
 TRGS: Technische Regeln für Gefahrstoffe  
 UN: United Nations  
 VOC: Volatile Organic Compounds  
 vPvB: very persistent and very bio-cumulative  
 VwVwS: Administrative Regulation for Water Pollutants  
 WGK: German Water Hazard Class  
 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  
 DNEL: Derived No Effect Level  
 PNEC: Predicted No Effect Concentration  
 TLV: Threshold Limiting Value  
 STOT: Specific Target Organ Toxicity  
 Acute Tox: Acute toxicity  
 Eye Dam: Eye damage  
 Eye Irrit: Eye irritation  
 Aquatic Acute: Acute aquatic hazard  
 Aquatic Chronic: Chronic aquatic hazard

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

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

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

H302 Harmful if swallowed.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye 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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Zinc plating solution**

Revision date: 21.09.2023

Product code: DG-005

Page 11 of 11

**Further Information**

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

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Phone: +49 (0)6021 - 1 50 86-0, Fax: +49 (0)6021 - 1 50 86-77, E-Mail: [eu-sds@asseso.eu](mailto:eu-sds@asseso.eu), [www.asseso.eu](http://www.asseso.eu)

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