

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 1 of 10

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

1.1. Product identifier

Zinc plating solution

UFI: CQ00-709M-000N-4JGM

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:	Dr. Galva Thomas Henning
Street:	Jungholzstraße 7A
Place:	D-76726 Germersheim
Telephone:	+49 7274 – 907 91 27
e-mail:	info@drgalva.com
Internet:	www.drgalva.com

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

Hazard categories:

Serious eye damage/eye irritation: Eye Dam. 1

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Causes serious eye damage.

Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

zinc sulphate (hydrous) (hepta hydrate)

Signal word: Danger

Pictograms:



Hazard statements

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

Precautionary statements

P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
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 Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 2 of 10

P310 present and easy to do. Continue rinsing.
 P501 Immediately call a POISON CENTER/doctor.
 P501 Dispose of contents/container according to regional/national regulations. Do not discard with household waste.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients
3.2. Mixtures
Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7446-19-7	zinc sulphate (hydrous) (hepta hydrate)			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			
10043-35-3	boric acid			1 - < 5 %
	233-139-2	005-007-00-2	01-2119486683-25	
	Repr. 1B; H360FD			

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

Specific concentration limits and M-factors

CAS No	EC No	Chemical name	Quantity
	Specific concentration limits and M-factors		
10043-35-3	233-139-2	boric acid	1 - < 5 %
	Repr. 1B; H360FD: >= 5,5 - 100		

Further Information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: boric acid
 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.
 Remove persons from danger area and lie them down. Never orally infuse something to an unconscious person.
 No special first aid measures necessary. A vomiting, supine person must be brought into recovery position.

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. Call a doctor. Change contaminated clothing. Wash contaminated clothing before reuse.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 3 of 10

After ingestion

Rinse mouth, spit liquid again. Do NOT induce vomiting. Call a physician immediately.

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

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 (CO₂). 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**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 upRemove material mechanically. Treat the recovered material as prescribed in the section on waste disposal.
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.**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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 4 of 10

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

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Protective and hygiene measures

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.

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.

Skin protection

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.

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
pH-Value (at 20 °C):	4,5

Changes in the physical state

Melting point:	no data available
Initial boiling point and boiling range:	100 °C
Flash point:	not applicable

Flammability

Solid:	no data available
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Explosive properties

not Explosive.

Lower explosion limits:	no data available
Upper explosion limits:	no data available
Ignition temperature:	no data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 5 of 10

Auto-ignition temperature

Solid: no data available

Decomposition temperature: no data available

Oxidizing properties

no data available

 Density: 1,1-1,2 g/cm³

Bulk density: no data available

Water solubility: no data available

Solubility in other solvents

no data available

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: no data available

9.2. Other information

no data available

SECTION 10: Stability and reactivity
10.1. Reactivity

none known

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Protect against heat and direct solar irradiation. Protect against contaminations.

10.4. Conditions to avoid

Keep away from heat.

10.5. Incompatible materials

Oxidising substances

10.6. Hazardous decomposition products

Upon exposure to fire, harmful gases may be emitted.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7446-19-7	zinc sulphate (hydrous) (hepta hydrate)				
	oral	ATE 500 mg/kg			

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 6 of 10

Carcinogenic/mutagenic/toxic effects for reproduction

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

The product contains boric acid. Boric acid may damage fertility. May damage the unborn child.

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.

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
10043-35-3	boric acid	-1,09

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

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

12.6. 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:

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

Safety Data Sheet

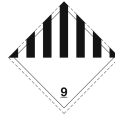
according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 7 of 10



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:	-

Inland waterways transport (ADN)

14.1. UN 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

Marine transport (IMDG)

14.1. UN 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



Special Provisions:	274, 335, 969
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 8 of 10



Special Provisions:	A97 A158 A197
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y964
Excepted quantity:	E1
IATA-packing instructions - Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



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

14.6. Special precautions for user

No special precautions known.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information

Authorisations (REACH, annex XIV):

 Substances of very high concern, SVHC (REACH, article 59):
boric acid

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30

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

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

Employment restrictions: Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 9 of 10

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

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
 zinc sulphate (hydrous) (hepta hydrate)
 boric acid

SECTION 16: Other information

Changes

Version 1,00 - 18.03.2021 - first creation

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

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc plating solution

Revision date: 18.03.2021

Product code: DG-005

Page 10 of 10

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H360FD	May damage fertility. May damage the unborn child.
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 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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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)