

according to Regulation (EC) No 1907/2006

Patination Gel Nero

Revision: 02.07.2025 Product code: DG-015 Page 1 of 12

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

1.1. Product identifier

Patination Gel Nero

UFI: P520-U01C-7002-CCDQ

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

Use of the substance/mixture

Patination Fluid - Copper & Brass Ager

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 D-76870 Kandel Place: Telephone: +49 7275 94 78 199 E-mail: info@drgalva.com Contact person: Thomas Henning E-mail: info@drgalva.com Internet: draalva.net

1.4. Emergency telephone Emergency Action: In the event of a medical enquiry involving this product,

<u>number:</u> 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

Met. Corr. 1; H290 Acute Tox. 4; H332 Skin Corr. 1; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 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

copper sulphate pentahydrate

phosphoric acid Selenium dioxide

Signal word: Danger

Pictograms:







Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.



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H332 Harmful if inhaled. H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing and eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

or shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P501 Dispose of contents/container to an appropriate recycling or disposal facility.

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

Relevant ingredients

CAS No	Chemical name				
	EC No	Index No	REACH No		
	Classification (Regulation (EC) N	o 1272/2008)	·		
7446-19-7	zinc sulphate			5 - < 10 %	
	231-793-3	030-006-00-9	01-2119474684-27		
	Acute Tox. 4, Eye Dam. 1, Aquat	c Acute 1, Aquatic Chronic 1;	H302 H318 H400 H410		
7758-99-8	copper sulphate pentahydrate			2,5 - < 5 %	
	231-847-6	029-023-00-4	01-2119520566-40		
	Acute Tox. 4, Skin Irrit. 2, Eye Da H400 H410	m. 1, Aquatic Acute 1, Aquati	c Chronic 1; H302 H315 H318		
7664-38-2	phosphoric acid	<3 %			
	231-633-2	015-011-00-6	01-2119485924-24		
	Met. Corr. 1, Acute Tox. 4, Skin C	Corr. 1B; H290 H302 H314	•		
7446-08-4	Selenium dioxide	<3 %			
	231-194-7	034-002-00-8	01-2120089867-33		
	Acute Tox. 2, Acute Tox. 3, Skin (Chronic 1; H330 H301 H314 H31		RE 2, Aquatic Acute 1, Aquatic		

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



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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	5 - < 10 %
	oral: ATE = 50	00 mg/kg	
7758-99-8	231-847-6	copper sulphate pentahydrate	2,5 - < 5 %
		mg/kg Aquatic Acute 1; H400: M=10 ic 1; H410: M=1	
7664-38-2	231-633-2	phosphoric acid	<3 %
	oral: ATE = 50 Irrit. 2; H319: >	00 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye >= 10 - < 25	
7446-08-4	231-194-7	Selenium dioxide	<3 %
	inhalation: AT 100 mg/kg	E = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); oral: ATE =	

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. 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.

After ingestion

Rinse mouth, spit liquid again. Do NOT induce vomiting. Let water be drunken in little sips (dilution effect). Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

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

irritation. burnes. gastro-intestinal ailment. Spasms. vomiting. Dyspnoea. Nausea. Stomach perforation. Circulatory collapse. Pulmonary oedema

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

Carbon dioxide (CO2). Extinguishing powder. Fight larger fires with water spray jet or alcohol-resistant 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.

Carbon dioxide (CO2). Carbon monoxide. Phosphorus oxides. Metal oxide smoke, toxic





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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

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. 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. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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 Persons with a history of skin sensitisation problems should not be employed in any process in which this product is used.

Provide adequate ventilation, especially in confined areas.

Do not empty into drains; dispose of this material and its container in a safe way.

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)

Patination Fluid - Copper & Brass Ager

SECTION 8: Exposure controls/personal protection

8.1. Control parameters



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Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	
		-	2		STEL (15 min)	

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: >0,35 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.

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: blue

Odour: characteristic

Melting point/freezing point:

8 no data available
Boiling point or initial boiling point and

105 °C

boiling range:

Flammability:

Lower explosion limits:

Upper explosion limits:

no data available

Upper explosion limits:

no data available

Flash point:

no data available

Auto-ignition temperature:

no data available

Decomposition temperature:

no data available

pH-Value (at 20 °C):

1,1



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Viscosity / kinematic: 1,1 mm²/s
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 Vapour pressure: no data available Density: 1,1 g/cm³ Relative density: no data available Bulk density: no data available no data available Relative vapour density: 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

Substances or mixtures corrosive to metals.

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

In case of fire hazardous decomposition products may be formed.

Carbon dioxide (CO2). Carbon monoxide. Phosphorus oxides. Metal oxide smoke, toxic

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if inhaled.



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ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 3,623 mg/l

CAS No	Chemical name							
	Exposure route	Dose	Species	Source	Method			
7446-19-7	zinc sulphate							
	oral	ATE 500 mg/kg						
7758-99-8	copper sulphate pentahydrate							
	oral	ATE 481 mg/kg						
7664-38-2	phosphoric acid							
	oral	ATE 500 mg/kg						
7446-08-4	Selenium dioxide							
	oral	ATE 100 mg/kg						
	inhalation vapour	ATE 0,5 m	g/l					
	inhalation dust/mist	ATE 0,05 r	ng/l					

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage. (On basis of test data) Serious eye damage/eye irritation: Causes serious eye damage. (On basis of test data)

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

Reproductive toxicity: 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

Very toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
7664-38-2	phosphoric acid						
	Acute fish toxicity	LC50	138 mg/l	96 h	Gambusia affinis		

12.2. Persistence and degradability



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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.

Further information

Harmful effect on aquatic organisms due to pH shift.

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

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. (phosphoric acid,

Selenium dioxide)

14.3. Transport hazard class(es): 8
14.4. Packing group: |||

Hazard label: 8



Classification code: C1
Special Provisions: 274
Limited quantity: 5 L
Excepted quantity: E1
Transport category: 3
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. (phosphoric acid,

Selenium dioxide)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8



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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. (phosphoric acid,

selenium dioxide)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8



Special Provisions: 223 274
Limited quantity: 5 L
Excepted quantity: E1
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. (phosphoric acid,

selenium dioxide)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8



Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Excepted quantity:

A3 A803

1 L

Y841

Excepted quantity:

E1

IATA-packing instructions - Passenger:852IATA-max. quantity - Passenger:5 LIATA-packing instructions - Cargo:856IATA-max. quantity - Cargo:60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: zinc sulphate, copper sulphate pentahydrate, Selenium dioxide

14.6. Special precautions for user

No special precautions known.

14.7. Maritime transport in bulk according to IMO instruments

not applicable





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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 Directive

E1 Hazardous to the Aquatic Environment

2012/18/EU (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 2019/1021 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

copper sulphate pentahydrate

phosphoric acid

Selenium dioxide

SECTION 16: Other information

Changes

Version 1,00 - 29.09.2023 - first creation

Version 1,01 - 30.09.2024 - Adjustments in sections 1

Version 1,02 - 02.07.2025 - Adjustments in sections 2



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Abbreviations and acronyms

Met. Corr. 1: Corrosive to metals, hazard category 1 Acute Tox. 2: Acute toxicity, hazard category 2 Skin Corr. 1B: Skin corrosion, sub-category 1B Skin Irrit. 2: Skin irritation, hazard category 2

Eye Dam. 1: Serious eye damage, hazard category 1

STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2 Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1

Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1

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
Met. Corr. 1; H290	On basis of test data
Acute Tox. 4; H332	Calculation method
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 2; H411	Calculation method



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Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Further Information

The information 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:

asseso AG, Ottostraße 1, 63741, Aschaffenburg, Germany Phone: +49 (0)6021 - 1 50 86-0, Fax: +49 (0)6021 - 1 50 86-77, E-Mail: eu-sds@asseso.eu, www.asseso.eu

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