

Printing date: 21.12.2022 Version number 8 (replaces version 7) Revision: 21.12.2022

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

· 1.1 Product identifier

Trade name: <u>Half-shine Nickel plating bath 218 HG</u> Halbglanznickelbad 218 HG

· Article number: 81012144

- · 1.2 Relevant identified uses of the substance or mixture and uses advised against Not approved for private consumers.
- · Application of the substance / the mixture Galvanic bath
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Heimerle + Meule GmbH Dennigstrasse 16 D-75179 Pforzheim

Telefon +49 (0) 7231 940-0 Telefax +49 (0) 7231 940-2199 www.heimerle-meule.com

Further information obtainable from:

Abteilung BASU - Bau/Arbeitssicherheit/Umwelt Department BASU - Construction / Occupational Safety / Environment sds@heimerle-meule.com

IATA - 24h Emergency Contact - IATA - 24h Emergency Contact - (Dangerous goods emergency number) +49 172 739 6970

· 1.4 Emergency telephone number:

DEUTSCHLAND - GERMANY:

Vergiftungs-Informations-Zentrale Freiburg, ++49 761 19240 (24 h)

(Poisoning Information Center)

GREAT BRITAIN:

National Poisons Information Service +44 121 507 4123

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111 - In Scotland: NHS 24 - dial 111

*IRELAND* 

+353 1 809 2166 (7 Days 8 am -10 pm) Healthcare Professionals: +353 1 809 2566

ITALY:

*Istituto Superiore di Sanità (ISS) +3906499906140* 

Centro Antiveleni

Bergamo: +39 800 883300 Firenze +39 055 794 7819 Milano: +39 055 794 7819

Roma +39 06 68593726 Roma +39 06 49978000

Roma +39 06 3954343

KROATIA - REPUBLIKA HRVATSKA:

 $\overline{(+385)}$  01 2348 342

ESTLAND - ESTONIA:

Tervisemeti Mürgistusteabekeskuse

National (24/7): 16662 (+372) 7943 794

LETTLAND - LATVIA:

Valsts Toksikoloģijas centrs, Saindēšanās un zāļu informācijas centrs,

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(24h) 112 (24h) +371 67042473

<u>LITAUEN - LIETUVOS RESPUBLIKA:</u>

Poison Information Bureau (24/7), Tel.: +8 5 236 20 52

Apsinuodijimų informacijos biuras

### SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



#### health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1A H350i May cause cancer by inhalation.

Repr. 1B H360D May damage the unborn child.

STOT RE 1 H372 Causes damage to the respiratory system through prolonged or repeated

exposure. Route of exposure: Inhalation.



Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



Skin Sens. 1 H317 May cause an allergic skin reaction.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

· Hazard pictograms





CHCUS

GHS09

- · Signal word Danger
- · Hazard-determining components of labelling:

Nickel sulphamate nickel dichloride

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#### · Hazard statements

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H350i May cause cancer by inhalation.

H360D May damage the unborn child.

H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

H411 Toxic to aquatic life with long lasting effects.

#### · Precautionary statements

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

P272 Contaminated work clothing should not be allowed out of the workplace.

*P273* Avoid release to the environment.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Additional information:

Restricted to professional users.

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

- · 3.2 Mixtures
- · Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components / Information on ingredients:		
CAS: 13770-89-3	Nickel sulphamate; nickel-bis(sulfamidate); nickel sulfamate;	≥10-<25%
EINECS: 237-396-1	nickel(II) bis(sulfamidate)	
Index number: 028-018-00-4	Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350i; Repr. 1B, H360D; STOT RE 1, H372	
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
	Acute Tox. 4, H302; Skin Sens. 1, H317	
	ÅTE: LD50 oral: 853 mg/kg	
	Specific concentration limits: Skin Sens. 1; H317: $C \ge 0.01 \%$	
	STOT RE 1; H372: C ≥ 1 %	
	STOT RE 2; H373: $0.1 \% \le C < 1$	
	%	

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CAS: 10043-35-3	boric acid; boric acid, crude natural, containing notmore than	Contd. of page $\geq 2.5 - < 5.5$
EINECS: 233-139-2 Index number: 005-007-00-2	85 per cent of H3BO3 calculated onthe dry weight; Boraric acid powder, min 99.9 %	
RTECS: ED 4550000 Reg.nr.: 01-2119486683-25	<b>♦</b> Repr. 1B, H360FD Specific concentration limit: Repr. 1B; H360: $C \ge 5.5 \%$	
CAS: 7718-54-9 EINECS: 231-743-0 Index number: 028-011-00-6	nickel dichloride  Acute Tox. 3, H301; Acute Tox. 3, H331  Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350i; Repr. 1B, H360D; STOT RE 1, H372  Aquatic Acute 1, H400; Aquatic Chronic 1, H410  Skin Irrit. 2, H315; Skin Sens. 1, H317  Specific concentration limits: STOT RE 1; H372: C≥1 %  STOT RE 2; H373: 0.1 % ≤ C < 1 %  Skin Irrit. 2; H315: C≥20 % Skin Sens. 1; H317: C≥0.01 %	<i>≥1</i> -<2.5%

CAS: 10043-35-3 boric acid

· Additional information: For the wording of the listed hazard phrases refer to section 16.

#### SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information:

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

Involve doctor immediately after a accident or unwell

· After inhalation:

Seek immediate medical advice.

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Seek immediate medical advice.

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- · After eye contact: Rinse opened eye for several minutes under running water.
- · After swallowing:

Rinse out mouth and then drink plenty of water.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

A person vomiting while laying on their back should be turned onto their side.

- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- · 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

### **SECTION 5: Firefighting measures**

- · 5.1 Extinguishing media
- · Suitable extinguishing agents:

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.

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- · 5.3 Advice for firefighters
- · Protective equipment:



Wear self-contained respiratory protective device.

Beware: Filter masks provide protection for a short period of time only. They should only be used in exceptional cases, that is if a small amount of the substance has spilled out or in order to fight spillages and fire

· Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

#### SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

*Use respiratory protective device against the effects of fumes/dust/aerosol.* 

· 6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Restrict the quantity stored at the work place.

Enclosure or extractor facilities are required.

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

he usual precautionary measures are to be adhered to when handling chemicals.

Prevent formation of aerosols.

Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

- · Information about fire and explosion protection: Keep respiratory protective device available.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles:

Observe official regulations on storing packagings.

Observe official regulations on storing packagings.

Prevent any seepage into the ground.

- · Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Keep container tightly sealed.

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· Storage class: 6.1 D

· 7.3 Specific end use(s) No further relevant information available.

# SECTION 8: Exposure controls/personal protection

#### · 8.1 Control parameters

· Ingredients with limit valu	es that require monitoring at the workplace:
CAS: 13770-89-3 Nickel st	ulphamate
WEL (Great Britain)	Long-term value: 0.1 mg/m³ as Ni; Sk; Carc; Sen
BOELV (European Union)	Long-term value: 0.1* mg/m³ as Ni; sens. dermal/resp. *inhalable
AGW (Germany)	Long-term value: 0.030E mg/m³ 8(II);AGS, Sh, Y, 10, 24, 31
TRGS 910 (Germany)	Short-term value: $0.006$ (A) $mg/m^3$ Long-term value: $0.006$ (A) $mg/m^3$ 8, Konzentrationen beziehen sich auf Ni-Gehalt
CAS: 10043-35-3 boric acid	
AGW (Germany)	Long-term value: 0.5* mg/m³ 2(I);*einatembar; AGS, Y, 10
CAS: 7718-54-9 nickel dic	hloride
WEL (Great Britain)	Long-term value: 0.1 mg/m³ as Ni; Sk; Carc; Sen
BOELV (European Union)	Long-term value: 0.1* mg/m³ as Ni; sens. dermal/resp. *inhalable
AGW (Germany)	Long-term value: 0.030E mg/m³ 8(II);AGS, Sh, Y, 10, 24, 31
TRGS 910 (Germany)	Short-term value: $0.006$ (A) $mg/m^3$ Long-term value: $0.006$ (A) $mg/m^3$ 8, Konzentrationen beziehen sich auf Ni-Gehalt

### · Regulatory information

WEL (Great Britain): EH40/2020 BOELV (European Union): EU 2022/431

AGW (Germany): TRGS 900

- · Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Appropriate engineering controls No further data; see item 7.
- · Individual protection measures, such as personal protective equipment
- General protective and hygienic measures:

Pregnant women should strictly avoid inhalation or skin contact.

Storing food in the working area is prohibited.

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately. Do not inhale gases / fumes / aerosols. According to EC Directive 89/686/EEC

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#### · Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Beware: Filter masks provide protection for a short period of time only. They should only be used in exceptional cases, that is if a small amount of the substance has spilled out or in order to fight spillages and fire.

according EN 14387 according to EN 143

- · Recommended filter device for short term use: Filter P3
- · Hand protection



Protective gloves

according to EN 374

To avoid skin problems reduce the wearing of gloves to the required minimum.

Only use chemical-protective gloves with CE-labelling of category III.

Sensibilisation by the components in the glove materials is possible.

Check the permeability prior to each anewed use of the glove.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Prior to working with gloves the rubbing in with tanniferous skin-protecting agents for the avoidance of skin softening due to perspiration is recommended.

#### · Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

#### Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 3).

Value for the permeation: Level  $\leq 3$ 

#### · Not suitable are gloves made of the following materials:

Leather gloves

Strong material gloves

· Eye/face protection



Tightly sealed goggles

according to EN 166

· Body protection: Protective work clothing



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### SECTION 9: Physical and chemical properties

· 9.1 Information on	basic physical	and chemical	properties
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· General Information

· Physical state Fluid · Colour: Green · Odour: **Odourless** · Odour threshold: Not determined. · Melting point/freezing point: Undetermined.

· Boiling point or initial boiling point and boiling

range 112°C (233.6°F) · Flammability Not applicable.

Lower and upper explosion limit

Not determined. · Lower: · Upper: Not determined. · Flash point: *Not applicable.* · Decomposition temperature: Not determined. 4.5

· pH at 20°C (68°F)

· Viscosity:

· Kinematic viscosity Not determined. · Dynamic: Not determined.

·Solubility

Fully miscible. · water: · Partition coefficient n-octanol/water (log value) Not determined. · Vapour pressure: Not determined.

Density and/or relative density

• Density at 20°C (68°F): 1.54 g/cm³ (12.85 lbs/gal)

· Relative density Not determined. · Vapour density Not determined.

· 9.2 Other information

· Appearance:

· Form: Fluid

Important information on protection of health and environment, and on safety.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product does not present an explosion hazard.

Void

· Change in condition

Oxidising solids

· Evaporation rate Not determined.

· Information w	vith regard to	physical I	hazard classes
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Void · Explosives · Flammable gases Void Void · Aerosols · Oxidising gases Void · Gases under pressure Void · Flammable liquids Void · Flammable solids Void · Self-reactive substances and mixtures Void · Pyrophoric liquids Void · Pyrophoric solids Void VoidSelf-heating substances and mixtures · Substances and mixtures, which emit flammable gases in contact with water Void · Oxidising liquids Void

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· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

### SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · 10.3 Possibility of hazardous reactions Reacts with acids, alkalis and oxidising agents.
- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known.

# SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity

Oral

· LD/LC50	· LD/LC50 values relevant for classification:		
ATE (Act	ute Toxicity	Estimates)	
Oral	LD50	2,014 mg/kg	
Inhalative	e LC50/4 h	20.6 mg/l	
CAS: 137	CAS: 13770-89-3 Nickel sulphamate		
Oral	LD50	853 mg/kg (ATE)	
CAS: 100	CAS: 10043-35-3 boric acid		
Oral	LD50	2,660 mg/kg (rat)	
CAS: 771	CAS: 7718-54-9 nickel dichloride		

# Respiratory or skin sensitisation

LD50

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Inhalative LC50/4 h 0.5 mg/l (ATE)

· Germ cell mutagenicity Suspected of causing genetic defects.

100 mg/kg (ATE)

- · Carcinogenicity May cause cancer by inhalation.
- · Reproductive toxicity May damage the unborn child.
- · STOT-repeated exposure

Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

· 11.2 Information on other hazards

· Endocrine disrupting properties

None of the ingredients is listed.

### SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.

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- · 12.4 Mobility in soil No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment Not applicable.
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

- · 12.7 Other adverse effects
- · Remark: Toxic for fish
- · Additional ecological information:
- · General notes:

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water Do not allow product to reach ground water, water course or sewage system, even in small quantities.

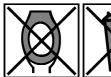
Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

## SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation





Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact manufacturer for recycling information.

Waste disposal key:

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

- · Uncleaned packaging:
- · Recommendation:

Disposal must be made according to official regulations.

Packaging which is uncleaned or soiled with product remains is to be treated like the product itself Packaging free of product remains is to be supplied refuse for recycling. Only if no adequate collecting system is available, they may be disposed of through the domestic rubbish

• Recommended cleansing agents: Water, if necessary together with cleansing agents.

· 14.1 UN number or ID number · ADR, IMDG, IATA	UN3082
· 14.2 UN proper shipping name	
$\cdot ADR$	UN3082 ENVIRONMENTALLY HAZARDOU
	SUBSTANCE, LIQUID, N.O.S. (Nickel sulphamat
	nickel dichloride)
· IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE
	LIQUID, N.O.S. (Nickel sulphamate, nickel dichloride
	MARINE POLLUTANT
·IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCA
	LIQUID, N.O.S. (Nickel sulphamate, nickel dichloride)

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· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class · Label	<ul><li>9 Miscellaneous dangerous substances and articles.</li><li>9</li></ul>
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: Nickel sulphamate
Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR): · Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Hazard identification number (Kemler code): · EMS Number:	90 F-A,S-F
· Stowage Category	A A
· 14.7 Maritime transport in bulk according to IM instruments	<b>10</b> Not applicable.
Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IATA · Remarks:	24h emergency contact - (Dangerous goods emergency number)
	+49 172 739 6970
· UN "Model Regulation":	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL SULPHAMATE, NICKEL DICHLORIDE), 9, III



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# **SECTION 15: Regulatory information**

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC

· GADSL - Global Automotive Declarable Substance List		
CAS: 13770-89-3	Nickel sulphamate	D(FI)
CAS: 10043-35-3	boric acid	D/P(LR)
CAS: 7718-54-9	nickel dichloride	D(FI)

- · Directive 2012/18/EU
- · Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
- · National regulations:
- · Additional classification according to Decree on Hazardous Materials, Annex II: Carcinogenic hazardous material group III (dangerous).
- · Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning women of child-bearing age must be observed.

#### · Technical instructions (air):

Class	Share in %
II	1,0-2,5

- · Waterhazard class: .
- · Other regulations, limitations and prohibitive regulations -

· Substances of very	high concern (SVHC) according to UK REACH
CAS: 10043-35-3	boric acid

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### **SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### · Reasons for revise

If necessary, this saftey data sheet can revised according to legal guidelines.

Our current version for your reference is available on our website www.heimerle-meule.com

#### · Relevant phrases

H301 Toxic if swallowed.H302 Harmful if swallowed.

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H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H331 Toxic if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341 Suspected of causing genetic defects.

H350i May cause cancer by inhalation.

H360D May damage the unborn child.

H360FD May damage fertility. May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

#### · Department issuing SDS:

Abteilung BASU - Bau/Arbeitssicherheit/Umwelt Department BASU - Construction / Occupational Safety / Environment

sds@heimerle-meule.com

#### · Contact:

Herr Thomas Knuth

thomas.knuth@heimerle-meule.com

sds@heimerle-meule.com

#### · Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

AwSV: Ordinance on facilities for handling water-polluting substances (German regulation).

TRGS: Technical rules for hazardous substances (German regulation)

ADR: Accord relatif au transport international 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 Harmonised 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 (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity - Category 3

Acute Tox. 4: Acute toxicity - Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation - Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2 Carc. 1A: Carcinogenicity – Category 1Ai

Repr. 1B: Reproductive toxicity – Category 1B

Repr. 1B: Reproductive toxicity – Category 1B

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

\* \* Data compared to the previous version altered.