

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date: 27.07.2022

Version number 7

Revision: 27.07.2022

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

· **1.1 Product identifier**

· **Trade name:** Half-shine Nickel plating bath 218 HG
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-Informationen-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

ITALY:

Istituto Superiore di Sanità +3906499906140

KROATIA - REPUBLIKA HRVATSKA:

(+385) 01 2348 342

ESTLAND - ESTONIA:

Tervisemeti Mürgistusteabekeskuse 16662, (+342) 7914 794

LETTLAND - LATVIA:

Latvijas Vides, ģeoloģijas un meteoroloģijas centrs (+371) 670 32600

LITAUEN - LIETUVOS RESPUBLIKA:

Apsinuodijimų informacijos biuras +370 (85) 2362052

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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. |



environment

- | | | |
|-------------------|------|--|
| 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



GHS08



GHS09

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

Nickel sulphamate
nickel dichloride

- 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. |

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- **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 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components / Information on ingredients:**

CAS: 13770-89-3 EINECS: 237-396-1 Index number: 028-018-00-4	Nickel sulphamate; nickel-bis(sulfamidate); nickel sulfamate; nickel(II) bis(sulfamidate) Respiratory 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 Specific concentration limits: Skin Sens. 1; H317: C ≥ 0.01 % STOT RE 1; H372: C ≥ 1 % STOT RE 2; H373: 0.1 % ≤ C < 1 %	≥10–<25%
CAS: 10043-35-3 Reg.nr.: 01-2119486683-25	boric acid; boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight substance with a Community workplace exposure limit	2.5–7%
CAS: 7718-54-9 EINECS: 231-743-0 Index number: 028-011-00-6	nickel dichloride Acute Tox. 3, H301; Acute Tox. 3, H331 Respiratory 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 %	≥1–<2.5%

- **SVHC**
!!! Substances of Very High Concern !!!

CAS: 10043-35-3	boric acid
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- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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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 an 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.
- **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.

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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.

The 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.

· **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**

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Ingredients with limit values that require monitoring at the workplace:**

CAS: 13770-89-3 Nickel sulphamate

WEL (Great Britain)

Long-term value: 0.1 mg/m³
as Ni; Sk; Carc; Sen

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/m³
Long-term value: 0.006 (A) mg/m³
8, Konzentrationen beziehen sich auf Ni-Gehalt

CAS: 10043-35-3 boric acid

AGW (Germany)

Long-term value: 0.5* mg/m³
2(I); *einateubar; AGS, Y, 10

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CAS: 7718-54-9 nickel dichloride

WEL (Great Britain)	Long-term value: 0.1 mg/m ³ as Ni; Sk; Carc; Sen
AGW (Germany)	Long-term value: 0.030E mg/m ³ 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

AGW (Germany): TRGS 900

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **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

- **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**

- **Protection of hands:**



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 renewed 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.

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· **Penetration time of glove material**

The exact break through 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 ≤ 3

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

Leather gloves

Strong material gloves

· **Eye protection:**



Tightly sealed goggles

according to EN 166

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Green

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value at 20°C (68°F):** 4.5

· **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 112°C (233.6°F)

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

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

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapour pressure:** Not determined.

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

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

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- | | |
|--|--|
| · Solubility in / Miscibility with water: | Fully miscible. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · 9.2 Other information | No further relevant information available. |

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 toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	2,014 mg/kg
Inhalative	LC50/4 h	20.6 mg/l

CAS: 13770-89-3 Nickel sulphamate

Oral	LD50	853 mg/kg (ATE)
------	------	-----------------

CAS: 10043-35-3 boric acid

Oral	LD50	2,660 mg/kg (rat)
------	------	-------------------

CAS: 7718-54-9 nickel dichloride

Oral	LD50	100 mg/kg (ATE)
Inhalative	LC50/4 h	0.5 mg/l (ATE)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**
Suspected of causing genetic defects.
- **Carcinogenicity**
May cause cancer by inhalation.
- **Reproductive toxicity**
May damage the unborn child.

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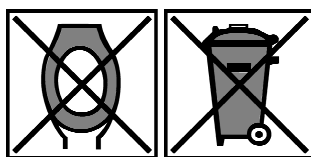
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological 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
- **12.5 Results of PBT and vPvB assessment** Not applicable.
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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.

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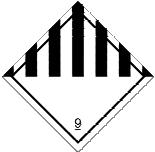

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SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN3082
· 14.2 UN proper shipping name · ADR · IMDG · IATA	UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nickel sulphamate, nickel dichloride) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nickel sulphamate, nickel dichloride), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nickel sulphamate, nickel dichloride)
· 14.3 Transport hazard class(es) · ADR, IMDG, IATA	 
· Class · Label	9 Miscellaneous dangerous substances and articles. 9
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR): · Special marking (IATA):	Product contains environmentally hazardous substances: Nickel sulphamate Yes Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F A
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information: · ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category	----- 5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml 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

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· **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

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 REACH, Article 57**

CAS: 10043-35-3	boric acid
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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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 safety data sheet can be 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.

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.

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

SVHC: Substances of Very High Concern

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

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Safety data sheet
according to 1907/2006/EC, Article 31

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Trade name: Half-shine Nickel plating bath 218 HG
Halbglanznickelbad 218 HG

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

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