MACHEREY-NAGEI



Safety Data Sheet

according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

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Printing date: 01.10.2019	Date of issue: 15.03.2019	

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

1.1	Product	identifier
-----	---------	------------

REF Product name 91836 NANOCOLOR Iron

REACH Registration number(s): see SECTION 3.1/3.2 or A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x 100 mL Iron R1
1 x 20 g Iron R2
1 x 100 mL Iron R3
4 400 L D4

1 x 100 mL Iron R4

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

Relevant identified uses

Product for analytical use.

Exposure Scenario Classification according REACh, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0 The exposure scenario is integrated into sections 1-16. Uses advised against

not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY Tel.: +49 2421 969 0

E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency telephone number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service. 99089 Erfurt tel. +49 361 730 730 DE: Gemeinsames Giftinformationszentrum (GGIZ)

You find our current versions of SDS (22 languages) in Internet:

http://www.mn-net.com/SDS

SECTION 2: Hazard identification

Signal word

Classification of the complete product 2.0



Signal word	DANGER
Hazard identification	Hazard classes/categories
H226	Flam. Liq. 3
H290	Met. Corr. 1
H302	Acute Tox. 4 oral
H312	Acute Tox. 4 derm.
H314	Skin Corr. 1B
H315	Skin Irrit. 2
H317	Skin Sens. 1
H319	Eye Irrit. 2
H351	Carc. 2
H373	STOT RE 2
H400	Aquatic Acute 1

DANGER



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.1	Classification of the substa		
	100 mL Iron R1		
	Signal word	Do not need labelling as hazardous -	
	Hazard identification	Hazard classes/categories	
	H290	Met. Corr. 1	
	20 g Iron R2		
		GHS07 GHS08 GHS09	
	Signal word	WARNING	
	Hazard identification	Hazard classes/categories	
	H290 H302 H312 H315 H317 H319 H351 H373 H400	Met. Corr. 1 Acute Tox. 4 oral Acute Tox. 4 derm. Skin Irrit. 2 Skin Sens. 1 Eye Irrit. 2 Carc. 2 STOT RE 2 Aquatic Acute 1	
	100 mL Iron R3		
		GHS05	
	Signal word	DANGER	
	Hazard identification	Hazard classes/categories	
	H314	Skin Corr. 1B	
	100 mL Iron R4		
		GHS02	
	Signal word	WARNING	
	Hazard identification	Hazard classes/categories	
	H226	Flam. Liq. 3	
.2	Label elements According CLP directive inner packa - 1.5.1.2).	ages must be only labelled with GHS symbol(s) and product identificator(s) (EU 1272/2008 A	nnex l

Harmful chemicals/mixtures with signal word: WARNING and highly flammable chemicals/mixtures must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2). This labelling exemption is NOT valid for sensibilizing substances. Metal corrosive solutions do not have to be labelled with GHS symbol, signal word, H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2.1.3).

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Safety Data Sheet

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100 mL Iron R1

Do not need labelling as hazardous Signal word: -

20 g Iron R2



Signal word: WARNING

H317, H351 May cause an allergic skin reaction. Suspected of causing cancer.

P261sh P280sh Avoid breathing dust/vapours. Wear protective gloves/eye protection.

100 mL Iron R3



Signal word: DANGER

H314 Causes severe skin burns and eye damage.

P260sh, P280sh, P303+361+353, P305+351+338, P310

Do not breathe dust/vapours. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

100 mL Iron R4



Signal word: WARNING

2.3 Other hazards

Possible hazards from physicochemical properties

Generally in the case of pH values are less than 2 or higher than 11.5 then it is corrosive. In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. The property H314 "Causes severe skin burns and eye damage." of some salts is not applicable, because the mixture is buffered to pH >3-4 (see GHS Directive 1272/2008/EC Annex I, chapter 3.2.3.1.2.).

Information pertaining to particular risks to human and possible symptoms

Causes varying degrees of acid burns on the skin, to the eyes and to the mucous membranes and wounds which do not heal quickly depending on the concentration, temperature and the exposure time. Vapours especially which steam from hot liquids and mist can have a severe irritant effect upon the eyes and the respiratory organs.

Cause after oral intake, inhalation of vapours/dust, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts. Suspected of causing cancer. -

Information pertaining to particular risks to the environment

Avoid contact of substance/mixture to environment.

PBT:	not applicable
vPvB:	not applicable



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Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

100 mL Iron R1 Chemical: hydrochloric acid CAS No.: 7647-01-0 Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh. HCI+H₂O Formula: aqueous hydrogen chloride Pseudonym: **TSCA** Inventory: listed REACH Reg. No.: 01-2119484862-27-xxxx EC No.: 231-595-7 Indice No.: 017-002-01-X RTECS: MW4025000 KE-20189, >10% Toxic 97-1-203, Acc. Precaution Chem. KE No .: Concentration: 1 - <10 % acc. CLP (GHS): H290, Met. Corr. 1 20 g Iron R2 Chemical: hydroxylammonium chloride CAS No.: 5470-11-1 H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H315, Skin Irrit. 2, H317, Classification: Skin Sens. 1, H319, Eye Irrit. 2, H351, Carc. 2, H373, STOT RE 2, H400, Aquatic Acute 1 NH2 OH•HCI/ H4 CINO Formula: Pseudonym: hydroxylamin hydrochloride TSCA Inventory: listed REACH Reg. No.: as intermediate EC No .: 226-798-2 Indice No.: 612-123-00-2 RTFCS NC3675000 MFCD. 00051089 KE-20602, >1% Toxic 97-1-411 KE No.: Concentration: 80 - <100 % acc. CLP (GHS): H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H351, Carc. 2, H373, STOT RE 2, H400, Aquatic Acute 1 100 mL Iron R3 Chemical: ammonium acetate CAS No.: 631-61-8 Classification: No criteria for classification or naming of chemical not required. Formula: C2 H7 NO2 **TSCA** Inventory: listed REACH Reg. No.: 01-2119828440-45-xxxx EC No.: 211-162-9 RTFCS AF3675000 MFCD. 00013066 KE No.: KE-01629 Concentration: 20 - <40 % acc. CLP (GHS): The criteria for classification are not fulfilled Chemical: CAS No.: 64-19-7 acetic acid Classification: H226, Flam. Liq. 3, H314, Skin Corr. 1B Formula:

C2 H4 O2 ; CH3 -COOH TSCA Inventory: listed REACH Reg. No.: 01-2119475328-30-xxxx EC No .: 200-580-7 Indice No.: 607-002-00-6 AF1225000 RTFCS MFCD. 00036152 KE No.: KE-00013 Concentration: 25 - <50 % acc. CLP (GHS): H314, Skin Corr. 1B

100 mL Iron R4



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Printing date: 01.10.2019	Date of issue: 15.03.2019			_
Chemical	(denatured with 1%IPA/1%MEK,	acc.2016/1867/EU)	CAS No.: 64-17-5	
Classifica Formula: Pseudony TSCA Inv REACH F EC No.: RTECS: KE No.: Concentra acc. CLP	$\begin{array}{rcl} & & C_2 H_6 O; C_2 H_5 OH \\ \text{m:} & & \text{ethyl alcohol, methylated s} \\ \text{entory:} & & \text{listed} \\ \text{leg. No.:} & & 01-2119457610-43-xxxx \\ & & 200-578-6 \\ & & & \text{KQ6300000} \\ & & \text{KE-13217} \\ \text{ation:} & & 35 - <55 \% \end{array}$	spirit Indice No.: MFCD:	603-002-00-5 00003568	
Chemical Classifica Formula: TSCA Inv	tion: H301, Acute Tox. 3 oral, H $C_{12}H_8N_2$ entory: listed	1400, Aquatic Acute 1, H410	CAS No.: 66-71-7 0, Aquatic Chronic 1	
REACH F EC No.: RTECS: Concentra acc. CLP	200-629-2 SF8437000 ation: 1 - <3 %	Indice No.: MFCD:	613-092-00-8 00149973	

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.1

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor.

4.1.1 After SKIN Contact

Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.

4.1.3 After INHALATION of vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. If vomiting and if insensible place patient in recovery position and keep airways free. ---

4.1.4 After ORAL Intake

After oral intake lots of water with activated charcoal supplement should be drunk after it has been ingested. Do not induce vomiting under any circumstances. Do not make any efforts to neutralise it. Contact medical advice for possible consequences. ---

4.2 Most important symptoms and effects, both acute and delayed

May cause sensitization by skin contact, also in repeated contact of small amounts. Carcinogenic Effects: Suspected of causing cancer.

4.3 Indication of any immediate medical attention and special treatment needed

CORROSIVE DAMAGE: After SKIN CONTACT rinse with water for a long time. Efforts to neutralise the substance can frequently make matters worse. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must to be carried out by an eye specialist. After INTAKE administer aluminium oxide drug suspensions. Administer a prophylaxis to counter pulmonary oedema following the INGESTION of corrosive aerosols. In the event of RESPIRATORY DISTREES ensure that the patient inhales oxygen. Inform patient respectively further measures and the possibility of long-term damages. ---



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SECTION 5: Firefighting measures

5.1 Extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.2 Special hazards arising from the substance or mixture

WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible. -

5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.

For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

5.4 Additional information

Danger for environment only in the event of a large-scale leakage or formation of hazardous substances. ---

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection, respectively face protection. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed

6.2 **Environmental precautions**

not necessary

6.3 Methods and material for containment and cleaning up

Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.

6.4 Reference to other sections

see information in section 5.4 --

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for safe storage, including any incompatibilities The original product package of MACHEREY-NAGEL allows a safe storage. Storage class (VCI): 3 Water hazard class (DE):

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage. Use inbreakable container for transport of glass bottles. Specific end use(s)

7.3 Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 **Control parameters**

100 mL Iron R1 Chemical: <i>hydrochloric a</i> DNEL: DNEL = Derived No-Effec	[inh] 8 mg/m ³	CAS No.: 7647-01-0
PNEC _{(fresh water}) : PNEC = Predicted No Eff	36 µg/L ected Concentration	
EU value: TRGS 900 (DE):	[TWA] 5 ppm / 8 mg/m ³ ; [STEL] 10 ppm/ 15 mg/m ³ 2 mL/m ³ / 3 mg/m ³ E/e respirable	
Short-term exposure factor: skin resorptive (H), resp SUVA(CH) MAK value:	2 (I), Y ratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely 2 ppm / 3^* mg/m ³	/ excluded / (Y) certainly excluded

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		[C] 5 ppm / 7 mg/m ³	ated to a 15 minute pariod
	OSHA:	ed average to a reference period of 8 hours, [STEL] Short-term exposure limit rela List of highly hazardous chemicals, toxics and reactives Y	
	mg/m ³		es (1 a = 3000 lbs) 1/a, 1 WA 3 ppin / /
	20 g Iron R2		
		ammonium chloride	CAS No.: 5470-11-1
	TRGS 900 (DE):	1.5 mg/m³	
	NIOSH:	E/e respirable not listed	
		ed average to a reference period of 8 hours, [STEL] Short-term exposure limit rela	ated to a 15-minute period
	OSHA:	not listed	
	100 mL Iron R3		
		Im acetate	CAS No.: 631-61-8
	NIOSH: [TWA] Time-weight	not listed ed average to a reference period of 8 hours, [STEL] Short-term exposure limit rela	ated to a 15-minute period
	OSHA:	not listed	
	Chemical: acetic ad	id	CAS No.: 64-19-7
	DNEL: DNEL = Derived No	[loc, inh] 25 mg/m ³ -Effect Level (for workers)	
	PNEC _{(fresh water}) : PNEC = Predicted	3.058 mg/L No Effected Concentration	
	EU value:	[TWA] 25 / [STEL] 50 mg/m ³	
	TRGS 900 (DE):	10 mĽ/m³ / 25 mg/m³ E/e respirable	
	Short-term exposure fa skin resorptive (H)	ctor: 2(I), Y respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely	excluded / (Y) certainly excluded
	SUVA(CH) MAK value		
	NIOSH: [TWA] Time-weight	[TWA] 10 ppm / 25 mg/m ³ ; [STEL] 15 ppm / 37 mg/m ³ ed average to a reference period of 8 hours, [STEL] Short-term exposure limit rela	ated to a 15-minute period
	OSHA:	[TWA] 10 ppm / 25 mg/m ³	
	100 mL Iron R4		
	Chemical: ethanol		CAS No.: 64-17-5
	DNEL: DNEL = Derived No	[derm] 343 mg/kg; [inh] 950 mg/m ³ -Effect Level (for workers)	
	PNEC(fresh water):	0.96 mg/L	
	PNEC = Predicted	No Effected Concentration 200 mL/m ³ / 380 mg/m ³	
	TRGS 900 (DE):	E/e respirable	
	Short-term exposure fa skin resorptive (H)	ctor: 4 (II), Y respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely	excluded / (Y) certainly excluded
	SUVA(CH) MAK value		
		[TWA] 1000 ppm / 1900 mg/m³ ed average to a reference period of 8 hours, [STEL] Short-term exposure limit rel	ated to a 15-minute period
	OSHA:	[TWA] 1000 ppm / 1900 mg/m ³	
	Chemical: 1,10-phe	nanthrolin	CAS No.: 66-71-7
	NIOSH:	not listed	
	[TWA] Time-weight OSHA:	ed average to a reference period of 8 hours, [STEL] Short-term exposure limit rela not listed	ated to a 15-minute period
	posure controls	tion system in the room. floor resistant to shemicals with floor dra	inage and washing facilities. The highest
		tion system in the room, floor resistant to chemicals with floor dra maintained at the workplace.	anaye anu washiny lacilities. The highest
3.2.1	Respiratory protection		

8.2.2 Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, natural latex, Neopren, or Nitril (f.ex. from Ansell or KCL). Use for short times chemical resistant latex gloves with code EN 374-3 level 1.



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8.2.3	Eye protection Yes, safety glasses accordi	ng EN 166 with integrated side shield	s or wrap-around protection or face protectio	on.	
8.2.4	Skin protection Recommended to avoid clothing damage, and to avoid contamination with these hazards.				
3.2.5	with the skin, eyes and cloth				
SECT	ΓΙΟΝ 9: Physical and c	hemical properties			
9.1	Information on basic ph	ysical and chemical propert	ies		
	100 mL Iron R1 Appearance: liquid pH: Specific gravity: Solubility in water:	Colour: colourless 0-1 1,01 g/cm³ 0-100 %	Odor: odorless		
	20 g Iron R2 Appearance: solid pH: Solubility in water:	Colour: colourless 4-5 0-45 %	Odor: odorless		
	100 mL Iron R3 Appearance: liquid pH: Flash point: Solubility in water:	Colour: colourless 3-4 73 °C 0-100 %	Odor: acetic		
	100 mL Iron R4 Appearance: liquid pH: Flash point: Specific gravity: Solubility in water:	Colour: colourless 5-7 24 °C 0,93 g/cm³ 0-100 %	Odor: alcoholic		
9.2	Other information				
			ise no registration and no chemical safety re	eport is required.	
SECT	 FION 10: Stability and I	eactivity			
10.1	Reactivity no further data available.				
10.2	Chemical stability No known instability.				
10.3	Possibility of hazardous	reactions material. No further data available.			
10 /	Conditions to avoid				

10.4 **Conditions to avoid**

Not necessary. Observe labeled storage temperature. ---

10.5 Incompatible materials

Avoid contact with strong acids or alkalines.

10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

MACHEREY-NAGE **(MN)** ISO 9001 CERTIFIED

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Following information is valid for pure substances. Quantitative data on the toxicity of this product are not available.

100 mL Iron R1

Chemical: hydrod	chloric acid	CAS No.: 7647-01-0
TSCA Inventory:		lifornia Proposition 65 List: not listed
Exposure Routes:	inhalation, ingestion (solu	ition), skin and/or eye contact
Target Organs:	Eyes, skin, respiratory sy	stem
Symptoms:	irritation nose, throat, lar	/nx; cough, choking; dermatitis; solution: eye, skin burns; liquid: frostbite; in
animals: laryngeal spasm; p	ulmonary ede	
Australia NICNAS:	not listed	Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR:	not listed, Japan PDSCL	Deleterious Substance
Japan ISHL:	listed ≥0,2%/≥0,1%, Artic	
South Korea TCCA:	Accident Precaution Che	mical Yes
,	,	7-1-203, Acc. Precaution Chem.
LD50 _{orl rat} :	900 mg/kg	
LC50 _{drm rbt} :	>5010 mg/kg	

20 g Iron R2

Chemical:	hydroxylammonium chloride	e CAS No.: 5470-11-1
TSCA Inventory:	listed	California Proposition 65 List: not listed
Exposure Routes:	-	
Symptoms:	-	
Australia NICNAS:	not listed	Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR:	not listed, Japan PI	DSCL: Deleterious Substance
Japan ISHL:	not listed	
South Korea TCCA:	not listed	
Korea Exist.Chem.In	ventory: KE-20602, >1% To	xic 97-1-411
LD50 _{orl rat} :	141 mg/kg	
Acute Effects: Cause	after oral intake, inhalation	of vapours/dust, skin contact, impairments of health when ingested in small
quantities.		
Chronic Effects: May	cause sensitization by skin	contact, also in repeated contact of small amounts. May cause damage to organs
through prolonged or	repeated exposure.	
Carcinogenic Effects	: Suspected of causing canc	er.
TRGS 907 (DE):	Sh	

100 mL Iron R3

Chemical:	ammonium acetate	CAS No.: 631-61-8
TSCA Inventory:	listed	California Proposition 65 List: not listed
Australia NICNAS:	not listed	Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR:	not listed, Japan F	PDSCL: not listed
Japan ISHL:	not listed	
South Korea TCCA:	not listed	
Korea Exist.Chem.In	entory: KE-01629	
LD50 _{orl rat} :	632 mg/kg	

Chemical: a	ncetic acid	CAS No.: 64-19-7
TSCA Inventory:	listed	California Proposition 65 List: not listed
Exposure Routes:	inhalation, ski	n and/or eye contact
Target Organs:	Eyes, skin, re	spiratory system, teeth
Symptoms:	irritation eyes,	skin, nose, throat; eye, skin burns; skin sensitization; dental erosion; black skin,
hyperkeratosis; conjun	ctivitis, lacrimation (d	Í
Australia NICNAS:	not listed	Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR:	not listed, Jap	an PDSCL: not listed
Japan ISHL:	listed ≥1,0%/≥	1,0%, Article 57-2 (SDS required)
South Korea TCCA:	not listed	
Korea Exist.Chem.Inve	entory: KE-00013	
LD50 _{orl rat} :	3310 mg/kg	
LC50inh rat :	[4h] 8.5-12,7 r	ng/L
LD50 _{drm rbt} :	1060 mg/kg	
LD50 _{oral mouse} :	4960 mg/kg	



MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6-8 · 52355 Düren · Germany US: DE/international: CH: FR: Tel.: +49 24 21 969-0 Tel.: +41 62 388 55 00 Tel.: +33 388 68 22 68 Tel.: +1 484 821 0984 Fax: +49 24 21 969-199 Fax: +41 62 388 55 05 Fax: +33 388 51 76 88 Fax: +1 484 821 1272 Version: M V 4.10.1 E-mail: info@mn-net.com E-mail: sales-ch@mn-net.com E-mail: sales-fr@mn-net.com E-mail: sales-us@mn-net.com



REF: 91836

according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

NANOCOLOR Iron

PNEC(fresh water): 36 μg/L PNEC = Predicted No Effected Concentration 24.6 mg/L LC50fish/96h : 24.6 mg/L EC50daphnia/48h : 0.492 mg/L EC50pseudokirchneriella subcapitata/72h : 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2 20 g Iron R2	<u> </u>		Date of issue. 15.05.2019	·
Chemical: ethanol CAS No.: 64-17-5 TSCA Inventory: listed California Proposition 65 List: not listed ACGIH: 1000 ppm Exposure Routes: inhalation, ingestion, skin and/or eye contact Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive sy Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion liver damage; anemia; reproductive, teratogenic Australia NICNAS: not listed Canada CEPA 1999: DSL yes Japan SHL: listed Japan PDSC:: not listed Japan SHL: listed Japan PDSC:: not listed Japan SHL: Statist Chem.Inventory: KE-13217 LD500rt nat: 6200 mg/kg LC_LowNingegi: 219 g/m ³ LC_LowNingegi: 219 g/m ³ LC_Solid Innouse: [41] 39 g/m ³ LC_Solid Innouse: [41] 39 g/m ³ LCSOlid Innouse: [45] Algona PDSCI: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD500pr nus: 75 mg/kg LD500pr nus: 75 mg/kg LD500pr nus: 75 mg/kg LD500pr nus: 048 for pure substances. 10 Chemical hydrochloric acid CAS No: 7647-01 PNEC (Freatewater): 36 lg/L PNEC (Freatewater): 36 lg/L ECSOlogenated No Effected Concentration LCSOlid Information is valid for pure substances. 10 Chemical Not Retace Concentration LCSOlid Information is valid		100 mL Iron R4		
TSCA Inventory: listed California Proposition 65 List: not listed ACGH: inhalaton, ingestion, skin and/or eye contact Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system, liver, damage; anemia; reproductive, teratogenic Australia NICMAS: not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL yes Job of the analysis not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL yes Job of the analysis not listed Canada CEPA 1999: DSL yes South Korea TCCA: not listed Canada CEPA 1999: DSL yes LC50bm mouse : 3450 mg/kg California Proposition 65 List: not listed LD50orm mouse : 3450 mg/kg California Proposition 65 List: not listed Australia NICMAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL Yes Japan				
ACGIH: 1000 ppm Exposure Routes: inhalation, ingestion, skin and/or eye contact Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive sr Symptoms: inritation eyes, skin, nose, headache, drowsiness, lassitude (weakness, exhaustion liver damage; anemia; reproductive, teratogenic Australia NICNAS: not listed Canada CEPA 1999: DSL yes Japan SCL/PRTR: not listed Japan PDSCL: not listed Japan SSL/PRTR: not listed Japan PDSCL: not listed Japan SSL/PRTR: not listed S200 mg/kg LC_Lowint korea TCCA: not listed Korea Exist.Chem.Inventory: KE-13217 LDS50drt at: 6200 mg/kg LC_Lowint pm: 1400 mg/kg LC_GSnit mailer: 100 ng/kg LDS50drt at: 200 000 mg/kg LDS50drt at: 100 log g/m ² LCS50ht mouse: [4h] 39 g/m ² LCS50ht mouse: 3450 mg/kg LDS50drat at: 100 ng/kg LDS50drat at: 100 ng/kg LDS50drt at: 20000 mg/kg LDS50drt at: 2000 ng/kg LDS50drt at: 100 ng/kg LDS50drt at: 7.10-phenanthrolin CAS No: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Japan SSL/PRTR: not listed California Proposition 65 List: not listed Japan SSL/PRTR: not listed California Proposition 65 List: not listed Japan SSL/PRTR: not listed California Proposition 65 List: not listed Japan SSL/PRTR: not listed California Proposition 65 List: not listed Japan SSL/PRTR: not listed California Proposition 65 List: not listed Japan SSL/PRTR: not listed California Proposition 65 List: not listed Japan SSL/PRTR: not listed LDS50drt at: 132 mg/kg LD550drt at: 132 mg/kg LD550drt at: 132 mg/kg LD550drt at: 132 mg/kg LD550genuduktionnetiles aubcapitatizztics 36 lg/L PNEC Predicated No Effected Concentration LCS50genuduktionnetiles aubcapitatizztics 0.78 mg/L ECS50genuduktionnetiles aubcapitatizztics 0.78 mg/L ECS50genuduktionnetiles aubcapitatizztics 0.78 mg/L ECS50genuduktionnetiles aubcapitatizztics 0.78 mg/L ECS50genuduktionnetiles aubcapitatizztics 0.78 mg/L ECS50gen				
Exposure Routes: inhalation, ingestion, skin and/or eye contact Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive si Symptoms: initiation eyes, skin, nose, headache, drowsiness, lassitude (weakness, exhaustion liver damage; anemia; reproductive, teratogenic Australia NICNAS: not listed Description of listed Japan SGL/PRTR: not listed, Japan PDSCL: not listed South Korea TCCA: not listed Korea Exist.Chem.Inventory: KE-13217 LD50ut rat: 6200 mg/kg LC_Lowini gna; 21.9 g/m ² LC_S00 ₁₁ rat: [10h] 20 g/m ² LC500 ₁₁ rat: [10h] 20 g/m ² LD500				on 65 List: not listed
Target Organs: Eyes, skin, respiratory system, certral nervous system, liver, blood, reproductive significance of the system				taat
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion liver dramage; anemia; reproductive, teratogenic Australia NiCNAS: not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Japan PDSCL: not listed South Korea Exist. Chem. Inventory: KE-13217 LDSOntrat: 6200 mg/kg LC_Lowin pg; 2,19 g/m ³ LC_Lowin pg; 2,19 g/m ³ LC_SOhit rause: [4h] 39 g/m ⁴ LCSOhit rause: [4h] 39 g/m ⁴ LCSOhit rause: [4h] 39 g/m ⁴ LCSOhit rause: 3450 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NiCNAS: not listed LDSOpt rat: 132 mg/kg LDSOpt rat: 132 mg/kg LDSOpt rat: 132 mg/kg CTTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid PNEC = Protected You File State California Proposition 65 List. CAS No.: 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 65 List. 7647-01 PNEC = Protected You File State California Proposition 75 mg/L ECSOdgehymen: 24.6 mg/L ECSOdgehymene State Protected California Proposition 70 ECSO Protected You File Protected California Proposition 70 ECSO Protected You File Protected California Protected Protected California Protected Protec		•		
liver damage: anemia; reproductive, teriatogenic Australia N(CNAS): not listed Japan CSCL/PRTR: not listed Japan PDSCL: not listed Japan SSL yes Japan CSCL/PRTR: not listed Vol.20,1%, Article 57-2 (SDS required) South Korea TCCA: not listed Korea Exist Chem.Inventory: KE-13217 LDSSourt :: 6200 mg/kg LC_LOWnit jpg: 21.9 g/m ³ LC_SO _h t mouse: [4h] 39 g/m ³ LCSO _h t mouse: [4h] 39 g/m ³ LCSO _h t mouse: 3450 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanttrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia N(CNAS): not listed California Proposition 65 List: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed California Proposition 65 List: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed California Proposition 65 List: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LDSO _{bort} ar: 132 mg/kg LDSO _{bort} ar: 32 mg/kg LDSO _{bort} ar: 32 mg/kg LDSO _{bort} ar: 32 mg/kg LDSO _{bort} ar: 132 mg/kg LDSO _{bort} ar: 100 mL Iron R1 Chemical: hydrochloric acid PNEC(preprevent): 36 ug/L PNEC = Predided No Effected Concentration LCSO ₁ terviewent : 0.78 mg/L ECSOJapeniaterviewent : 0.78 mg/L Water hazard class (VCI): 8 B				
Australia NiCNAS: not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Japan PDSCL, not listed Korea Exist.Chem.Inventory: KE-13217 LDSOn'trat: 6200 mg/kg LC_Lowinipg: 2.19.g/m ³ LC_SO _h trat: 110h 120 g/m ³ LCSO _h trat: 10h 120 g/m ³ LDSO _{ord} mouse: 3450 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1, 10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Japan CSCL/PRTR: not listed LDSO _{ort} rat: 132 mg/kg LDSO _{ort} rat: 328 mg/kg CTION 12: Ecological information LDSO _{ort} rat: 328 mg/kg LDSO _{ort} rat: 132 mg/kg LDSO _{ort} rat: 140 CHeck reference concentration LCSO _{fileNDER} : 24 6 mg/L ECSO _{fileNDER} : 1 WCK NO.: 0238 Storage class (VCI): 8 B		liver damage; anemia; rep	productive, teratogenic	
Japan ISHL: listed 20,1%/20,1%, Article 57-2 (SDS required) South Korea TCCA: not listed Korea Exist Chem.Inventory: KE-13217 LD50ort rat: 6200 mg/kg LC_Lowin typp: 2, 21,9 g/m ³ LC_Solhi rat: [10h] 20 g/m ³ LC50hi mouse: [4h] 39 g/m ³ LC50hi mouse: 3450 mg/kg LD50ort mouse: 3450 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed, Japan PDSCL: not listed Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan CSCL/PRTR: not listed, Japan PDSCL: not listed LD50ort mus: 75 mg/kg LD50ort mus: 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No:: 7647-01: PNEC(mether water): 36 µg/L PNEC = Predicted Mo Effected Concentration LC500mshygeh: 24.6 mg/L EC500agenolaxi4h: 0.492 mg/L		Australia NICNAS:	not listed Canada CER	PA 1999: DSL yes
South Korea TCCA: not listed Korea Exist Chem.Inventory: KE-13217 LDSObrina: 6200 mg/kg LC_Low/thmiging: 21.9 g/m³ LCSObhi mouse: [4h] 39 g/m³ LCSObhi mouse: [4h] 39 g/m³ LCSObhi mai: [10] 20 g/m³ LCSObhi rat: [10] 20 g/m³ LCSObhi rat: [10] 20 g/m³ LCSObhi mouse: 3450 mg/kg TRGS 905 (DE): K5, M5, RF C Chemical: 1, 10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL Yes Japan ISHL: Article 57-2 (DSD required) South Korea TCCA: South Korea TCCA: not listed LD50 gramus: LD50gramus: 75 mg/kg CHON 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No:: 7647-01. PNEC/(trash water): 36 µg/L PNEC 3/paedokitho Effected Concentration LCSObpsecidokitchneritelia subcapitatar/Zh: LCSObpsec				·
Korea Exist.Chem.Inventory: KE-13217 LD50ofrat: 6200 mg/kg LC_LoWintigg: 21.9 g/m ³ LC_SOhtinat: 1400 mg/kg LC50htinat: 100h 20 g/m ³ LD50dmr not: 2000 mg/kg LD50oral mouse: 3450 mg/kg TRGS 905 (DE): K5, M5, RF C Chemical: 1,10-phenanthrolin CAS No: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed California Proposition 65 List: not listed Australia NICNAS: not listed California Proposition 65 List: not listed Australia NICNAS: not listed California Proposition 65 List: not listed Japan CSCL/PRTR: not listed Japan PDSCL: not listed Japan SHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50ofrat: 132 mg/kg LD50ofrat: 75 mg/kg CTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No:: 7647-01 PNEC (freeh water): 36 µg/L EC50qaphia/4h1: 0492 mg/L EC50qaphia/4h1: 0492 mg/L		•		juired)
LD50ort rat: 6200 mg/kg LC_Loworth pag: 21.9 g/m ³ LC_D0with pag: 21.9 g/m ³ LC50th mouse: [4h] 39 g/m ³ LC50th rat: 10h] 20 g/m ³ LC50th rat: 20 000 mg/kg LD50orral mouse : 3450 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: IIsted California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed Canada CEPA 1999: DSL Yes Japan SHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50or rat: 132 mg/kg LD50ir mus: 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid LC50ptsprimus : 24.6 mg/L EC50pseudokirotneriella subcapitatar/72: 0.78 mg/L EC50pseudokirotneriella subcapitatar/72: 0.78 mg/L Botage class (VCI): 8 B 20 g Iron R2				
LC_Lowini gag: 21.9 g/m ³ LC_Lowort hmn: 1400 mg/kg LC500tr trat: [10h] 20 g/m ³ LD50drm trat: [10h] 20 g/m ³ LD50drm trat: [10h] 20 g/m ³ LD50drm trat: 20 000 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan CSCL/PRTR: not listed, Japan PDSCL: not listed LD50ort nat: 132 mg/kg LD50ort nat: 132 mg/kg LD50ort nat: 75 mg/kg CTTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No.: 7647-01: PNEC (tresh water): 36 ug/L PNEC = Predicted No Effected Concentration LC50glashmeth = 0.492 mg/L EC50gaepudok:choneirlasta72b; 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B		LD50 _{orl rat} :		
LC_LOWorthmn: 1400 mg/kg LC50ihi mouse: [4h] 39 g/m ³ LC50ihi rat: [10h] 20 g/m ³ LD50oral mouse: 3450 mg/kg TRGS 905 (DE): K5, M5, RF C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan SCL/PRTR: not listed, Japan PDSCL: not listed LD50 _{ort rat} : 132 mg/kg LD50 _{ort rat} : 132 mg/kg LD50 _{ort rat} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No.: 7647-01. PNEC = Predicted No Effected Concentration LC50 _{fish/96h} : 24.6 mg/L EC50bapendokitcherienia subcepitata/72n; 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B		LC Lowihl gpg :	21.9 g/m ³	
LCS0.htrat: [10h] 20 g/m ³ LDS0.drm rbt : 20 000 mg/kg DS0.oral mouse : 3450 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50.ort rat : 132 mg/kg LD50.pr mus : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No.: 7647-01: PNEC [rftesh water] : 36 µg/L PNEC = Predicted No Effected Concentration LC50.fish/96h : 24.6 mg/L EC50.daphnia/44h : 0.492 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B		LC_Low _{orl hmn} :		
LD50drm rbi : 20 000 mg/kg LD50oral mouse : 3450 mg/kg TRGS 905 (DE): K5, M5, RF C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50otrati : 132 mg/kg LD50tpr mus : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No.: 7647-01: PNEC (resh water) : 36 µg/L PNEC = Predicted No Effected Concentration LC50fpshigeh : 24.6 mg/L EC50daphnia/49h : 0.492 mg/L				
LD50 _{oral mouse} :: 3450 mg/kg TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CL/PRTR: not listed Japan PDSCL: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50 _{ol1} rat: 132 mg/kg LD50 _{lpr mus} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid PNEC (tresh water): 36 µg/L PNEC = Predicted No Effected Concentration LC50 _{lish/96h} : 24.6 mg/L EC50 _{bish/96h} : 24.6 mg/L EC50 _{bish/96h} : 0.492 mg/L EC50 _{bish/96h} : 0.492 mg/L EC50 _{bish/96h} : 0.492 mg/L EC50 _{bish/96h} : 1 WGK No.: 0238 Storage class (VCI): 8 B				
TRGS 905 (DE): K5, M5, R _F C Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan CSCL/PRTR: Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan SHL: Australia NICNAS: Toticle 57-2 (SDS required) South Korea TCCA: not listed LD50 _{off} rat: Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50 _{off} rat: 132 mg/kg LD50 _{off} rat: 132 mg/kg DS0 _{off} rat: 36 µg/L Pollowing information is valid for pure substances. CAS No:: 7647-01: PMEC = Predicted No Effected Concentration CAS No:: 7647-01: PNEC = Predicted No Effected Concentration C46 mg/L LC50pseudokirchneriells subcapitata/72h: 0.78 mg/L EC50pseudokirchneriells subcapitata/72h: 0.78 mg/L EC50pseudokirchneriells subcapitata/72h: 0.78 mg/L EC50pseudokirchneriells subcapitata/72h: 0.78 mg/L			0 0	
Chemical: 1,10-phenanthrolin CAS No.: 66-71-7 TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan 18HL: Japan ISHLE: Anticle 57-2 (SDS required) South Korea TCCA: not listed LD50 _{oft rat} : LD50 _{oft rat} : 132 mg/kg LD50 _{oft rat} : 75 mg/kg CCTION 12: Ecological information CAS No.: 7647-01 Phecc(rigen water): 36 µg/L Pologinal: hydrochloric acid Chemical: 0.492 mg/L EC500pseudokirohneriella subcepitata/72h: 0.78 mg/L EC50pseudokirohneriella subcepitata/72h: 0.78 mg/L Water hazard class (DE): 1 Water hazard class (VCI): 8 B 20 g Iron R2 20 g Iron R2				
TSCA Inventory: listed California Proposition 65 List: not listed Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50 _{off rat} : 132 mg/kg LD50 _{ipr mus} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No.: 7647-01. PNEC (fresh water): 36 µg/L PNEC (fresh water): 0.492 mg/L EC50 _{ipstn/96} h: 24.6 mg/L EC50 _{ipstn/96} h: 0.492 mg/L EC50 _{ipstn/96} h: 0.492 mg/L EC50 _{ipstn/96} h: 0.492 mg/L EC50 _{ipstn/96} h: 0.492 mg/L EC50 _{ipstn/96} h: 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B				CAS No : 66-71-7
Australia NICNÁS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed, Japan PDSCL: not listed Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50 _{orl rat} : 132 mg/kg LD50 _{ipr mus} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid PNEC (fresh water): 36 µg/L PNEC = Predicted No Effected Concentration LC50fish/96h : 24.6 mg/L EC50daphnia/44h : 0.492 mg/L EC50daphnia/44h : 0.492 mg/L EC50pseudokirchneriella subcapitata/72h : 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2				
Japan ISHL: Article 57-2 (SDS required) South Korea TCCA: not listed LD50 _{orl rat} : 132 mg/kg LD50 _{ipr mus} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid PNEC = Predicted No Effected Concentration LC50 _{fish/96h} : 24.6 mg/L EC50 _{daphnia/48h} : 0.492 mg/L EC50 _{daphnia/48h} : 0.492 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2		Australia NICNAS:	not listed Canada CEI	
South Korea TCCA: not listed LD50 _{orf rat} : 132 mg/kg LD50 _{ipr mus} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid PNEC (fresh water): 36 µg/L PNEC = Predicted No Effected Concentration LC50fish/96h : 24.6 mg/L EC50dpseudokirchneriella subcapitata/72h : 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2				
LD50 _{opr mus} : 132 mg/kg LD50 _{ipr mus} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid CAS No.: 7647-01: PNEC (fresh water): 36 µg/L PNEC = Predicted No Effected Concentration LC50fish/96h: 24.6 mg/L EC50daphnia/48h: 0.492 mg/L EC50daphnia/48h: 0.492 mg/L EC50daphnia/48h: 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2				
LD50 _{ipr mus} : 75 mg/kg CCTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid PNEC(fresh water): 36 µg/L PNEC = Predicted No Effected Concentration LC50fish/96h: 24.6 mg/L EC50dpshuia/48h: 0.492 mg/L EC50dpseudokirchneriella subcapitata/72h: 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B				
CTION 12: Ecological information 1 Toxicity Following information is valid for pure substances. 100 mL Iron R1 Chemical: hydrochloric acid PNEC (fresh water): 36 µg/L PNEC = Predicted No Effected Concentration LC50fish/96h : 0.492 mg/L EC50daphnia/48h : 0.492 mg/L EC50pseudokirchneriella subcapitata/72h: 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2				
Chemical: hydrochloric acid CAS No.: 7647-01 PNEC(fresh water) : 36 µg/L PNEC = Predicted No Effected Concentration 24.6 mg/L LC50fish/96h : 24.6 mg/L EC50daphnia/48h : 0.492 mg/L EC50pseudokirchneriella subcapitata/72h : 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2	-	Following information is vali	d for pure substances.	
PNEC(fresh water): 36 µg/L PNEC = Predicted No Effected Concentration 24.6 mg/L LC50fish/96h: 24.6 mg/L EC50daphnia/48h: 0.492 mg/L EC50pseudokirchneriella subcapitata/72h: 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2 20 g Iron R2			hvdrochloric acid	CAS No.: 7647-01-0
LC50 _{fish/96h} : 24.6 mg/L EC50 _{daphnia/48h} : 0.492 mg/L EC50 _{pseudokirchneriella subcapitata/72h} : 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B		PNEC _(fresh water) : PNEC = Predicted No Effe		
EC50daphnia/48h : 0.492 mg/L EC50pseudokirchneriella subcapitata/72h : 0.78 mg/L Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2		LC50 _{fish/96h} :		
Water hazard class (DE): 1 WGK No.: 0238 Storage class (VCI): 8 B 20 g Iron R2		EC50daphnia/48h	0.492 mg/L	
Storage class (VCI): 8 B		EC50pseudokirchnerielle	subcapitata/72h 0.78 mg/L	
20 g Iron R2				
		c (<i>'</i> ,		
		Chemical:	hydroxylammonium chloride	CAS No.: 5470-11-1
Very toxic to aquatic life. Avoid contact of substance/mixture to environment. Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5				
LC50 _{leuciscus idus/96h} : 1-10 mg/L				until 123 me (LO 1212/2000 Primer 1 - 1.0.2).
Water hazard class (DE): 3		Water hazard class (I	DE): 3	
Storage class (VCI): 4.1 A		Storage class (VCI):	4.1 A	
100 mL Iron R3			•	
Chemical: ammonium acetate CAS No.: 631-61-8 Bio Toxicity: 1/4.5/4.8				CAS No.: 631-61-8
LC50 _{fish/96h} : 238 mg/L		5		
Water hazard class (DE): 1 WGK No.: n.n.				
		Storage class (VCI):		
Storage class (VCI): 12-13			acetic acid	CAS No.: 64-19-7
		Chemical:		
Chemical:acetic acidCAS No.: 64-19-7Avoid contact of substance/mixture to environment.CAS No.: 64-19-7		Avoid contact of subs		
Chemical:acetic acidCAS No.: 64-19-7Avoid contact of substance/mixture to environment.CAS No.: 64-19-7		Avoid contact of subs		
Chemical:acetic acidCAS No.: 64-19-7Avoid contact of substance/mixture to environment.CAS No.: 64-19-7		Avoid contact of subs		www.mn
Chemical:acetic acidCAS No.: 64-19-7Avoid contact of substance/mixture to environment.CAS No.: 64-19-7	MACH	Avoid contact of subs PNEC(fresh water) : PNEC = Predicted No Effe	3.058 mg/L acted Concentration	
Chemical: acetic acid CAS No.: 64-19-7 Avoid contact of substance/mixture to environment. PNEC(fresh water) : 3.058 mg/L PNEC = Predicted No Effected Concentration Cas No.: 64-19-7		Avoid contact of subs PNEC _(fresh water) : PNEC = Predicted No Effective EREY-NAGEL GmbH & Co. KG ternational: CH:	3.058 mg/L ected Concentration G · Neumann-Neander-Str. 6–8 · 52355 Dürer : FR:	en · Germany US:

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according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

Printing date: 01.10.2019 Date of issue: 15.03.2019 LC50fish/96h : [4d] 301-1000 mg/L EC50daphnia/48h : 301-1000 mg/L	
IC50 _{scenedesmus} quadricauda/72h : 301-1000 mg/L Water hazard class (DE): 1 WGK No.: 0093 Dispersion coefficient _{(octanol-water}) : -0,17 Storage class (VCI): 8 B	
100 mL Iron R4 Chemical: <i>ethanol</i> PNEC _(fresh water) : 0.96 mg/L PNEC = Predicted No Effected Concentration	CAS No.: 64-17-5
LC50daphnia magna/48h : >100 mg/L LC50pimephales promelas/96h : 13400 - 15100 mg/L LC50leuciscus idus/96h : [48h] 8140 mg/L LC50fish/96h : 13 g/L EC50daphnia/48h : 9.3-14.2 g/L IC50scenedesmus quadricauda/72h : [7d] 5000 mg/L EC10pseudomonas putita/16h : [EC5] 6500 mg/L Water hazard class (DE): 1 WGK No.: 0096 Dispersion coefficient(octanol-water) : -0.31 3	
Chemical: <i>1,10-phenanthrolin</i> Water hazard class (DE): 2 Storage class (VCI): 6.1 B	CAS No.: 66-71-7
12.2 Persistence and degradability not necessary	
12.3 Bioaccumulative potential not necessary	
12.4 Mobility in soil not necessary	
12.5 Results of PBT and vPvB assessment no data available	
12.6 Other adverse effects	

no additional data available

SECTION 13: Disposal considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).

13.1 Waste treatment methods

Normally it is possible to empty small amounts (diluted!) into drains. Empty containers of corrosive reagents prior to disposal, rinse with water.

SECTION 14: Transport information

	UN number: Class:	3316 9		UN proper shipping Packing group: II	name: Chemical Kit
Road	transport				
Classi	fication code:	M11		Tunnel restriction coc	le: E
Limite	d Quantity:	acc. Al	DR 3.3	.1/251: see LQ in Alter	native declaration for transportation
Air tra	nsport				
PAX:		960		max. weight PAX:	10 KG
CAO:		960		max. weight CAO:	10 KG
Maritii	me transport				
EmS:		F-A, S	-P	Storage category:	A

Or use Alternative declaration for transportation:



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according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

EF: 91836		NAI	NOCOLOR Iron	Page: 12/13
inting date: 01.10.2019		Dat	e of issue: 15.03.2019	
14.1 UN number: 14.2 UN proper shi 14.3 Class: Road transport		Environmentally haza Packing group: III	rdous substance, solid, n.o.s. (hydroxylammonium chlo	oride mixture)
Classification code:	M7			
Limited Quantity:	5 Kg	Tunnel restriction coo	de: E	
Excepted Quantity: Air transport	E 1	Special instructions:	335 (< 10 g) and 375 (< 5 kg) nicht/not ADR	
PAX:	956	max. weight PAX:	400 Kg	
CAO:	956	max. weight CAO:	400 Kg	
Maritime transport		Ũ	C C	
	F-A. S-F	Storage category:	A	

14.5 **Environmental hazards**

none, contains only small quantities of hazardous substances

- 14.6 Special precautions for user not necessary
- 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

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013 German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung -GefStoffV), revised on November 2010, according to Directive 98/24/EC TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products,

updated October 2011

MN Leaflet/User manual, also see www.mn-net.com Look for your country-specific regulations.

15.2 **Chemical safety assessment**

not necessary for these small amounts ---

SECTION 16: Other information

16.1 List of H and P phrases

16.1.1	List of relevant H phrases				
	H226	Flammable liquid and vapour.			
	H290	May be corrosive to metals.			
	H302	Harmful if swallowed.			
	H312	Harmful in contact with skin.			
	H314	Causes severe skin burns and eye damage.			
	H315	Causes skin irritation.			
	H317	May cause an allergic skin reaction.			
	H319	Causes serious eye irritation.			
	H351	Suspected of causing cancer.			
	H373	May cause damage to organs through prolonged or repeated exposure.			
	H400	Very toxic to aquatic life.			
16.1.2	List of relevant P	phrases			
	P201	Obtain special instructions before use.			
	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.			
	P260sh	Do not breathe dust/vapours.			
	P261sh	Avoid breathing dust/vapours.			
	P264W	Wash with water thoroughly after handling.			
	P273	Avoid release to the environment.			
	P280sh	Wear protective gloves/eye protection.			
	P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.			
	P302+352	IF ON SKIN: Wash with plenty of water.			
	P303+361+353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].			
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy			
		do. Continue rinsing.			



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REF: 91836		NANOCOLOR Iron	Page: 13/13				
Printing	g date: 01.10.2019	Date of issue: 15.03.2019					
	P310 P330 P390	Immediately call a POISON CENTER/doctor. Rinse mouth. Absorb spillage to prevent material damage.					
16.2	Training advice Multiple safety trainin staffs for using these	afety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of					
16.3	Recommended restriction on use Only for professional user. Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)! Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)! An individual package of this product or test kit has a moderate hazardous potential.						
16.4	 Further information MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realization revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly tr person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose. MACHEREY-NAGEL GmbH & Co. KG makes NO REPRESENTATIONS or WARRANTIES, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein product to which the information refers. Accordingly MACHEREY-NAGEL GmbH & Co. KG will not be responsible for damages refrom use of or reliance upon this information. 						
16.5	Sources of key data Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS Regulation 487/2013/EU, 4 th adaptation of CLP regulation to technical and scientific progress Regulation 669/2018/EU, 4 th adaptation of CLP regulation to technical and scientific progress						

TRGS 900, German engineering rules governing limits in air at work, updated 03/2018

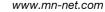
SUVA .CH, Limits in air at work 2009, revised on 01.2009

 TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011

 KÜHN, BIRETT
 Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU 2017-08 Adaption of new ethanol denaturation 2016/1867/EU





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