

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 05.11.2015

Date of issue: 28.10.2015

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

1.1 Product identifier

REF 985036
 Product name NANOCOLOR COD LR 150
 20 x 2 mL COD LR150

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: msds@mn-net.com

1.4 Emergency telephone number

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

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

2 mL COD LR150

Directive 1999/45/EC

Symbols

R 23/24/25-33-35



C T

CLP Directive 1272/2008/EC

GHS pictograms



GHS05 GHS07 GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H302	Acute Tox. 4 oral
H312	Acute Tox. 4 derm.
H314	Skin Corrosion 1A. Serious Damage to Eyes 1
H332	Acute Tox. 4 inh.
H373	STOT RE 2
H412	Hazardous to the aquatic environment - chronic cat. 3

2.2 Label elements

According 1999/45/EC small amounts of harmful and highly flammable preparations/mixtures have partly/completely exemption from labelling (no symbols F, O, Xn, Xi, N and no R and S phrases are necessary) until **25-125 mL/g** .

According **CLP (GHS)** inner packages must be only labelled with symbol(s) and product identifier.
 Harmful chemicals/mixtures with signal word: **WARNING** must not be labelled with H and P phrases until **125 mL** or **125 g** (EU 1272/2008 Annex I - 1.5.2).

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2 mL COD LR150

Directive 1999/45/EC

Symbols:



C

T

R 23/24/25-33-35

Toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Causes severe burns.

S 26-60

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. This material and its container must be disposed of as hazardous waste.

CLP Directive 1272/2008/EC

GHS pictograms:



GHS05

GHS07

GHS08

Signal word: DANGER

H314

Causes severe skin burns and eye damage.

P260D, P280sh, P301+330+331, P303+361+353, P304+340, P305+351+338, P501

Do not breathe vapours. Wear protective gloves/eye protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Dispose of contents/container to regulated waste treatment.

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.

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. Can accumulate within the body.

Information pertaining to particular Risks to the Environment

---Avoid contact of substance/mixture to environment. ---

PBT: not applicable

vPvB: not applicable

Other Hazards

SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

2 mL COD LR150

Chemical:	<i>silver sulfate</i>	CAS No.:	10294-26-5
Concentration:	< 1,00 %		
Formula:	Ag ₂ SO ₄		
Pseudonym:	disilver(1+) sulfate		
REACH Reg. No.:	01-2119918297-31-xxxx		
EC No.:	233-653-7		
TSCA Inventory:	listed		
KE No.:	KE-12273, >25% Toxic 97-1-92		
acc. 1999/45/EC:	-	acc. CLP (GHS):	not necessary

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Chemical: <i>sulfuric acid</i>	CAS No.: 7664-93-9
Concentration: 80 - 98 %	
Formula: H ₂ SO ₄	
REACH Reg. No.: 01-2119458838-20-xxxx	
EC No.: 231-639-5	Indice No.: 016-020-00-8
RTECS: WS5600000	
TSCA Inventory: listed	
KE No.: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.	
acc. 1999/45/EC: R 35	acc. CLP (GHS): H314
Chemical: <i>potassium dichromate</i>	CAS No.: 7778-50-9
Concentration: < 0,10 %	Correlation factor: x 0.79 (= %CrO ₄)
Formula: K ₂ Cr ₂ O ₇	
REACH Reg. No.: 01-2119454792-32-0004	
SVHC listed: yes, exempt for formulation and use acc. Art. 56(3) and Q&A 1030	
EC No.: 231-906-6	Indice No.: 024-002-00-6
RTECS: HX7680000	MFCD: 00011367
TSCA Inventory: listed	
KE No.: not listed	
acc. 1999/45/EC: -	acc. CLP (GHS): not necessary
Chemical: <i>mercury(II) sulfate</i>	CAS No.: 7783-35-9
Concentration: 0,74 - 1,5 %	Correlation factor: x 0.68 (= %Hg)
Formula: HgSO ₄	
Pseudonym: mercuric sulfate	
EC No.: 231-992-5	Indice No.: 080-004-00-7
RTECS: OX0500000	
TSCA Inventory: listed	
KE No.: KE-23132, Toxic 97-1-140	
acc. 1999/45/EC: R 23/24/25-33-52/53	acc. CLP (GHS): H302, H312, H332, H373, H412

3.3 Remarks

List of R and H phrases: see chapter 16

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

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 DISTRESS ensure that the patient inhales oxygen.

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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

Formation of hazardous and caustic vapour-air mixtures possible. Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances.

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

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, contains only small amounts of these substances

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product. Use a safety bottle when shaking test tubes.

7.2 Conditions for safe storage, including any incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage.
Storage class (German chemical industry): see chapter 12.1

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.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

2 mL COD LR150

Chemical: *silver sulfate*

CAS No.: 10294-26-5

EU value:

0,01_{Ag} e mg/m³

TRGS 900 (DE):

0,01_{Ag} E mg/m³

E/e respirable

Short-term exposure factor: 2 (I)

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

NIOSH: TWA 0.01 mg/m³

OSHA: TWA 0.01 mg/m³

Chemical: *sulfuric acid*

CAS No.: 7664-93-9

EU value:

0.1 e mg/m³

TRGS 900 (DE):

0.1 E mg/m³

E/e respirable

Short-term exposure factor: 1 (I), Y

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skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 0,1 e mg/m³
 NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); TWA 1 mg/m³
 OSHA: TWA 1 mg/m³

Chemical: *potassium dichromate* CAS No.: 7778-50-9
 DNEL: 0.01_{inh} mg/m³
 DNEL = Derived No-Effect Level (for workers)
 TRGS 900 (DE): (0,05 E Cr(VI)_{ausgesetzt}) mg/m³
 E/e respirable

Short-term exposure factor: (4), H
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 0,05 e mg/m³
 SUVA(CH) BAT value: U/b 20 µg/L
 NIOSH: NTP Report on Carcinogens (RoC) List Yes (Chromium VI - Known to be a human carcinogen); TWA
 8h 0.0002CrO₃ mg/m³
 OSHA: TWA_{8h} 0.005CrO₃ mg/m³

Chemical: *mercury(II) sulfate* CAS No.: 7783-35-9
 EU value: 0.02_{Hg} e mg/m³
 TRGS 900 (DE): 0,02_{Hg} E mg/m³
 E/e respirable

Short-term exposure factor: 8 (II), H, Sh
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 0,1 e mg/m³
 SUVA(CH) BAT value: Krea U/d 35 µg/L
 TRGS 903 (DE): U/a 25_{Kreatinin} µg/g
 B blood, U urine
 NIOSH: Hg Vapor: TWA_{skin} 0.05; other 0.1 mg/m³
 OSHA: TWA 0.1 mg/m³

8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory Protection

Only if additional recommendations in test instruction or packing insert.

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.

8.2.3 Eye Protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection or face protection.

8.2.4 Skin Protection

Recommended to avoid clothing damage, and to avoid contamination with these hazards.

8.2.5 Personal Hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

2 mL COD LR150
 Appearance : liquid Color : yellow Odor : odorless

9.2 Other information

Relevant Properties of Substance Group

9.2.1

- Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.

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SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No known instability.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Not necessary. Only if on label. Or when indicated in packing insert.

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.

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.

2 mL COD LR150

Chemical: *silver sulfate* CAS No.: 10294-26-5
 TSCA Inventory: listed
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Nasal septum, skin, eyes
 Symptoms: Blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance
 Korea Exist.Chem.Inventory: KE-12273, >25% Toxic 97-1-92
 LD50_{orl rat}: ~5000 mg/kg

Chemical: *sulfuric acid* CAS No.: 7664-93-9
 TSCA Inventory: listed California Proposition 65 List: not listed
 ACGIH: 1 ppm
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, teeth
 Symptoms: irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis; dental erosion; eye, skin burns; dermatitis
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
 Japan CSCL/PRTR: not listed
 Japan PDSCL: Deleterious Substance Yes Japan ISHL: Article 57-2 (SDS required)
 South Korea TCCA: Accident Precaution Chemical Yes
 Korea Exist.Chem.Inventory: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.
 LD50_{orl rat}: 2140 mg/kg
 LC50_{ihl mouse}: 320_{4h} mg/L
 LC50_{ihl rat}: 510 mg/m³

TRGS 905 (DE): R_F C

Chemical: *potassium dichromate* CAS No.: 7778-50-9
 TSCA Inventory: listed California Proposition 65 List: listed cancer, developmental, female, male
 ACGIH: 0.05_{CrVI} mg/m³
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Blood, respiratory system, liver, kidneys, eyes, skin; [lung cancer]
 Symptoms: irritation respiratory system; nasal septum perforation; liver, kidney damage; leukocytosis (increased blood leukocytes), leukopenia (reduced blood le
 Japan CSCL/PRTR: not listed
 Japan PDSCL: not listed Japan ISHL: Article 57-2 (SDS required)
 South Korea TCCA: yes, Restricted Chemical
 Korea Exist.Chem.Inventory: not listed
 LD50_{orl rat}: 25 mg/kg
 LC_{Loworl gpg}: 163 mg/kg
 LC50_{ihl rat}: 0.094_{4h} mg/L
 LD50_{drm rat}: 1170 mg/kg

EU carcinogen: carc. 1B, mutag. 1B, repr. 1B

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TRGS 905 (DE): K2
 TRGS 907 (DE): Sh

Chemical: *mercury(II) sulfate* CAS No.: 7783-35-9
 TSCA Inventory: listed California Proposition 65 List: listed developmental
 Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, central nervous system, kidneys
 Symptoms: irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headac
 Australia NICNAS: not listed Canada CEPA 1999: yes (mercury compound - Item 8.)
 Japan CSCL/PRTR: not listed Japan ISHL: Article 57-2 (SDS required)
 Japan PDSCCL: not listed
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-23132, Toxic 97-1-140
 LD50_{orl rat}: 57 mg/kg
 LD50_{drm rat}: 625 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 damage to organs through prolonged or repeated exposure.
 TRGS 907 (DE): Sh

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

2 mL COD LR150

Chemical: *silver sulfate* CAS No.: 10294-26-5
 WGK (DE): 3
 Storage class (VCI): 12

Chemical: *sulfuric acid* CAS No.: 7664-93-9
 Avoid contact of substance/mixture to environment.
 LC50_{fish/96h}: 16-29 mg/L
 EC50_{daphnia/48h}: 29_{24h} mg/L
 WGK (DE): 1 WGK No.: 0182
 Storage class (VCI): 8 B

Chemical: *potassium dichromate* CAS No.: 7778-50-9
 LC50_{fish/96h}: 26.13 mg/L
 EC50_{daphnia/48h}: 0.77 mg/L
 WGK (DE): 3 WGK No.: 339
 Storage class (VCI): 6.1 B

Chemical: *mercury(II) sulfate* CAS No.: 7783-35-9
 Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
 Environmental hazards must not be labelled with P phrases until 125 mL or 125 g (EU 1272/2008 Annex I - 1.5.2).
 Bio Toxicity: LC50 : 0.5_{HgCl2/48h} mg/L
 WGK (DE): 3 WGK No.: 0412
 Storage class (VCI): 6.1 B

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

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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

Empty containers of corrosive reagents prior to disposal, rinse with water.

SECTION 14: Transport information

14.1. UN number: 3316 **14.2. UN proper shipping name:** Chemical Kit
14.3. Class: 9 **14.4. Packing group:** II
Road transport
 Classification code: M11 Tunnel restriction code: E
 Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative transport labelling
Air transport
 PAX: 960 max. weight PAX: 10 KG
 CAO: 960 max. weight CAO: 10 KG
Maritime transport
 EmS: F-A, S-P Storage category: A

Alternative transport labelling follows:

14.1 UN number: 2922
14.2 UN proper shipping name: Corrosive liquid, toxic, n.o.s. (sulfuric acid, mercury(II) sulfate solution)
14.3 Class: 8 **Additionally class:** 6.1 _ 14.4 Packing group: II }
Road transport
 Classification code: CT1
 Limited Quantity: 1 L Tunnel restriction code: E
 Excepted Quantity: E 2
Air transport
 PAX: 851 max. weight PAX: 1 L
 CAO: 855 max. weight CAO: 30 L
Maritime transport
 EmS: F-A, S-B Storage category: B

14.5 Environmental hazards

not necessary, contains only small quantities of hazardous substances , contains only small amounts of these 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

15.2 Chemical safety assessment

not necessary for these small amounts

SECTION 16: Other Information

16.1 List of R and H phrases

16.1.1 List of relevant R phrases

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
 R33 Danger of cumulative effects.
 R35 Causes severe burns.
 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.1.2 List of relevant H phrases

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H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

16.2 Training Advice

Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

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 DE §§ 4 und 5 MuSchRIV)!

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 realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.

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16.5 Sources of Key Data

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS

Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress

TRGS 900, German engineering rules governing limits in air at work, updated February 2015

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

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

Revisions/Updates

Reason for Revision: 2014-02 Corrected structure of sections acc. regulation 453/2010/EU, if necessary

2014-04 Adaptation of regulation 487/2013/EU

You find our current versions of MSDS in Internet:

<http://www.mn-net.com/MSDS>