Material Safety Data Sheet
according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Identification of the Substance/Mixture and of the Company

1.1 Product identifier
REF 915003
Product name VISOCOLOR HE kit Alkalinity C20/paper
1 x 10 mL Indicator m
1 x 10 mL Indicator p
1 x 100 mL TL C 20

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
Uses advised against
not described

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

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

Missing subsections are not relevant for the risk assessment of the product and may be omitted programmatically.

Hazard Identification

2.0 Classification of the complete product
Directive 1999/45/EC
Symbols -
R -
CLP Directive 1272/2008/EC
GHS pictograms

GHS02

Signal word DANGER

Hazard identification Hazard classes/categories
H225 Flammable Liquid cat. 2

2.1 Classification of the substance(s) or mixture(s)
10 mL Indicator m
Directive 1999/45/EC
Symbols -
do not need labelling as hazardous

CLP Directive 1272/2008/EC
GHS pictograms

GHS02
Material Safety Data Sheet
according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 06.02.2015  Date of issue: 28.01.2015  Page: 2/10

Signal word  DANGER
Hazard identification  Hazard classes/categories
H225  Flammable Liquid cat. 2

10 mL Indicator p

Directive 1999/45/EC

Symbols  do not need labelling as hazardous

CLP Directive 1272/2008/EC

GHS pictograms

Signal word  DANGER
Hazard identification  Hazard classes/categories
H225  Flammable Liquid cat. 2

100 mL TL C 20

Directive 1999/45/EC

Symbols  do not need labelling as hazardous

CLP Directive 1272/2008/EC

GHS pictograms  do not need labelling as hazardous

Signal word  -
No hazard class

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 identificator.

Harmful chemicals/mixtures with signal word: WARNING and highly flammable chemicals/mixtures must not be labelled with H and P phrases until 125 mL or 125 g (EU 1272/2008 Annex I - 1.5.2).

10 mL Indicator m

Directive 1999/45/EC

Symbols: -

CLP Directive 1272/2008/EC

GHS pictograms:

GHS02

Signal word: DANGER

10 mL Indicator p

Directive 1999/45/EC

Symbols:
Material Safety Data Sheet
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Version: 1.0

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2.3 Other hazards

Possible Hazards from physicochemical Properties

According to our current status of knowledge and experience we state, that this product does not contain any substances, which - in accordance with EC regulations 1272/2008/EC, 1907/2006/EC, 1999/45/EC and German Regulations for Hazardous goods - have to be declared as dangerous goods, either because of their applied concentration or because of their total amount in anyone kit.

An individual package has considerably less hazardous potential.

Information pertaining to particular Risks to Human and possible Symptoms

Information pertaining to particular Risks to the Environment

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Other Hazards

--- Flammable properties. Vapour forms explosive mixtures with air.

3 Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

10 mL Indicator m

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS No.: 493-52-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl red (pH indicator)</td>
<td></td>
</tr>
<tr>
<td>Concentration:</td>
<td>&lt; 1.00 %</td>
</tr>
<tr>
<td>Formula:</td>
<td>C_{15}H_{15}N_{3}O_{2}</td>
</tr>
<tr>
<td>Pseudonym:</td>
<td>4-(dimethylamino)-azobenzene-1,2'-carbonic acid</td>
</tr>
<tr>
<td>EC No.:</td>
<td>207-776-1</td>
</tr>
<tr>
<td>RTECS:</td>
<td>DG8960000</td>
</tr>
<tr>
<td>TSCA Inventory:</td>
<td>listed</td>
</tr>
<tr>
<td>KE No.:</td>
<td>KE-06693</td>
</tr>
<tr>
<td>acc. 1999/45/EC:</td>
<td>-</td>
</tr>
</tbody>
</table>

acc. CLP (GHS): not necessary
### 3.3 Remarks

List of R and H phrases: see chapter 16

### 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.

- **After SKIN Contact**
  Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

- **After EYE Contact**
  After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

- **After INHALATION of Vapours**

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**Material Safety Data Sheet**

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

**Chemical:** ethanol (denatured with MEK)  
**CAS No.:** 64-17-5  
**Concentration:** 55 - 75 %  
**Formula:** C₂H₆O  
**Pseudonym:** ethyl alcohol, methylated spirit  
**REACH Reg. No.:** 01-2119457610-43-xxxx  
**EC No.:** 200-578-6  
**Indice No.:** 603-002-00-5  
**RTECS:** KQ6300000  
**TSCA Inventory:** listed  
**KE No.:** KE-13217  
**acc. 1999/45/EC:** R 11  
**acc. CLP (GHS):** H225

**Chemical:** indicator dye(s)  
**Concentration:** 0,1 - 1 %  
**Formula:** C₂₀H₁₄O₄  
**Pseudonym:** 3,3-bis(4-hydroxyphenyl)-1(3H)-isobenzofuranone  
**SVHC listed:** YES  
**EC No.:** 201-004-7  
**Indice No.:** 604-076-00-1  
**RTECS:** SM8380000  
**TSCA Inventory:** listed  
**KE No.:** KE-03234  
**acc. 1999/45/EC:** -  
**acc. CLP (GHS):** not necessary

**Chemical:** phenolphthaleine (pH indicator)  
**CAS No.:** 77-09-8  
**Concentration:** 0,1 - 1 %  
**Formula:** C₂₀H₁₄O₄  
**Pseudonym:** 3,3-bis(4-hydroxyphenyl)-1(3H)-isobenzofuranone  
**REACH Reg. No.:** 01-2119498295-24-0000  
**SVHC listed:** YES  
**EC No.:** 201-004-7  
**Indice No.:** 604-076-00-1  
**RTECS:** SM8380000  
**TSCA Inventory:** listed  
**KE No.:** KE-03234  
**acc. 1999/45/EC:** -  
**acc. CLP (GHS):** not necessary

**Chemical:** hydrochloric acid  
**CAS No.:** 7647-01-0  
**Concentration:** 0,1 - 1 %  
**Formula:** HCl•H₂O  
**REACH Reg. No.:** 01-2119484862-27-xxxx  
**EC No.:** 231-556-7  
**Indice No.:** 017-002-01-X  
**TSCA Inventory:** listed  
**KE No.:** KE-20189, >10% Toxic 97-1-203, Acc. Precaution Chem.  
**acc. 1999/45/EC:** -  
**acc. CLP (GHS):** not necessary
4.1.4 After ORAL Intake
After oral intake lots of water should be drunk after it has been ingested.

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

4.3 Indication of any immediate medical attention and special treatment needed
No additionally recommendations.

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.

5.3 Advice for firefighters
No, for listed product. Product package burns like paper or plastic.

5.4 Additional Information

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Do not breathe vapours. Regular staff training is necessary.

6.2 Environmental precautions

6.3 Methods and material for containment and cleaning up
Bind any escaping liquid with inert absorbent. Collect small amounts of leaked liquid and flush with water into drains.

6.4. Reference to other sections

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 (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.

7.3. Specific end use(s)

8 Exposure Controls/Personal Protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS No.</th>
<th>Physical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 mL Indicator m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical: methyl red (pH indicator)</td>
<td>493-52-7</td>
<td></td>
</tr>
<tr>
<td>Korea ExiChem, Inventory: KE-06693</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSCA Inventory: listed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS No.</th>
<th>Physical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol</td>
<td>64-17-5</td>
<td></td>
</tr>
<tr>
<td>DNEL = Derived No-Effect Level (for workers)</td>
<td>950 inh-sys mg/m³</td>
<td></td>
</tr>
<tr>
<td>TRGS 900 (DE):</td>
<td>500 mL/m³ / 960 mg/m³</td>
<td></td>
</tr>
<tr>
<td>E/e respirable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term exposure factor:</td>
<td>2 (II), Y</td>
<td>skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded</td>
</tr>
</tbody>
</table>
8.2 Exposure controls

SUVA(CH) MAK value: 500 ppm / 960 mg/m³
TRGS 905 (DE): K5, M5, R1-C
Australia NICNAS: not listed
Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed
Japan PDSC: not listed
Japan ISHL: Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea exist.Chem.Inventory: KE-13217
TSCA Inventory: listed
California Proposition 65 List: listed
NIOSH: not listed
OSHA: 1000 ppm / 1900 mg/m³

Chemical: *indicator dye(s)*
CAS No.: -

**10 mL Indicator p**
Chemical: *ethanol*
CAS No.: 64-17-5

DNEL = Derived No-Effect Level (for workers)

**DNEL**

950 inh-sys fl/g/l

**TRGS 900 (DE)**: 500 mL/m³ / 960 mg/m³

**E/I respirable**

Short-term exposure factor: 2 (II), Y

**SUVA(CH) MAK value**: 500 ppm / 960 mg/m³
**TRGS 905 (DE)**: K5, M5, R1-C
**Australia NICNAS**: not listed
**Japan CSCL/PRTR**: not listed
**Japan PDSC**: not listed
**South Korea TCCA**: not listed
**Korea exist.Chem.Inventory**: KE-13217
**TSCA Inventory**: listed
**California Proposition 65 List**: listed
**NIOSH**: not listed
**OSHA**: 1000 ppm / 1900 mg/m³

Chemical: *phenolphthaleine (pH indicator)*
CAS No.: 77-09-8

**EU carcinogen**: Carcinogenicity cat. 2, Germ Cell Mutagenicity cat. 3, >5% Reproductive Toxicity cat. 3

**TRGS 905 (DE)**: Karzinogenität Kat. 2
**Australia NICNAS**: not listed
**Japan CSCL/PRTR**: PRTR - Class II Designated Chemical Substance
**Japan PDSC**: not listed
**South Korea TCCA**: not listed
**Korea exist.Chem.Inventory**: KE-03234
**TSCA Inventory**: listed
**California Proposition 65 List**: listed
**NIOSH**: not listed
**OSHA**: not listed

**100 mL TL C 20**

Chemical: *hydrochloric acid*
CAS No.: 7647-01-0

**DNEL**: 8 inh mg/l

**DNEL = Derived No-Effect Level (for workers)**

**EU value**: 5 ppm / 8 mg/m³

**TRGS 900 (DE)**: 2 mg/m³ / 3 mg/m³

**E/I respirable**

Short-term exposure factor: 2 (II), Y

**SUVA(CH) MAK value**: 2 ppm / 3* mg/m³
**Australia NICNAS**: not listed
**Japan CSCL/PRTR**: not listed
**Japan PDSC**: Deleterious Substance Yes
**Japan ISHL**: Article 57-2 (SDS required)
**South Korea TCCA**: Accident Precaution Chemical Yes
**Korea exist.Chem.Inventory**: KE-20189, >10% Toxic 97-1-203, Acc. Precaution Chem.
**TSCA Inventory**: listed
**California Proposition 65 List**: not listed
**NIOSH**: 5 ppm / 7 mg/m³
**OSHA**: List of highly hazardous chemicals, toxics and reactives Yes (TQ = 5000 lbs) n/a; TWA 5 ppm / 7 mg/m³
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.

8.2.4 Skin Protection
Not necessary.

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.

9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Substance</th>
<th>Appearance</th>
<th>Color</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 mL Indicator m</td>
<td>liquid</td>
<td>red</td>
<td>alcoholic</td>
</tr>
<tr>
<td>pH</td>
<td>6-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.89 g/cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>22.5 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in water</td>
<td>0-100 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Appearance</th>
<th>Color</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 mL Indicator p</td>
<td>liquid</td>
<td>colourless</td>
<td>alcoholic</td>
</tr>
<tr>
<td>pH</td>
<td>7-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.89 g/cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>22.5 °C</td>
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</tr>
<tr>
<td>Solubility in water</td>
<td>0-100 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Appearance</th>
<th>Color</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mL TL C 20</td>
<td>liquid</td>
<td>colourless</td>
<td>odorless</td>
</tr>
<tr>
<td>pH</td>
<td>1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.00 g/cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in water</td>
<td>0-100 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2 Other information

9.2.1 Relevant Properties of Substance Group

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

10 Stability and Reactivity

10.1 Reactivity
no data available

10.2 Chemical stability:
no data available

10.3 Possibility of hazardous reactions:
no data available

10.4 Conditions to avoid
Not necessary. When indicated in packing insert.

10.5 Incompatible materials
Not necessary.

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.
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.

10 mL Indicator m

Chemical: methyl red (pH indicator) CAS No.: 493-52-7

Chemical: ethanol CAS No.: 64-17-5

LD50 oral rat: 6200 mg/kg
LC_Low inh g/ml: 21.9 g/m³
LC_Low inh h/m: 1400 mg/kg
LC50 inh mouse: 394 g/m³
LC50 inh rat: 2010 g/m³
LD50 oral rat: 20000 mg/kg
LD50 oral mouse: 3450 mg/kg

Chemical: indicator dye(s) CAS No.: -

10 mL Indicator p

Chemical: ethanol CAS No.: 64-17-5

LD50 oral rat: 6200 mg/kg
LC_Low inh g/ml: 21.9 g/m³
LC_Low inh h/m: 1400 mg/kg
LC50 inh mouse: 394 g/m³
LC50 inh rat: 2010 g/m³
LD50 oral rat: 20000 mg/kg
LD50 oral mouse: 3450 mg/kg

Chemical: phenolphthaleine (pH indicator) CAS No.: 77-09-8

LD50 oral rat: >1000 mg/kg

100 mL TL C 20

Chemical: hydrochloric acid CAS No.: 7647-01-0

LD50 oral rat: 900 mg/kg
LC50 oral rat: >5010 mg/kg

12 Ecological information

12.1 Toxicity

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

12.1. Following information is valid for pure substances.

10 mL Indicator m

Chemical: methyl red (pH indicator) CAS No.: 493-52-7

Storage class (VCI): 12-13

Chemical: ethanol CAS No.: 64-17-5

PNEC (sweet water): 0.96 mg/L
PNEC = Predicted No Effected Concentration

LC50 daphnia magna/48h: >100 mg/L
LC50 pimephales promelas/96h: 13400 - 15100 mg/L
LC50 leuciscus idus/96h: 8140 mg/L
LC50 fish/96h: 13 g/L
EC50 daphnia/48h: 9.3-14.2 g/L
EC50 pimephales promelas/96h: 13400 - 15100 mg/L
IC50 Chlorella vulgaris/72h: 5000mg/L
EC10 pseudomonas putida/16h: ECS: 6500 mg/L
WGK (DE): 1
Dispersion coefficient (o-w): -0.31
Storage class (VCI): 3
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.

14 Transport Information

14.1. UN No.: 3316 14.2. 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: LQ 0 (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

14.5. Environmental hazards: low, small amounts
14.6. Special precautions for user: not necessary
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: not applicable

Alternative Transport Labelling follows:
UN 1993 class 3 II, Excepted Quantities (≤30 mL) (≤500 mL) = ADR/ IATA E2

14.1 UN No.: 1993 14.2 Proper shipping name: Flammable liquid, n.o.s. (ethanol mixture)
14.3 Class: 3 14.4. Packing group: II

Road transport
Classification code: F1 Limited Quantity: LQ 4 Tunnel restriction code: E
Excepted Quantity: E 2 Special instructions: 640C
Air transport
PAX: 353 max. weight PAX: 5 L
CAO: 364 max. weight CAO: 60 L
Maritime transport
EmS: F-E, S-E Storage category: B

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 ordnance governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GesStoffV), 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
Announcement BekGS 220 (DE), Safety Data Sheet, June 2013

15.2 Chemical safety assessment

not necessary for these small amounts

16 Other Information

16.1 List of R and H phrases

16.1.1 List of relevant R phrases
R11 Highly flammable.

16.1.2 List of relevant H phrases
H225 Highly flammable liquid and vapour.

16.2 Training Advice

Regular safety training.

16.3 Recommended Restriction on Use

Only for professional user.
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 2014
SUVA, CH, Limits in air at work 2009, revised on 01.2009
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

16.6. 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