

Safety Data Sheet

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

REF: 91834

NANOCOLOR Detergents cationic

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Printing date: 02.06.2020

Date of issue: 19.12.2019

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

1.1 Product identifier

REF 91834
 Product name NANOCOLOR Detergents cationic

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 200 mL Cationic Detergents R1
 1 x 10 g Cationic Detergents R2
 3 x 535 mL org. phase (R3)
 1 x 2 g wadding

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.
 DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 361 730 730

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

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

SECTION 2: Hazard identification

2.0 Classification of the complete product



GHS06 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H331	Acute Tox. 3 inh.
H336	STOT SE 3
H351	Carc. 2
H361	Repr. 2
H372	STOT RE 1

2.1 Classification of the substance or mixture

200 mL Cationic Detergents R1

Do not need labelling as hazardous

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Signal word -

No hazard class

10 g Cationic Detergents R2

Signal word Do not need labelling as hazardous
-

No hazard class

535 mL org. phase (R3)



GHS06 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H331	Acute Tox. 3 inh.
H336	STOT SE 3
H351	Carc. 2
H361	Repr. 2
H372	STOT RE 1

2 g wadding

Signal word Do not need labelling as hazardous
-

No hazard class

2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identifier(s) (EU 1272/2008 Annex I - 1.5.1.2).

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

200 mL Cationic Detergents R1

Do not need labelling as hazardous
Signal word: -

10 g Cationic Detergents R2

Do not need labelling as hazardous
Signal word: -

535 mL org. phase (R3)



GHS06 GHS07 GHS08

Signal word: DANGER

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H302, H315, H319, H331, H336, H351, H361, H372

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

P201, P260sh, P264W, P280sh, P301+312, P311, P330, P405

Obtain special instructions before use. Do not breathe dust/vapours. Wash with water thoroughly after handling. Wear protective gloves/eye protection. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Call a POISON CENTER/doctor. Rinse mouth. Store locked up.

2 g wadding

Do not need labelling as hazardous

Signal word: -

2.3 Other hazards

Possible hazards from physicochemical properties

In the case of pH values are less than 5 or higher than 9 then it is irritant. ---

Information pertaining to particular risks to human and possible symptoms

Cause severe after inhalation of vapours, impairments of health or can lead to death even when only ingested in small quantities. Cause after oral intake, impairments of health when ingested in small quantities. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. -

Information pertaining to particular risks to the environment

PBT: not applicable

vPvB: not applicable

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

200 mL Cationic Detergents R1

Chemical: *citrate buffer solution*

CAS No.: -

Classification: No criteria for classification or naming of chemical not required.

TSCA Inventory: all listed

KE No.: listed

Concentration: 1 - <10 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

10 g Cationic Detergents R2

Chemical: *bromophenol blue (pH indicator)*

CAS No.: 115-39-9

Classification: No criteria for classification or naming of chemical not required.

Formula: C₁₉ H₁₀ Br₄ O₅ S

Pseudonym: Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2,6-dibromo-

TSCA Inventory: listed

EC No.: 204-086-2

RTECS: SJ74530000

MFCD:

00005875

KE No.: KE-02746

Concentration: 0.1 - <1 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *sodium chloride*

CAS No.: 7647-14-5

Classification: No criteria for classification or naming of chemical not required.

Formula: NaCl

Pseudonym: salt

TSCA Inventory: listed

REACH Reg. No.: exempt, Annex V

EC No.: 231-598-3

RTECS: VZ4725000

KE No.: KE-31387

Concentration: 80 - <100 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

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535 mL org. phase (R3)

Chemical: *chloroform* CAS No.: 67-66-3
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2, H331, Acute Tox. 3 inh., H336, STOT SE 3, H351, Carc. 2, H361, Repr. 2, H372, STOT RE 1
 Formula: CHCl₃
 Pseudonym: trichloromethane
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119486657-20-xxxx
 EC No.: 200-663-8
 RTECS: FS910000
 KE No.: KE-34076, Toxic 97-1-281
 Concentration: 95 - <100 %
 acc. CLP (GHS): H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2, H331, Acute Tox. 3 inh., H336, STOT SE 3, H351, Carc. 2, H361, Repr. 2, H372, STOT RE 1

Indice No.: 602-006-00-4
 MFCD: 00000826

2 g wadding

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. Take to a doctor, in a raised position if there are breathing difficulties.

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. Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function. ---

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

Chronic Effects:

CMR Effects: Suspected of causing cancer. Suspected of damaging fertility or the unborn child. ---

4.3 Indication of any immediate medical attention and special treatment needed

After SKIN CONTACT rinse with water for a long time. 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. In the event of RESPIRATORY DISTRESS ensure that the patient inhales oxygen. Inform patient respectively further measures and the possibility of long-term damages. ---

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. ---

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.

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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. 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. Not for organic solvents (see section 13).

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. Use only in well-ventilated working areas.

7.2 Conditions for safe storage, including any incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage. Products containing also toxic substances should be kept locked up.

Storage class (VCI): 12

Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place, so that they are not immediately accessible to outside parties. Use inbreakable container for transport of glass bottles.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

200 mL Cationic Detergents R1

Chemical: *citrate buffer solution*

CAS No.: -

10 g Cationic Detergents R2

Chemical: *bromophenol blue (pH indicator)*

CAS No.: 115-39-9

Chemical: *sodium chloride*

CAS No.: 7647-14-5

535 mL org. phase (R3)

Chemical: *chloroform*

CAS No.: 67-66-3

DNEL: [derm] 0.94 mg/kg bw/day; [inh] 2.5 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): 0.146 mg/L

PNEC = Predicted No Effect Concentration

EU value: 0.5 ppm / 2.5 mg/m³

TRGS 900 (DE): 0,5 mL/m³ / 2,5 mg/m³

E/e respirable

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

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

SUVA(CH) MAK value: 0,5 ppm / 2,5 mg/m³

NIOSH: Ca ST 2 ppm / 9.78_{60 min} mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: 50 ppm / 240 mg/m³

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2 g wadding

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

Use for open access of these substances for example a protection filter, class A/AX. No additional recommendations.

8.2.2 Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, natural latex, Neopren, or Nitril, for chlorinated carbons consist of viton (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

Recommended 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

200 mL Cationic Detergents R1

Appearance: liquid	Colour: colourless	Odor: odorless
pH: 1		
Specific gravity: 1,0 g/cm ³		
Solubility in water: 0-100 %		

10 g Cationic Detergents R2

Appearance: powder (solid)	Colour: yellow	Odor: odorless
pH: 5-7		
Solubility in water: 0-20 %		

535 mL org. phase (R3)

Appearance: liquid	Colour: colourless	Odor: like chloroform
Odor limit: 50-200 mg/m ³		
Melting point: -63.5 °C		
Boiling point: 61.7 °C		
Vapour pressure (20°C): 211 hPa		
Vapour density _(air=1) : 4,12		
Specific gravity: 1,48 g/cm ³		
Solubility in water: < 1 %		
Flashing temperature: 982 °C		
Volatiles by volume: 1035 g/m ³		

2 g wadding

Appearance: solid	Colour: colourless	Odor: odorless
pH: -		
Solubility in water: -		

9.2 Other information

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

Relevant Properties of Substance Group

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SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

No known instability.

10.3 Possibility of hazardous reactions

No further data available.

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.

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.

200 mL Cationic Detergents R1

Chemical: *citrate buffer solution*
 TSCA Inventory: all listed
 Korea Exist.Chem.Inventory: listed

CAS No.: -

10 g Cationic Detergents R2

Chemical: *bromophenol blue (pH indicator)*
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-02746

CAS No.: 115-39-9

Chemical: *sodium chloride*
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-31387
 LD50_{orl rat}: 3000 mg/kg
 LD50_{drm rbt}: 10 g/kg

CAS No.: 7647-14-5

535 mL org. phase (R3)

Chemical: *chloroform* CAS No.: 67-66-3
 TSCA Inventory: listed California Proposition 65 List: listed: cancer, developmental
 ACGIH: 10 ppm
 Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact
 Target Organs: Liver, kidneys, heart, eyes, skin, central nervous system
 Symptoms: irritation eyes, skin; dizziness, mental dullness, nausea, confusion; headache, lassitude (weakness, exhaustion); anesthesia; enlarged liver; [potent
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes
 Japan CSCL/PRTR: PCA Yes, PRTR: ≥1,0% class I, Japan PDSC: Deleterious Substance
 Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-1+2 (Labelling&SDS required)
 South Korea TCCA: not listed
 Korea Exist.Chem.Inventory: KE-34076, Toxic 97-1-281
 LD50_{orl rat}: 908 mg/kg
 LC_{LoWhl hm}: 25000 mg/m³
 LC_{Loword hum/rbt}: 140/500 mg/m³
 LC50_{ihl rat}: 47.7_{4h} g/m³
 LD50_{drm rat}: >15800 mg/kg
 LD50_{drm rbt}: > 20 g/kg

Acute Effects: Cause severe after inhalation of vapours, impairments of health or can lead to death even when only ingested in small quantities. Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

Chronic Effects:

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Carcinogenic Effects: Suspected of causing cancer. Suspected of damaging fertility or the unborn child.
 EU carcinogen: carc. 2, repr. 2
 TRGS 905 (DE): K 1B, M 2, R_D 2

2 g wadding

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

200 mL Cationic Detergents R1

Chemical:	<i>citrate buffer solution</i>	CAS No.:	-
Water hazard class (DE):	0		
Storage class (VCI):	12		

10 g Cationic Detergents R2

Chemical:	<i>bromophenol blue (pH indicator)</i>	CAS No.:	115-39-9
Water hazard class (DE):	2		
Storage class (VCI):	12-13		

Chemical:	<i>sodium chloride</i>	CAS No.:	7647-14-5
Water hazard class (DE):	1		
Storage class (VCI):	12-13		

535 mL org. phase (R3)

Chemical:	<i>chloroform</i>	CAS No.:	67-66-3
PNEC _(fresh water) :	0.146 mg/L		
PNEC = Predicted No Effect Concentration			
LC50 _{fish/96h} :	18 mg/L		
EC50 _{daphnia/48h} :	6.3 _{21d} NOEC mg/L		
Water hazard class (DE):	3	WGK No.:	0054
Dispersion coefficient _(octanol-water) :	1.97		
Storage class (VCI):	12		

2 g wadding

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). Or collect in solvent waste (waste code number 07 07 04). Close container tightly.

13.1 Waste treatment methods

Normally it is possible to empty small amounts (diluted!) into drains.
 Dispose of contents/container to regulated waste treatment.

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SECTION 14: Transport information

14.1 UN number: 1888 **14.2 UN proper shipping name:** Chloroform
14.3 Class: 6.1 **14.4 Packing group:** III
Road transport
 Classification code: T1
 Limited Quantity: 5 L Tunnel restriction code: E
 Excepted Quantity: E 1
Air transport
 PAX: 680 max. weight PAX: 60 L
 CAO: 680 max. weight CAO: 220 L
Maritime transport
 EmS: F-A, S-A 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

H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H331 Toxic if inhaled.
 H336 May cause drowsiness or dizziness.
 H351 Suspected of causing cancer.
 H361 Suspected of damaging fertility or the unborn child.
 H372 Causes damage to organs through prolonged or repeated exposure.

16.1.2 List of relevant P phrases

P201 Obtain special instructions before use.
 P260D Do not breathe vapours.
 P260sh Do not breathe dust/vapours.
 P261sh Avoid breathing dust/vapours.
 P264W Wash with water thoroughly after handling.
 P280sh Wear protective gloves/eye protection.
 P301+312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P311 Call a POISON CENTER/doctor.
 P314 Get medical advice/attention if you feel unwell.
 P330 Rinse mouth.
 P403+233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

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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 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 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
 Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
 Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
 TRGS 900, German engineering rules governing limits in air at work, updated 03/2019
 SUVA .CH, Limits in air at work 2009, revised on 01.2009
 Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
 TRGS 905, German engineering rules governing carcinogens and mutagens, updated 03/18
 KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU

