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

1.1 Product identifier

REF 985007
Product name NANOCOLOR AOX 3

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.

20 x 1 mL AOX 3 (R0)
2 x 100 mL AOX R1
1 x 105 mL AOX R3
1 x 75 mL AOX R4
1 x 5 mL Blank (NULL)
1 x 20x 35 mg NANOFIX AOX 3 (R2)
2 x 11 mL Chloride 50/200 (Cl^- 2)
20 x NANOSORB cartridge

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
Valencienner Str. 11, 52355 Düren, 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



GHS02 GHS03 GHS05 GHS06 GHS07 GHS08

Signal word DANGER

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

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H272	Ox. Sol. 2
H290	Met. Corr. 1
H301	Acute Tox. 3 oral
H302	Acute Tox. 4 oral
H311	Acute Tox. 3 derm.
H312	Acute Tox. 4 derm.
H314	Skin Corr. 1A
H315	Skin Irrit. 2
H317	Skin Sens. 1
H318	Eye Dam. 1
H319	Eye Irrit. 2
H331	Acute Tox. 3 inh.
H332	Acute Tox. 4 inh.
H334	Resp. Sens. 1
H335	STOT SE 3
H370	STOT SE 1
H373	STOT RE 2
H413	Aquatic Chronic 4

2.1 Classification of the substance or mixture

1 mL AOX 3 (R0)



GHS05 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H314	Skin Corr. 1A
H332	Acute Tox. 4 inh.

100 mL AOX R1

Do not need labelling as hazardous

Signal word -

No hazard class

105 mL AOX R3



GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2

75 mL AOX R4

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GHS05 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H315	Skin Irrit. 2
H318	Eye Dam. 1

5 mL Blank (NULL)

Do not need labelling as hazardous

Signal word -

No hazard class

20x 35 mg NANOFIX AOX 3 (R2)



GHS03 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H272	Ox. Sol. 2
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H317	Skin Sens. 1
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H335	STOT SE 3

11 mL Chloride 50/200 (Cl^- 2)



GHS02 GHS06 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H301	Acute Tox. 3 oral
H302	Acute Tox. 4 oral
H311	Acute Tox. 3 derm.
H312	Acute Tox. 4 derm.
H331	Acute Tox. 3 inh.
H332	Acute Tox. 4 inh.
H370	STOT SE 1
H373	STOT RE 2
H413	Aquatic Chronic 4

NANOSORB cartridge

Do not need labelling as hazardous

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FR: Tel.: +33 388 68 22 68 Fax: +33 388 51 76 88 E-mail: sales-fr@mn-net.com
US: Tel.: +1 484 821 0984 Fax: +1 484 821 1272 E-mail: sales-us@mn-net.com

Signal word -

No hazard class

2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identificator(s) (EU 1272/2008 Annex I - 1.5.1.2). Inner packages up to 10 mL need max. 2 symbols (Annex I - 1.5.2.4.1 / 2).

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.
Oxidizing mixtures with signal word: **DANGER** and **H272** must not be labelled with H and P phrases **until 125 mL** .
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).

1 mL AOX 3 (R0)



GHS05 GHS07

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 AOX R1

Do not need labelling as hazardous
Signal word: -

105 mL AOX R3



GHS07

Signal word: WARNING

75 mL AOX R4



GHS05 GHS07

Signal word: DANGER

H318
Causes serious eye damage.

P280sh, P305+351+338, P310
Wear protective gloves/eye protection. 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.

5 mL Blank (NULL)

Do not need labelling as hazardous

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E-mail: sales-fr@mn-net.com

US:
Tel.: +1 484 821 0984
Fax: +1 484 821 1272
E-mail: sales-us@mn-net.com

Signal word: -

20x 35 mg NANOFIX AOX 3 (R2)



GHS03 GHS07 GHS08

Signal word: DANGER

H317, H334
May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P280sh, P342+311
Avoid breathing dust/vapours. Wear protective gloves/eye protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

11 mL Chloride 50/200 (Cl^- 2)



GHS02 GHS06 GHS07 GHS08

Signal word: DANGER

H301, H311, H331, H370, H413
Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes damage to organs. May cause long lasting harmful effects to aquatic life.

P260sh, P280sh, P301+310, P302+352, P405
Do not breathe dust/vapours. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. IF ON SKIN: Wash with plenty of water. Store locked up.

NANOSORB cartridge

Do not need labelling as hazardous
Signal word: -

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. ---

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 severe after oral intake, inhalation of vapours, skin contact, impairments of health or can lead to death even when only ingested in small quantities. 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. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs. -

Information pertaining to particular risks to the environment
May cause long lasting harmful effects to aquatic life. Avoid contact of substance/mixture to environment.
PBT: not applicable
vPvB: not applicable

Other hazards

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SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

1 mL AOX 3 (R0)

Chemical: *nitric acid* CAS No.: 7697-37-2
Classification: H272, Ox. Liq. 2, H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.
Formula: $HNO_3 \cdot H_2O$
Pseudonym: Aqua fortis, Engravers acid, hydrogen nitrate
TSCA Inventory: listed
REACH Reg. No.: 01-2119487297-23-xxxx
EC No.: 231-714-2 Indice No.: 007-004-00-1
RTECS: QU5900000/QU5775000
KE No.: KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.
Concentration: 13 - <20 %
acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1B, H332, Acute Tox. 4 inh.

100 mL AOX R1

Chemical: *nitric acid* CAS No.: 7697-37-2
Classification: H272, Ox. Liq. 2, H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.
Formula: $HNO_3 \cdot H_2O$
Pseudonym: Aqua fortis, Engravers acid, hydrogen nitrate
TSCA Inventory: listed
REACH Reg. No.: 01-2119487297-23-xxxx
EC No.: 231-714-2 Indice No.: 007-004-00-1
RTECS: QU5900000/QU5775000
KE No.: KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.
Concentration: 0.1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

105 mL AOX R3

Chemical: *sodium hydroxide solution* (diluted < 2 %) CAS No.: 1310-73-2d
Classification: H314, Skin Corr. 1B
Formula: $NaOH \cdot H_2O$
Pseudonym: diluted soda lye
TSCA Inventory: listed
REACH Reg. No.: 01-2119457892-27-xxxx
EC No.: 215-185-5 Indice No.: 011-002-00-6
RTECS: WB4900000
KE No.: KE-31487
Concentration: 1 - <2 %
acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

75 mL AOX R4

Chemical: *nitric acid* CAS No.: 7697-37-2
Classification: H272, Ox. Liq. 2, H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.
Formula: $HNO_3 \cdot H_2O$
Pseudonym: Aqua fortis, Engravers acid, hydrogen nitrate
TSCA Inventory: listed
REACH Reg. No.: 01-2119487297-23-xxxx
EC No.: 231-714-2 Indice No.: 007-004-00-1
RTECS: QU5900000/QU5775000
KE No.: KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.
Concentration: 3 - <5 %
acc. CLP (GHS): H290, Met. Corr. 1, H315, Skin Irrit. 2, H318, Eye Dam. 1

5 mL Blank (NULL)

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US: Tel.: +1 484 821 0984 Fax: +1 484 821 1272 E-mail: sales-us@mn-net.com

Chemical: *water* CAS No.: 7732-18-5
Classification: No criteria for classification or naming of chemical not required.
Formula: H_2O
TSCA Inventory: listed
REACH Reg. No.: exempt, Annex IV
EC No.: 231-791-2
RTECS: ZC0110000
KE No.: KE-35400
Concentration: 90 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

20x 35 mg NANOFIX AOX 3 (R2)
Chemical: *sodium peroxodisulfate* CAS No.: 7775-27-1
Classification: H272, Ox. Liq. 2, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H334, Resp. Sens. 1, H335, STOT SE 3
Formula: $Na_2O_8S_2$
Pseudonym: sodium persulfate
TSCA Inventory: listed
REACH Reg. No.: 01-2119495975-15-xxxx
EC No.: 231-892-1
RTECS: SE0525000
KE No.: KE-12369
Concentration: 80 - <100 %
acc. CLP (GHS): H272, Ox. Liq. 2, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H334, Resp. Sens. 1, H335, STOT SE 3

11 mL Chloride 50/200 (Cl^- 2)
Chemical: *mercury(II) thiocyanate* CAS No.: 592-85-8
Classification: H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H331, Acute Tox. 3 inh., H373, STOT RE 2, H400, Aquatic Acute 1, H410, Aquatic Chronic 1
Formula: $Hg(SCN)_2$
TSCA Inventory: listed
EC No.: 209-773-0 Indice No.: 080-004-00-7
RTECS: XL1550000
KE No.: KE-05-0812, Toxic 97-1-140
Concentration: 0.32 - <0.64 % Correlation factor: x 0.78 (= %Hg)
The classification refers to weight percent of the metal (according to CLP Regulation 2008/1272/EC Annex VI, 1.1.3.2 Note 1)
acc. CLP (GHS): H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H332, Acute Tox. 4 inh., H373, STOT RE 2, H413, Aquatic Chronic 4

Chemical: *methanol* CAS No.: 67-56-1
Classification: H225, Flam. Liq. 2, H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H331, Acute Tox. 3 inh., H370, STOT SE 1
Formula: CH_4O, CH_3OH
TSCA Inventory: listed
REACH Reg. No.: 01-2119433307-44-xxxx
EC No.: 200-659-6 Indice No.: 603-001-00-X
RTECS: PC1400000 MFCD: 00004595
KE No.: KE-23193, Toxic 97-1-80
Concentration: 95 - <100 %
acc. CLP (GHS): H225, Flam. Liq. 2, H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H331, Acute Tox. 3 inh., H370, STOT SE 1

NANOSORB cartridge
Chemical: *NANOSORB cardridges* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: not applicable
Concentration: 90 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

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

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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. 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. If vomiting and if insensible place patient in recovery position and 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: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs. ---

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. TOXIFICATION: Treat symptomatically. Secure the breathing, heart and circulatory function. Remove the substance quickly from the body. Mechanically induce vomiting or ensure the patient eats medicinal charcoal compressed tablets or drinks aluminium oxide drug suspensions. In order to ensure rapid passage through the colon (administer 2 tablespoons of dissolved Glauber's salt). Alleviation of pain, if necessary sedation. Shock treatment. Administer a prophylaxis to counter pulmonary oedema.
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

DANGER: Highly flammable (GHS regulation). Forms 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.

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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. Use only in well-ventilated working areas. 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. Products containing also toxic substances should be kept locked up.

Storage class (VCI): 3
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

1 mL AOX 3 (R0)

Chemical: *nitric acid* CAS No.: 7697-37-2
DNEL: [inh] (1.3) mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water) : no hazard identified
PNEC = Predicted No Effected Concentration
EU value: 1 ppm / 2.6 mg/m³
TRGS 900 (DE): 1 ppm / 2,6 mg/m³
E/e respirable
Short-term exposure factor: -
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 2 ppm / 5 mg/m³
NIOSH: [TWA] 2 ppm / 5 mg/m³
NIOSH STEL: 4 ppm / 10 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: List of highly hazardous chemicals, toxics and reactives Yes (TQ = 500 lbs) n/a; [TWA] 2 ppm / 5 mg/m³

100 mL AOX R1

Chemical: *nitric acid* CAS No.: 7697-37-2
DNEL: [inh] (1.3) mg/m³
DNEL = Derived No-Effect Level (for workers)
PNEC(fresh water) : no hazard identified
PNEC = Predicted No Effected Concentration
EU value: 1 ppm / 2.6 mg/m³
TRGS 900 (DE): 1 ppm / 2,6 mg/m³
E/e respirable
Short-term exposure factor: -
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 2 ppm / 5 mg/m³
NIOSH: [TWA] 2 ppm / 5 mg/m³
NIOSH STEL: 4 ppm / 10 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: List of highly hazardous chemicals, toxics and reactives Yes (TQ = 500 lbs) n/a; [TWA] 2 ppm / 5

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mg/m³

105 mL AOX R3
Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2d

75 mL AOX R4
Chemical: *nitric acid* CAS No.: 7697-37-2
DNEL: [inh] (1.3) mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: no hazard identified
PNEC = Predicted No Effected Concentration
EU value: 1 ppm / 2.6 mg/m³
TRGS 900 (DE): 1 ppm / 2,6 mg/m³
E/e respirable
Short-term exposure factor: -
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 2 ppm / 5 mg/m³
NIOSH: [TWA] 2 ppm / 5 mg/m³
NIOSH STEL: 4 ppm / 10 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: List of highly hazardous chemicals, toxics and reactives Yes (TQ = 500 lbs) n/a; [TWA] 2 ppm / 5 mg/m³

5 mL Blank (NULL)
Chemical: *water* CAS No.: 7732-18-5

20x 35 mg NANOFIX AOX 3 (R2)
Chemical: *sodium peroxodisulfate* CAS No.: 7775-27-1
NIOSH: not listed
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: not listed

11 mL Chloride 50/200 (Cl^- 2)
Chemical: *mercury(II) thiocyanate* CAS No.: 592-85-8
EU value: [Hg] 0.02 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: [Hg][MAK] 0,02 e/[STEL] 0,16 e mg/m³
SUVA(CH) BAT value: [Krea U/d] 35 µg/L
TRGS 903 (DE): $[U/a_{Kreatinin}]$ 25 µg/g
B blood, U urine, a no limitation, b end of exposition or shift
NIOSH: [Hg vapor: TWA_{skin}] 0.05; other 0.1 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: [TWA] 0.1 mg/m³

Chemical: *methanol* CAS No.: 67-56-1
DNEL: [derm] 40 mg/kg bw/day; [inh] 260 mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 20.8 mg/Lno hazard identified
PNEC = Predicted No Effected Concentration
EU value: [TWA] 200 ppm / 260 mg/m³
TRGS 900 (DE): 200 ppm / 270 mg/m³
E/e respirable
Short-term exposure factor: 4 (II), H, Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 200 ppm/ 260 mg/m³
SUVA(CH) BAT value: [U/c,b] 30 mg/L
TRGS 903 (DE): U/c,b 30 mg/L
B blood, U urine, a no limitation, b end of exposition or shift
NIOSH: [TWA, skin] 200 ppm / 260 mg/m³
NIOSH STEL: 250 ppm / 325 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: [TWA] 200 ppm / 260 mg/m³

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NANOSORB cartridge
Chemical: *NANOSORB cardridges* CAS No.: -

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 (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

1 mL AOX 3 (R0)

Appearance: liquid	Colour: slightly grey	Odor: nitric
pH:	0-1	
Specific gravity:	1,11 g/cm³	

100 mL AOX R1

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	0-1	
Solubility in water:	0-100 %	

105 mL AOX R3

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	13-14	
Solubility in water:	0-100 %	

75 mL AOX R4

Appearance: liquid	Colour: colourless	Odor: nitric
pH:	0-1	
Solubility in water:	0-100 %	

5 mL Blank (NULL)

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	6-8	
Specific gravity:	1,00 g/cm³	

20x 35 mg NANOFIX AOX 3 (R2)

Appearance: solid (lyoph.)	Colour: colourless	Odor: odorless
pH:	5-7	
Solubility in water:	0-100 %	

11 mL Chloride 50/200 (Cl^- 2)

Appearance: liquid	Colour: colourless	Odor: alcoholic
Flash point:	11 °C	

NANOSORB cartridge

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Appearance: solid | Colour: brown | Odor: fusty, mouldy
pH: 6-8

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
Substances are very volantile and form flammable vapour-air mixtures. ---

SECTION 10: Stability and reactivity

10.1 Reactivity

Strong CORROSIVE, no further data available.

10.2 Chemical stability

No known instability.

10.3 Possibility of hazardous reactions

Can react violently with organic material. Possible: Contact with acids liberates toxic gas. 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.

1 mL AOX 3 (R0)

Chemical: *nitric acid* CAS No.: 7697-37-2
TSCA Inventory: listed California Proposition 65 List: not listed
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, teeth
Symptoms: irritation eyes, skin, mucous membrane; delayed pulmonary edema, pneumonitis, bronchitis; dental erosion
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance
Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)
South Korea TCCA: Accident Precaution Chemical Yes
Korea Exist.Chem.Inventory: KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.
$LC_Low_{orl\ hmn}$: [NOAEC] 1500 mg/kg
$LC50_{ihl\ rat}$: [4h] 2.65 mg/L
Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities.
TRGS 905 (DE): R_F D

100 mL AOX R1

Chemical: *nitric acid* CAS No.: 7697-37-2
TSCA Inventory: listed California Proposition 65 List: not listed
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, teeth
Symptoms: irritation eyes, skin, mucous membrane; delayed pulmonary edema, pneumonitis, bronchitis; dental erosion
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance
Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)
South Korea TCCA: Accident Precaution Chemical Yes
Korea Exist.Chem.Inventory: KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.
$LC_Low_{orl\ hmn}$: [NOAEC] 1500 mg/kg
$LC50_{ihl\ rat}$: [4h] 2.65 mg/L

TRGS 905 (DE): R_F D

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105 mL AOX R3

Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2d
TSCA Inventory: listed California Proposition 65 List: not listed
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system
Symptoms: -
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥1,0%/≥1,0% SDS required
Korea Exist.Chem.Inventory: KE-31487
$LD50_{orl\ rat}$: [< 1%] > 50 g/kg
$LD50_{drm\ rbt}$: not applicable
$LD50_{orl\ mus}$: [< 1%] > 4 g/kg

75 mL AOX R4

Chemical: *nitric acid* CAS No.: 7697-37-2
TSCA Inventory: listed California Proposition 65 List: not listed
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, teeth
Symptoms: irritation eyes, skin, mucous membrane; delayed pulmonary edema, pneumonitis, bronchitis; dental erosion
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance
Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)
South Korea TCCA: Accident Precaution Chemical Yes
Korea Exist.Chem.Inventory: KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.
$LC_Low_{orl\ hmn}$: [NOAEC] 1500 mg/kg
$LC50_{ihl\ rat}$: [4h] 2.65 mg/L

TRGS 905 (DE): R_F D

5 mL Blank (NULL)

Chemical: *water* CAS No.: 7732-18-5
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35400

20x 35 mg NANOFIX AOX 3 (R2)

Chemical: *sodium peroxodisulfate* CAS No.: 7775-27-1
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: Yes (PEC/18) Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-12369
$LD50_{orl\ rat}$: 902 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 allergy or asthma symptoms or breathing difficulties if inhaled.

11 mL Chloride 50/200 (Cl^- 2)

Chemical: *mercury(II) thiocyanate* CAS No.: 592-85-8
TSCA Inventory: listed
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
Japan CSCL/PRTR: PRTR: ≥1,0%Hg class I, Japan PDSCL: Poisonous substance
Japan ISHL: listed ≥0,3%/≥0,1%
Korea Exist.Chem.Inventory: KE-05-0812, Toxic 97-1-140
$LD50_{orl\ rat}$: 46 mg/kg
$LD50_{drm\ rbt}$: 685 mg/kg

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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

Chemical: *methanol* CAS No.: 67-56-1
TSCA Inventory: listed California Proposition 65 List: listed, developmental
ACGIH: 200 ppm / 160 mg/m³
Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, gastrointestinal tract
Symptoms: irritation eyes, skin, upper respiratory system; headache, drowsiness, dizziness, nausea, vomiting; visual disturbance, optic nerve damage (blindness
Australia NICNAS: Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: PAC yes, Japan PDSCL: Deleterious Substance
Japan ISHL: listed ≥0,3%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: Accident Precaution Chemical yes
Korea Exist.Chem.Inventory: KE-23193, Toxic 97-1-80
$LD50_{orl\ rat}$: 5628 mg/kg
$LC_Low_{ihl\ rat}$: [4h] 64000 mg/m³
$LC_Low_{orl\ hmn}$: 143 mg/kg
$LC50_{ihl\ rat}$: [4h] >80 mg/L
$LD50_{drm\ rbt}$: 15800 mg/kg
$LD50_{orl\ mus}$: 7300 mg/kg
Acute Effects: Cause severe after oral intake, inhalation of vapours, skin contact, impairments of health or can lead to death even when only ingested in small quantities.
Chronic Effects: Causes damage to organs.
TRGS 905 (DE): R_F C

NANOSORB cartridge

Chemical: *NANOSORB cardridges* CAS No.: -
TSCA Inventory: not applicable

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

1 mL AOX 3 (R0)

Chemical: *nitric acid* CAS No.: 7697-37-2
Avoid contact of substance/mixture to environment.
$PNEC_{(fresh\ water)}$: no hazard identified
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$: 180 mg/L
$LC50_{fish/96h}$: [4d] 12 g/L
Water hazard class (DE): 1 WGK No.: 0414
Storage class (VCI): 8 B

100 mL AOX R1

Chemical: *nitric acid* CAS No.: 7697-37-2
$PNEC_{(fresh\ water)}$: no hazard identified
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$: 180 mg/L
$LC50_{fish/96h}$: [4d] 12 g/L
Water hazard class (DE): 1 WGK No.: 0414
Storage class (VCI): 8 B

105 mL AOX R3

Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2d
$LC50_{leuciscus\ idus/96h}$: 35-189 mg/L
$LC50_{fish/96h}$: 45.4 mg/L
$EC50_{daphnia/48h}$: >100 mg/L
Water hazard class (DE): nwg WGK No.: 0142
Storage class (VCI): 12-13

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75 mL AOX R4

Chemical: *nitric acid* CAS No.: 7697-37-2
$PNEC_{(fresh\ water)}$: no hazard identified
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$: 180 mg/L
$LC50_{fish/96h}$: [4d] 12 g/L
Water hazard class (DE): 1 WGK No.: 0414
Storage class (VCI): 8 B

5 mL Blank (NULL)

Chemical: *water* CAS No.: 7732-18-5

20x 35 mg NANOFIX AOX 3 (R2)

Chemical: *sodium peroxodisulfate* CAS No.: 7775-27-1
Water hazard class (DE): 1 WGK No.: 1352
Storage class (VCI): 5.1 B

11 mL Chloride 50/200 (Cl^- 2)

Chemical: *mercury(II) thiocyanate* CAS No.: 592-85-8
May cause long lasting harmful effects to aquatic life. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
Bio Toxicity: LC_{50} : $0.5_{HgCl2/48h}$ mg/L
Water hazard class (DE): 3 WGK No.: 0413
Storage class (VCI): 12

Chemical: *methanol* CAS No.: 67-56-1
Avoid contact of substance/mixture to environment.
$PNEC_{(fresh\ water)}$: 20.8 mg/Lno hazard identified
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$: [24h] 23.5 g/L
$LC50_{pimephales\ promelas/96h}$: 29.4 g/L
$LC50_{fish/96h}$: 15.4 g/L
$EC50_{daphnia/48h}$: >10 g/L
$IC50_{scenedesmus\ quadricauda/72h}$: [IC5 8d] 8000 mg/L
$EC10_{pseudomonas\ putita/16h}$: [EC5] 6.6 g/L
Water hazard class (DE): 2 WGK No.: 0145
$Dispersion\ coefficient_{(octanol-water)}$: -0.77
Storage class (VCI): 3

NANOSORB cartridge

Chemical: *NANOSORB cardridges* CAS No.: -
Storage class (VCI): 13

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). Close container tightly.

13.1 Waste treatment methods

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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 declaration for transportation		

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

Or use **Alternative declaration for transportation:**

14.1 UN number: 3264 **14.2 UN proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid solution)**
14.3 Class: 8 **14.4 Packing group: II**

Road transport

Classification code:	C1		
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

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

H225	Highly flammable liquid and vapour.
H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.

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H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H413	May cause long lasting harmful effects to aquatic life.

16.1.2 List of relevant P phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
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+310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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].
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P311	Call a POISON CENTER/doctor.
P312	Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P390	Absorb spillage to prevent material damage.
P403+233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

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

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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
Regulation 849/2021/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
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
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