

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

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

1.1 Product identifier

Commercial Product Name AB-N

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

Relevant identified uses Heat treatment of steel.
Only for industrial use.

Recommended restrictions None known.

1.3 Details of the supplier of the safety data sheet

Address Durferrit GmbH
Industriestraße 3
D-68169 Mannheim
Telephone: +49 621 32224-0
FAX: +49 621 32224-809
Email: info@hef-durferrit.com

Contact person Product-Safety@hef-durferrit.com

Responsible Department DUS
Telephone: +49 621 / 32224 - 28
Fax: +49 621 / 32224 - 800

1.4 Emergency telephone number

Emergency telephone number 0049 (0) 6132-84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 Ox. Sol. 2; H272 Met. Corr. 1; H290 Skin Corr. 1A; H314

*Classification according to Directive 67/548/EEC / 1999/45/EEC O; R8 C; R35

2.2 Label elements

Hazard pictogram



GHS03



GHS05

Signal word Danger

Hazardous component(s) to be indicated on label Sodium hydroxide

H-statement(s) H272: May intensify fire; oxidiser.
H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.

*P-statement(s) P220: Keep/Store away from clothing/ combustible materials.
P221: Take any precaution to avoid mixing with combustibles
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: 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 or doctor/physician.
P405: Store locked up.
P406: Store in corrosive resistant container with a resistant inner liner.

2.3 Other hazards

Health hazard

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

The preparation is classified as dangerous in accordance with Directive 1999/45/EC.

Particular information pertaining specific risk for human / environment

The molten product can cause serious burns.
Eruption of the salt melt on bringing in moisture.
During contact with acids or overheating the product (T > 650°C; e.g. in case of fire) nitrous gases could develop.
Oxidizing: Risk of fire if brought into contact with slightly oxidizable (combustible) substances, e.g. organic compounds, soot.
slightly water endangering

SECTION 3: Composition/information on ingredients

Chemical characterization

Mixture of alkali hydroxide, alkali nitrate and alkali carbonate.

Hazardous ingredients

| Ingredient | | Classification (EEC) No 67/548 | Concentration |
|---------------------|---|--|---------------------|
| | | Classification (EC) 1272/2008 | |
| Lithium carbonate | CAS No.: 554-13-2 EC-No.: 209-062-5 REACH No.: 01-2119516034-53-0000 | Xn; R22 Xi; R36 Acute Tox. 4;H302 Eye Irrit. 2;H319 | < 25.0 % by weight |
| Sodium carbonate | CAS No.: 497-19-8 EC-No.: 207-838-8 Index-No.: 011-005-00-2 REACH No.: 01-2119485498-19-0000 | Xi; R36 Eye Irrit. 2; H319 | < 20.0 % by weight |
| Potassium carbonate | CAS No.: 584-08-7 EC-No.: 209-529-3 REACH No.: 01-2119532646-39-0000 | Xi;R36/37/38 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 | < 20.0 % by weight |
| Sodium nitrate | CAS No.: 7631-99-4 EC-No.: 231-554-3 REACH No.: 01-2119488221-41-0000 | O; R8 Xi; R36 Ox. Sol. 2;H272 Eye Irrit. 2;H319 | >= 10.0 % by weight |
| Sodium hydroxide | CAS No.: 1310-73-2 EC-No.: 215-185-5 Index-No.: 011-002-00-6 REACH No.: 01-2119457892-27-0000 | C; R35 Skin Corr. 1A;H314 Met. Corr. 1;H290 | > 5.0 % by weight |

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

If inhaled

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Rinse out nose and throat with plenty of water. Consult a physician. Following inhalation of reaction products (nitrous gases) seek medical attention and observe the victim for at least 48 hours. Later control for pneumonia and lung

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

| | |
|-------------------------|---|
| | oedema. If there is a risk that patient will lose consciousness lay him on his side in a stable position, also during transportation. If necessary, artificial respiration. |
| In case of skin contact | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Wash clothing before reuse. |
| In case of eye contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention. |
| If swallowed | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately. If a person vomits when lying on his back, place him in the recovery position. |
| Notes to physician | <ul style="list-style-type: none">- If severe caustic burning of the mouth and throat has occurred, a tracheotomy could be necessary. With Glottis Oedema as a result of mists intubation.- Formation of pulmonary oedema after inhaling nitrous gases. Symptoms can be delayed. Patient should be monitored for at least 48 hours. First aid procedures: Inhale metered aerosol (Glucocorticoids for inhalation). |

4.2 Most important symptoms and effects, both acute and delayed

| | |
|-----------|---|
| Symptoms | - Eye contact: |
| Symptoms: | Lachrymation, Pain, Redness, Swelling of tissue, Corneal opacity, Blindness. |
| | - Inhalation: |
| Symptoms: | Cough, Shortness of breath, Lachrymation, Salivation, Pain, Redness, Swelling of tissue, Swollen corrosion of the mucous membranes, Nose bleeding, Lung oedema. |
| | - Skin contact: |
| Symptoms: | Redness, Swelling of tissue, Blistering, Pain. Causes poorly healing wounds. |
| | - Ingestion: |
| Symptoms: | Salivation, Redness, Pain, Gastrointestinal discomfort, Stomach perforation, Bloody vomiting, Circulatory collapse. |

SECTION 5: Firefighting measures

5.1 Extinguishing media

| | |
|---|---|
| Suitable extinguishing media | In storage areas: Water, Water mist, Dry chemical, Foam In heat treatment shops: Water mist, Dry chemical, Dry powder Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Extinguishing media which must not be used for safety reasons | Powder extinguishers containing ammonia salts In heat treatment shops: High volume water jet. Do not direct jets of water into salt melts!! |

5.2 Special hazards arising from the substance or mixture

| | |
|---|---|
| Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases | Nitrous gases can be liberated during a fire. These should be beaten down with water mist. Oxidizing properties. Release of oxygen, exothermic reaction. |
|---|---|

5.3 Advice for firefighters

| | |
|---|--|
| Special protective equipment for firefighting | Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing. |
|---|--|

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

Additional information on firefighting The product itself does not burn. In case of fire, primarily cooling of salt baths with finely dispersed water. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes and clothing. Do not breathe dust. Avoid dust formation. Wear suitable protective equipment.
Ensure adequate ventilation, especially in confined areas.

6.2 Environmental precautions

Environmental precautions The product should not be allowed to enter drains, water courses or the soil.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up Sweep up or vacuum up spillage and collect in suitable container for disposal. Retain and dispose of contaminated wash water. The aqueous medium should be given appropriate treatment as waste water in line with local regulations.

6.4 Reference to other sections

Reference to other sections For personal protection see section 8.
Disposal considerations: see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Keep container tightly closed. Avoid dust formation. Use personal protective equipment. Protect from moisture. Ensure adequate ventilation, especially in confined areas.
Aqueous solutions of the product attack aluminium and its alloys.

Advice on protection against fire and explosion Oxidizing Material

7.2 Conditions for safe storage, including any incompatibilities

Storage space and container requirements Store in accordance with local regulations. Consider the local regulations.

Unsuitable materials for containers Do not use containers made from aluminium, tin, zinc, chromium or lead.

Hints on storage assembly Keep away from combustible material. Do not store together with acids and ammonium salts. Separate from cyanides.
Keep away from food, drink and animal feeding stuffs.

Storage specifications Keep containers dry and tightly closed to avoid moisture absorption and contamination.

TRGS 510 5.1 B

Recommended storage temperature No Limit

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Lithium carbonate

DNEL

| Value | Target group | Exposure route | Remarks | Source |
|------------------------|--------------|----------------|-----------------|--------|
| 100 mg/kg | Workers | Skin contact | Acute effects | 7 |
| 26,61 mg/kg | Workers | Skin contact | Chronic effects | 7 |
| 50 mg/kg | Consumers | Skin contact | Acute effects | 7 |
| 7,02 mg/m ³ | Workers | Inhalation | Acute effects | 7 |
| 2,34 mg/m ³ | Workers | Inhalation | Chronic effects | 7 |
| 3,03 mg/m ³ | Consumers | Inhalation | Acute effects | 7 |

Source: 7 - external safety data sheet

PNEC

| Value | Remarks | Source |
|--------------|---|--------|
| 1,05 mg/L | Fresh water | 7 |
| 4,09 mg/kg | Freshwater sediment | 7 |
| 0,11 mg/L | Sea water | 7 |
| 0,41 mg/kg | Marine sediment | 7 |
| 0,8381 mg/kg | Soil | 7 |
| 122,2 mg/L | Behaviour in waste water treatment plants | 7 |

Source: 7 - external safety data sheet

Sodium nitrate

DNEL

| Value | Target group | Exposure route | Exposure frequency | Source |
|------------------------|--------------|----------------|--------------------|--------|
| 20,8 mg/kg | Workers | Skin contact | Long term effects | 7 |
| 12,5 mg/kg | Consumers | Skin contact | Long term effects | 7 |
| 36,7 mg/m ³ | Workers | Inhalation | Long term effects | 7 |
| 10,9 mg/m ³ | Consumers | Inhalation | Long term effects | 7 |
| 12,5 mg/kg | Consumers | Ingestion | Long term effects | 7 |

Source: 7 - external safety data sheet

PNEC

| Value | Remarks | Source |
|------------|---|--------|
| 0,45 mg/L | Fresh water | 7 |
| 0,045 mg/L | Sea water | 7 |
| 18 mg/L | Behaviour in waste water treatment plants | 7 |

Source: 7 - external safety data sheet

Sodium hydroxide

Great Britain

| Short-term exposure value / mg/m ³ | Source |
|---|--------|
| 2 | 19 |

Source: 19 - EH40/2005 Workplace exposure limits (2011)

Ireland

| Short-term exposure value / mg/m ³ | Source |
|---|--------|
| 2 | 32 |

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

Source: 32 – Code of Practice for the Safety Health and Welfare at Work (2011)

Dusts non-specific

Ireland

| Long-term exposure value/ mg/m ³ | Note | Source |
|---|-----------------|--------|
| 10 | total inhalable | 32 |

Source: 32 – Code of Practice for the Safety Health and Welfare at Work (2011)

8.2 Exposure controls

Respiratory protection

In case of dust: Half mask with a particle filter P2 (EN 143).

Remarks:

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

In case of nitrous gases: Gas filter NO – blue.

Hand protection

In heat treatment shops: Multi-layered, easily removable mittens with cuff.

In storage areas: Rubber gloves(for example Tricotril 737; Break through time \geq 480 Minutes; KCL)

Remarks:

The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection

In storage areas: Tightly fitting safety goggles

In heat treatment shops: Face shield made from self-extinguishing polycarbonate.

Skin and body protection

– In heat treatment shops: Multi-layered protective clothing (no synthetic fibres): for example cotton fabric impregnated with Proban.

Note:

Working clothes must not consist of textiles, which show a dangerous melting behaviour in case of fire.

– In storage areas: Long sleeved clothing

Note:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

General protective and hygiene measures

Die beim Umgang mit Chemikalien üblichen Vorsichtsmaßnahmen sind zu beachten. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday.

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|----------------------------------|
| Physical state | solid |
| Colour | white |
| Odour | weakly pungent |
| Odour threshold | no data available |
| pH | 13 – 14 (10 %, aqueous solution) |
| Melting point [°C] / Freezing point [°C] | approx. 270 °C |

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

| | |
|--|---|
| Boiling point [°C] | no data available |
| Flash point [°C] | Not combustible. |
| Evaporation rate [kg/(s*m ²)] | no data available |
| Flammability (solid, gas) | does not ignite |
| Risk of explosion. | Not explosive |
| Vapour pressure [kPa] | no data available |
| Density [g/cm ³] | no data available |
| Water solubility [g/l] | soluble |
| Solubility [g/l] | no data available |
| Partition coefficient n-octanol /water (log P O/W) | not applicable. Mixture of inorganic salts. |
| Autoinflammability | not auto-flammable |
| Decomposition temperature [°C] | > 650 °C |
| Viscosity, dynamic [kg/(m*s)] | no data available |
| Oxidising properties | oxidizing |

9.2 Other information

| | |
|-----------------------------------|--------------------------------|
| Bulk density [kg/m ³] | 1,25 – 1,55 kg/dm ³ |
| Other data | hygroscopic |

SECTION 10: Stability and reactivity

10.1 Reactivity

| | |
|-----------------------|--|
| Thermal decomposition | Thermal decomposition starts at temperatures above 650 °C. |
|-----------------------|--|

10.2 Chemical stability

| | |
|--------------------|--|
| Chemical stability | Stable under recommended storage conditions. |
|--------------------|--|

10.3 Possibility of hazardous reactions

| | |
|---------------------|--|
| Hazardous reactions | During contact with acids or overheating the product (T > 650°C; e.g. in case of fire) nitrous gases could develop. Oxidizing: Risk of fire if brought into contact with slightly oxidizable (combustible) substances, e.g. organic compounds, soot. Release of oxygen, exothermic reaction. Contact with metal (aluminium, magnesium, zinc) causes development of hydrogen. |
|---------------------|--|

10.4 Conditions to avoid

| | |
|---------------------|--|
| Conditions to avoid | humid air and water Decomposition temperature: > 650 °C |
|---------------------|--|

10.5 Incompatible materials

| | |
|--------------------|--|
| Materials to avoid | Light metals, Acids, Reducing agents, Ammonium salts, Amines, Cyanides |
|--------------------|--|

10.6 Hazardous decomposition products

| | |
|----------------------------------|--|
| Hazardous decomposition products | nitrogen oxides (NO _x), Hydrogen, by reaction with metals. |
|----------------------------------|--|

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Hazardous ingredients

Lithium carbonate

| Oral toxicity [mg/kg] | Test criterion | Test species | Exposure duration | Source |
|-----------------------|----------------|--------------|-------------------|--------|
| 525 | LD50 | rat | 48 h | 7 |

Source: 7 - external safety data sheet

| Dermal toxicity [mg/kg] | Test criterion | Test species | Duration | Measuring method | Source |
|-------------------------|----------------|--------------|----------|------------------|--------|
| >2000 | LD50 | rat | - | OECD 402 | 7 |

Source: 7 - external safety data sheet

| Inhalative toxicity [mg/l] | Value | Source |
|----------------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

Sodium carbonate

| Oral toxicity [mg/kg] | Test criterion | Test species | Exposure duration | Source |
|-----------------------|----------------|--------------|-------------------|--------|
| 2800 | LD50 | rat | - | 7 |

Source: 7 - external safety data sheet

| Dermal toxicity [mg/kg] | Test criterion | Test species | Duration | Source |
|-------------------------|----------------|--------------|----------|--------|
| >2000 | LD50 | rabbit | - | 7 |

Source: 7 - external safety data sheet

| Inhalative toxicity [mg/l] | Value | Source |
|----------------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

Potassium carbonate

| Oral toxicity [mg/kg] | Test criterion | Test species | Measuring method | Source |
|-----------------------|----------------|--------------|------------------|--------|
| >2000 | LD50 | rat | OECD 401 | 151 |

Source: 151 - ECHA

| Dermal toxicity [mg/kg] | Value | Test criterion | Test species | Duration | Source |
|-------------------------|-------|----------------|--------------|----------|--------|
| - | >2000 | LD50 | rabbit | 24 h | 151 |

Source: 151 - ECHA

| Inhalative toxicity [mg/l] | Value | Test criterion | Test species | Duration | Remarks | Source |
|----------------------------|--------------|----------------|--------------|----------|---------|--------|
| - | >4,96 ± 1,14 | LC50 | rat | 4,5 h | dust | 151 |

Source: 151 - ECHA

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

Sodium nitrate

| Oral toxicity [mg/kg] | Test criterion | Test species | Exposure duration | Measuring method | Source |
|-----------------------|----------------|--------------|-------------------|------------------|--------|
| 3430 | LD50 | rat | - | OECD 401 | 7 |

Source: 7 - external safety data sheet

| Dermal toxicity [mg/kg] | Test criterion | Test species | Duration | Measuring method | Source |
|-------------------------|----------------|--------------|----------|------------------|--------|
| >5000 | LD50 | rat | - | OECD 402 | 7 |

Source: 7 - external safety data sheet

| Inhalative toxicity [mg/l] | Value | Source |
|----------------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

Sodium hydroxide

| Oral toxicity [mg/kg] | Value | Source |
|-----------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| Dermal toxicity [mg/kg] | Value | Source |
|-------------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| Inhalative toxicity [mg/l] | Value | Source |
|----------------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| | |
|--|--|
| Subacute, subchronic, chronic toxicity | no data available |
| Sensitization | no data available. No known effect. |
| Carcinogenic effects | Contains no ingredient listed as a carcinogen. |
| Mutagenicity | Contains no ingredient listed as a mutagen. |
| Reproduction toxicity | Contains no ingredient listed as toxic to reproduction. |
| Symptoms | - Eye contact: Lachrymation, Pain, Redness, Swelling of tissue, Corneal opacity, Blindness. - Inhalation: Cough, Shortness of breath, Lachrymation, Salivation, Pain, Redness, Swelling of tissue, Swollen corrosion of the mucous membranes, Nose bleeding, Lung oedema. - Skin contact: Redness, Swelling of tissue, Blistering, Pain. Causes poorly healing wounds. - Ingestion: Salivation, Redness, Pain, Gastrointestinal discomfort, Stomach perforation, Bloody vomiting, Circulatory collapse. |

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

| NOEC (algae) [mg/l] | Test species | Exposure duration | Measuring method | Source |
|---------------------|--------------------------|-------------------|------------------|--------|
| 50 | Desmodesmus subspicatus. | 72 h | OECD 201 | 7 |

Source: 7 – external safety data sheet

Sodium carbonate

| Toxicity to fish [mg/l] | Test criterion | Test species | Duration of dosage | Source |
|-------------------------|----------------|--------------------------------|--------------------|--------|
| 300 | LC50 | Lepomis macrochirus (Bluegill) | 96 h | 152 |

Source: 152 – IUCLID

| Toxicity to daphnia [mg/l] | Highest measured value | Test criterion | Test species | Exposure duration | Source |
|----------------------------|------------------------|----------------|-------------------|-------------------|--------|
| 200 | 227 | EC50 | Ceriodaphnia spec | 48 h | 7 |

Source: 7 – external safety data sheet

| Toxicity to algae [mg/l] | Value | Source |
|--------------------------|-------------------|--------|
| – | No data available | 7 |

Source: 7 – external safety data sheet

| NOEC (fish) [mg/l] | Value | Source |
|--------------------|-------------------|--------|
| – | No data available | 7 |

Source: 7 – external safety data sheet

| NOEC (daphnia) [mg/l] | Value | Source |
|-----------------------|-------------------|--------|
| – | No data available | 7 |

Source: 7 – external safety data sheet

| NOEC (algae) [mg/l] | Value | Source |
|---------------------|-------------------|--------|
| – | No data available | 7 |

Source: 7 – external safety data sheet

Potassium carbonate

| Toxicity to fish [mg/l] | Test criterion | Test species | Exposure duration | Source |
|-------------------------|----------------|--------------------------------|-------------------|--------|
| 230 | LC50 | Lepomis macrochirus (Bluegill) | 96 h | 151 |

Source: 151 – ECHA

| Toxicity to daphnia [mg/l] | Test criterion | Test species | Exposure duration | Source |
|----------------------------|----------------|--------------------------------|-------------------|--------|
| 200 | EC50 | Daphnia magna (Big water flea) | 48 h | 151 |

Source: 151 – ECHA

| Toxicity to algae [mg/l] | Value | Source |
|--------------------------|-------------------|--------|
| – | No data available | 151 |

Source: 151 – ECHA

| NOEC (fish) [mg/l] | Value | Source |
|--------------------|-------------------|--------|
| – | No data available | 151 |

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

Source: 151 - ECHA

| NOEC (daphnia) [mg/l] | Value | Source |
|-----------------------|-------------------|--------|
| - | No data available | 151 |

Source: 151 - ECHA

| NOEC (algae) [mg/l] | Value | Source |
|---------------------|-------------------|--------|
| - | No data available | 151 |

Source: 151 - ECHA

Sodium nitrate

| Toxicity to fish [mg/l] | Test criterion | Test species | Exposure duration | Source |
|-------------------------|----------------|---------------------------|-------------------|--------|
| 7950 | LC50 | Oncorhynchus tschawytscha | 96 h | 7 |

Source: 7 - external safety data sheet

| Toxicity to daphnia [mg/l] | Test criterion | Test species | Exposure duration | Source |
|----------------------------|----------------|--------------------------------|-------------------|--------|
| 665 | EC50 | Daphnia magna (Big water flea) | 48 h | 152 |

Source: 152 - IUCLID

| Toxicity to algae [mg/l] | Test criterion | Exposure duration | Source |
|--------------------------|----------------|-------------------|--------|
| >1700 | EC50 | 10 d | 7 |

Source: 7 - external safety data sheet

| NOEC (fish) [mg/l] | Value | Source |
|--------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| NOEC (daphnia) [mg/l] | Value | Source |
|-----------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| NOEC (algae) [mg/l] | Value | Source |
|---------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

Sodium hydroxide

| Toxicity to fish [mg/l] | Test criterion | Test species | Exposure duration | Source |
|-------------------------|----------------|-------------------------------------|-------------------|--------|
| 45,4 | LC50 | Oncorhynchus mykiss (rainbow trout) | 96 h | 7 |

Source: 7 - external safety data sheet

| Toxicity to daphnia [mg/l] | Test criterion | Test species | Exposure duration | Source |
|----------------------------|----------------|--------------------------------|-------------------|--------|
| >100 | EC50 | Daphnia magna (Big water flea) | 48 h | 7 |

Source: 7 - external safety data sheet

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

| Toxicity to algae [mg/l] | Value | Source |
|--------------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| NOEC (fish) [mg/l] | Value | Source |
|--------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| NOEC (daphnia) [mg/l] | Value | Source |
|-----------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

| NOEC (algae) [mg/l] | Value | Source |
|---------------------|-------------------|--------|
| - | No data available | 7 |

Source: 7 - external safety data sheet

12.2 Persistence and degradability

Biodegradability

Sodium hydroxide (NaOH): Abiotic degradation

Remarks:

external safety data sheet

No data is available on the product itself.

12.3 Bioaccumulative potential

Bioaccumulation

no data available

12.4 Mobility in soil

Distribution in the environment

Water, Soil: Water solubility

12.5 Results of PBT and vPvB assessment

Results of PBT characteristics determination

not applicable.
Mixture of inorganic salts.

12.6 Other adverse effects

Environmental hazards

Alkali hydroxides will be ionized in water under increasing pH-value. Alkali hydroxides are harmful for aquatic organisms due to the alkaline pH value. The following applies to nitrates in general: may contribute to the eutrophication of water supplies. Fish: LC50 >500 mg/L.

AOX-hints

The product does not contain organically bound halogen (AOX) as per formulation.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal considerations

Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Waste codes should be assigned by the user based on the application for which the product was used. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

The following Waste Codes are only suggestions:

Waste Code

110198 - other wastes containing dangerous substances

Uncleaned empty packaging

150110 - packaging containing residues of or contaminated by dangerous substances

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

Suitable cleaning agents

Clean container with water. Retain and dispose of contaminated wash water.
Dispose of in accordance with local regulations.

SECTION 14: Transport information

| | Land transport ADR/RID | Marine transport IMDG | *Air transport ICAO/IATA |
|----------------------------|-------------------------------------|---|------------------------------------|
| UN-No | 3084 | 3084 | 3084 |
| Description of the goods | CORROSIVE SOLID, OXI-DIZING, N.O.S. | | |
| Proper shipping name | | CORROSIVE SOLID, OXI-DIZING, N.O.S. | Corrosive solid, oxidizing, n.o.s. |
| Danger releasing substance | Sodium hydroxide, Sodium nitrate | Sodium hydroxide, Sodium nitrate | Sodium hydroxide, Sodium nitrate |
| Class | 8 | 8 | 8 |
| Packaging group | II | II | II |
| Labels | 8, 5.1 | 8, 5.1 | 8, 5.1 |
| Environmental hazards | not hazardous | 0: Non-marine pollutant | |
| Tunnel restriction code | E | | |
| Category | 2 | | |
| Risk No. | 85 | | |
| Classification Code | CO2 | | |
| Stowage category | | C | |
| EmS | | F-A;S-Q | |
| Remarks | | "separated from" acids; IMDG-Code segregation group 18 - alkalis | |

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Additional regulations

Take note of Dir 94/33/EC on the protection of young people at work.
Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

15.2 Chemical safety assessment

Safety assessment

none

SECTION 16: Other information

Relevant R-phrases

R22: Harmful if swallowed.
R35: Causes severe burns.
R36: Irritating to eyes.
R36/37/38: Irritating to eyes, respiratory system and skin.
R8: Contact with combustible material may cause fire.

Relevant H-phrases

H272: May intensify fire; oxidiser.
H290: May be corrosive to metals.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Wording of the hazard classes

Ox. Sol.: Oxidising solid
Met. Corr.: Substance or mixture corrosive to metals
Skin Corr.: Skin corrosion

Safety Data Sheet as per regulation (EC) 1907/2006



Commercial Product Name: AB-N

Article-No.: 1896, 7529

Revision Date: 10.07.2014

Version: 01/en

Replaces version from: 27.08.2013

Print date: 10.07.2014

Acute Tox.: Acute toxicity
Eye Irrit.: Serious eye irritation
Skin Irrit.: Skin irritation
STOT SE: Specific target organ toxicity – single exposure

*Modifications since last version
SECTION 2: Hazards identification
SECTION 11: Toxicological information
SECTION 12: Ecological information
SECTION 14: Transport information
SECTION 15: Regulatory information
SECTION 16: Other information

Abbreviations and acronyms
Sodium hydroxide (NaOH)
Derived No Effect Level (DNEL)
Predicted No Effect Concentration (PNEC)
NOEC (no observed effect concentration) (NOEC)
Adsorbed organic bound halogens (AOX)
Water hazard class (WGK)
European Waste Catalogue (EAK)
Volatile organic compounds (VOC) content

Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]

| Classification | Evaluation |
|---------------------|------------|
| Ox. Sol. 2; H272 | Producer |
| Met. Corr. 1; H290 | Producer |
| Skin Corr. 1A; H314 | Calculated |

Recommended restrictions
None known.

This information is provided in accordance with the current status of our knowledge and experience. The Safety Data Sheet describes products with a view to relevant safety requirements. This information does not constitute a warranty of properties, features or qualities.