

# SAFETY DATA SHEET

## Denat. ethanol 93%

SDS according to Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II-EU

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

Date issued 10.11.2015

Revision date 27.08.2015

#### 1.1. Product identifier

Product name Denat. ethanol 93%

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

Relevant identified uses ES 1  
 SU21 Consumer uses: Private households (= general public = consumers)  
 PC4 Antifreeze and Deicing products  
 PC35 Washing and cleaning products (including solvent based products)

#### 1.3. Details of the supplier of the safety data sheet

Company name Borup Kemi I/S  
 Postal address Bækgårdsvej 53  
 Postcode DK-4140  
 City Borup  
 Country Denmark  
 Tel 57 56 00 20  
 Fax 57 56 00 21  
 E-mail kontakt@borup-kemi.dk  
 Website http://www.borup-kemi.dk

#### 1.4. Emergency telephone number

Emergency telephone Use your national or local emergency number - See section 4 "First aid measures".:-

### SECTION 2: Hazards identification

#### 2.1. Classification of substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Flam. Liq. 2;H225;

#### 2.2. Label elements

##### Hazard Pictograms (CLP)



Signal word Danger  
 Hazard statements H225 Highly flammable liquid and vapour.  
 Precautionary statements P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.

|                  |   |
|------------------|---|
|                  | P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>P403+P235 Store in a well-ventilated place. Keep cool.<br>P501 Indholdet/holderen bortskaffes i henhold til lokale affaldsregulativer. |
| Tactile warnings | Yes   |

### 2.3. Other hazards

|                       |   |
|-----------------------|---|
| Description of hazard | This product contains an organic solvent. Repeated exposure to organic solvents can result in damage to the nervous system and inner organs, such as the liver and kidneys. |
| Other hazards         | Product contains low-boiling liquids. If using respirators must be self-contained.  |

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

| Substance          | Identification  | Classification   | Contents |
|--------------------|---|--|----------|
| Ethanol            | CAS no.: 64-17-5<br>EC no.: 200-578-6<br>Index no.: 603-002-00-5<br>Synonyms: ethyl alcohol   | Flam. Liq. 2; H225;  | 93 vægt% |
| butanone           | CAS no.: 78-93-3<br>EC no.: 201-159-0<br>Index no.: 606-002-00-3<br>Registration number: 01-2119457290-43-XXXX<br>Synonyms: ethyl methyl ketone | Flam. Liq. 2;H225;<br>Eye Irrit. 2;H319;<br>STOT SE3;H336;<br>EUH 066; | 2 vægt%  |
| Substance comments | 6) See also section 16.   |  |          |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|              |  |
|--------------|--|
| General      | If medical advice is needed, have product container or label at hand.<br>Burns: Flush with water until pain ceases. Remove clothing that is not stuck to the skin – seek medical advice/transport to hospital. If possible, continue flushing until medical attention is obtained. |
| Inhalation   | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Keep victim under observation. Get medical advice/attention if you feel unwell.   |
| Skin contact | Remove contaminated clothing. Wash skin with soap and water.<br>Hudrensemiddel kan anvendes. Seek medical advice in case of persistent discomfort.   |
| Eye contact  | Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.   |
| Ingestion    | Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Do NOT induce vomiting. Get medical advice/attention.  |

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

|                              |  |
|------------------------------|--|
| General symptoms and effects | Neurotoxic effect: This product contains organic solvents, which can have an effect on the nervous system. Symptoms of neurotoxicity can be: loss of appetite, headache, dizziness, whistling in the ears, tingling sensations in the skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc.<br>Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer. The skin will then be more prone to absorb dangerous substances, e.g. allergens. Irritation effects: This product contains substances which cause irritation to skin and eyes, or when inhaled. Contact with locally |
|------------------------------|--|

irritative substances can cause the area of contact to be more prone to absorb damaging substances such as allergens.

### 4.3. Indication of any immediate medical attention and special treatment needed

Other Information No special immediate treatment required. Medbring dette sikkerhedsdatablad.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media Extinguish with powder, foam, carbon dioxide or water mist.

Improper extinguishing media Do not use water stream, as it may spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards If the product is exposed to high temperatures, as in the case of fire, dangerous catabolic substances are produced.

Hazardous combustion products These are oxides of carbon. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

### 5.3. Advice for firefighters

Personal protective equipment Use personal protective equipment as required.

Fire fighting procedures Closed containers, which are exposed to fire, should be cooled with water. Do not let fire-extinguishing water run into sewers and other water courses

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures Not ignited stock cooled with water spray.  
Eliminate all ignition sources if safe to do so.  
Ensure adequate ventilation.  
Smoking and naked flames prohibited. Take precautionary measures against static discharges. Use spark-free tools and explosion proof equipment.

### 6.2. Environmental precautions

Environmental precautionary measures Do not discharge large quantities of concentrated spills and residue into drains.

### 6.3. Methods and material for containment and cleaning up

Cleaning method Contain and absorb spill with sand or other absorbent, non-combustible material and transfer to suitable waste containers.

Clean up Cleaning should be done as far as possible using normal cleaning agents. Solvents should be avoided.

### 6.4. Reference to other sections

Other instructions See section 8 for type of protective equipment. See section 13 for instructions on disposal.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Handling See section 8 for information about precautions for use and personal protective equipment.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage The product should be stored safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc.  
Keep in tightly closed original packaging.  
Store in a dry, cool, well-ventilated area.  
Keep fireproof. Emergency Services technical regulations for flammable liquids must be strictly followed, including rules for flammable storage.

Other Information Fire Class - 2, storage unit max 1 liter. There should be discarded 25 units

without fire regulatory approval

**Conditions for safe storage**

Requirements for storage rooms and vessels Cool and frostfree.

**7.3. Specific end use(s)**

Specific use(s) See application section 1

**Specific end users****SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure limit values**

| Substance | Identification                                  | Value                              | TWA Year |
|-----------|---|------------------------------------|----------|
| Ethanol   | CAS no.: 64-17-5                                | 8-hour TWA: 1000 ppm               |          |
|           | EC no.: 200-578-6                               | 8-hour TWA: 1920 mg/m <sup>3</sup> |          |
|           | Index no.: 603-002-00-5                         |                                    |          |
|           | Synonyms: ethyl alcohol                         |                                    |          |
| butanone  | CAS no.: 78-93-3                                | 8-hour TWA: 200 ppm                |          |
|           | EC no.: 201-159-0                               | Sk, BMGV                           |          |
|           | Index no.: 606-002-00-3                         | 8-hour TWA: 600 mg/m <sup>3</sup>  |          |
|           | Registration number: 01-2119457290-43-XXXX      | Sk, BMGV                           |          |
|           | Synonyms: ethyl methyl ketone                   | 15 min.: 300 ppm                   |          |
|           |   | Sk, BMGV                           |          |
|           | 15 min.: 899 mg/m <sup>3</sup>                  |                                    |          |
|           | Sk, BMGV Sk = Can be absorbed through the skin. |                                    |          |

**DNEL / PNEC from substances**

|           |  |
|-----------|--|
| Substance | Ethanol  |
| DNEL      | Group: Worker<br>Exposure route: Inhalation<br>Exposure frequency: Short term (acute)<br>Type of effect: Local effect<br>Value: 1900 mg/m <sup>3</sup>     |
| DNEL      | Group: Worker<br>Exposure route: Dermal<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 343 mg/kg bw/day          |
| DNEL      | Group: Worker<br>Exposure route: Inhalation<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 950 mg/m <sup>3</sup> |
| DNEL      | Group: Consumer<br>Exposure route: Inhalation<br>Exposure frequency: Short term (acute)<br>Type of effect: Local effect<br>Value: 950 mg/m <sup>3</sup>    |
| DNEL      | Group: Consumer<br>Exposure route: Oral<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 87 mg/kg bw/day           |

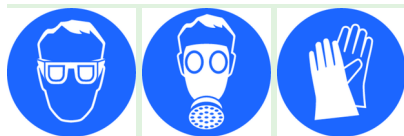
|           |  |
|-----------|--|
| DNEL      | Group: Consumer<br>Exposure route: Dermal<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 206 mg/kg bw/day          |
| DNEL      | Group: Consumer<br>Exposure route: Inhalation<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 114 mg/m <sup>3</sup> |
| PNEC      | Exposure route: Water<br>Value: 0,96 mg/L<br>Remarks: Fresh Water  |
| PNEC      | Exposure route: Water<br>Value: 0,79 mg/L<br>Remarks: Marine Water   |
| PNEC      | Exposure route: Water<br>Value: 2,75 mg/L<br>Remarks: Intermittent releases Water  |
| PNEC      | Exposure route: Soil<br>Value: 0,63 mg/kg soil dw  |
| Substance | butanone   |
| DNEL      | Group: Consumer<br>Exposure route: Inhalation<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 106 mg/m <sup>3</sup> |
| DNEL      | Group: Consumer<br>Exposure route: Dermal<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 412 mg/kg bw/day          |
| DNEL      | Group: Consumer<br>Exposure route: Oral<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 31 mg/kg bw/day             |
| DNEL      | Group: Worker<br>Exposure route: Inhalation<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 600 mg/m <sup>3</sup>   |
| DNEL      | Group: Worker<br>Exposure route: Dermal<br>Exposure frequency: Long term (repeated)<br>Type of effect: Systemic effect<br>Value: 1161 mg/kg bw/day           |
| PNEC      | Exposure route: Soil<br>Value: 22.5 mg/kg soil dw  |
| PNEC      | Exposure route: Water<br>Value: 55.8 mg/L<br>Remarks: Intermittent releases  |
| PNEC      | Exposure route: Water<br>Value: 55.8 mg/L<br>Remarks: Marine   |

|      |   |
|------|---|
| PNEC | Exposure route: Water<br>Value: 55.8 mg/L<br>Remarks: Fresh |
|------|---|

## 8.2. Exposure controls

|                                   |   |
|-----------------------------------|---|
| Recommended monitoring procedures | Compliance with the stated exposure limits values should be checked on a regular basis. |
|-----------------------------------|---|

### Safety signs



### Precautionary measures to prevent exposure

|   |  |
|---|--|
| Appropriate engineering controls            | Airborne gas and dust concentrations must be kept as low as possible and below the current threshold values (see above). Use for example an exhaust system if the normal air flow in the work room is not sufficient. Make sure that eyewash and emergency showers are clearly marked. |
| Instruction on measures to prevent exposure | Whenever you take a break in using this product and when you have finished using it, all exposed areas of the body must be washed. Always wash hands, forearms and face.   |

### Respiratory protection

|                        |   |
|------------------------|---|
| Respiratory protection | Wear full-face mask with fresh air supply. (without motor fan). |
|------------------------|---|

### Hand protection

|                 |  |
|-----------------|--|
| Hand protection | Wear protective gloves made of butyl rubber. |
|-----------------|--|

### Eye / face protection

|                |   |
|----------------|---|
| Eye protection | Use face shield. Alternatively, safety glasses with side shields used |
|----------------|---|

### Skin protection

|                                |               |
|--------------------------------|---------------|
| Skin protection (except hands) | Not required. |
|--------------------------------|---------------|

### Hygiene / Environmental

|                           |  |
|---------------------------|--|
| Specific hygiene measures | Smoking, consumption of food or liquid, and storage of tobacco, food or liquid, are not allowed in the workroom. |
|---------------------------|--|

### Exposure controls

|   |   |
|---|---|
| Exposure controls and personal protection, additional info. | Trade users are covered by the rules of the working environment legislation on maximum concentrations for exposure. See work hygiene threshold values above. If the work is covered by the regulations on work involving coded products (WEA Order no. 302/1993, Denmark), protection gear accordingly. See also. product code in the section on 'Hazard Identification'. |
|---|---|

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|  |                                 |
|--|---------------------------------|
| Physical state                                 | Liquid                          |
| Colour   | Colourless                      |
| Odour  | Alcohol                         |
| Melting point/melting range                    | Value: = -112 °C                |
| Boiling point / boiling range                  | Value: = 78 °C                  |
| Flash point                                    | Value: = 13 °C                  |
| Lower explosion limit with unit of measurement | Value: ~ 3,3 - 19 vol%          |
| Vapour pressure                                | Value: = 43 mm Hg               |
| Specific gravity                               | Value: = 0,81 g/cm <sup>3</sup> |
| Solubility in water                            | Soluble                         |
| Solubility in fat                              | Opløselighed i fedt             |

|                            |                          |
|----------------------------|--------------------------|
| Spontaneous combustability | Value: = 371 °C          |
| Viscosity                  | Value: = 1,4 centistokes |

## 9.2. Other information

### Other physical and chemical properties

|          |       |
|----------|-------|
| Comments | None. |
|----------|-------|

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

|            |                   |
|------------|-------------------|
| Reactivity | No data available |
|------------|-------------------|

### 10.2. Chemical stability

|           |  |
|-----------|--|
| Stability | Flammable. Normally stable at recommended storage conditions. The vapors can ignite at temperatures above the flash point. |
|-----------|--|

### 10.3. Possibility of hazardous reactions

|                                    |             |
|------------------------------------|-------------|
| Possibility of hazardous reactions | No special. |
|------------------------------------|-------------|

### 10.4. Conditions to avoid

|                     |   |
|---------------------|---|
| Conditions to avoid | Take precautionary measures against static discharge. Do not expose to heat (eg. Sunlight), because pressure can be developed |
|---------------------|---|

### 10.5. Incompatible materials

|                    |  |
|--------------------|--|
| Materials to avoid | Avoid contact with strong acids. Avoid contact with strong bases. Avoid contact with strong oxidising agents. Avoid contact with strong reducing agents. |
|--------------------|--|

### 10.6. Hazardous decomposition products

|                                  |  |
|----------------------------------|--|
| Hazardous decomposition products | If the product is exposed to high temperatures, as in the case of fire, dangerous catabolic substances are produced. |
|----------------------------------|--|

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicological data for substances

|                 |  |
|-----------------|--|
| Substance       | Ethanol  |
| LD50 oral       | Value: 10470 mg/kg bw<br>Animal test species: rat                  |
| LD50 dermal     | Value: > 20000 mL/kg bw<br>Animal test species: rabbit             |
| LC50 inhalation | Value: 124,7 mg/L air<br>Animal test species: rat<br>Duration: 4 h |
| Substance       | butanone   |
| LD50 oral       | Value: 4,29 mL/kg bw<br>Animal test species: Rat                   |
| LD50 dermal     | Value: > 10 mL/kg bw<br>Animal test species: Rabbit                |

#### Potential acute effects

|              |   |
|--------------|---|
| Inhalation   | The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication. |
| Skin contact | May irritate the skin – may cause reddening.  |
| Eye contact  | May cause eye irritation.   |
| Ingestion    | Ingestion may cause discomfort.   |

#### Delayed effects / repeated exposure

|         |   |
|---------|---|
| General | Prolonged or repeated inhalation of vapors may damage the central nervous |
|---------|---|

|              |   |
|--------------|---|
|              | system.   |
| Skin contact | Contact with irritant substances may result in the contact area is more prone to absorb harmful substances such as allergens. |

## Symptoms of Exposure

|                   |   |
|-------------------|---|
| Other Information | There is not an exposure scenario for this product. |
|-------------------|---|

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Toxicological data for substances

|                        |  |
|------------------------|--|
| Substance              | Ethanol  |
| Acute aquatic, fish    | Value: 14,2 g/L<br>Method of testing: LC50<br>Duration: 96 h                 |
| Acute aquatic, algae   | Value: ~ 1,96 g/L<br>Method of testing: EC50<br>Duration: 96 h               |
| Acute aquatic, Daphnia | Value: 5012 mg/L<br>Method of testing: LC50<br>Duration: 48 h                |
| Biodegradability       | Value: 97<br>Test period: 28 days<br>Method of testing: OECD Guideline 301 B |
| Bioaccumulation        | Log Pow = -0,35  |
| Substance              | butanone   |
| Acute aquatic, fish    | Value: 2993 mg/L<br>Method of testing: LC50<br>Duration: 96 h                |
| Acute aquatic, algae   | Value: 1972 mg/L<br>Method of testing: EC50<br>Duration: 72 h                |
| Acute aquatic, Daphnia | Value: 308 mg/L<br>Method of testing: EC50<br>Duration: 48 h                 |
| Biodegradability       | Value: 98<br>Test period: 28 days<br>Method of testing: OECD Guideline 301 D |
| Bioaccumulation        | Log Pow = 0,3  |

### 12.2. Persistence and degradability

|                               |                        |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
|-------------------------------|------------------------|

### 12.3. Bioaccumulative potential

|                           |                                    |
|---------------------------|------------------------------------|
| Bioaccumulative potential | The product is not bioaccumulable. |
|---------------------------|------------------------------------|

### 12.4. Mobility in soil

|          |                              |
|----------|------------------------------|
| Mobility | Test data are not available. |
|----------|------------------------------|

### 12.5. Results of PBT and vPvB assessment

|                        |   |
|------------------------|---|
| PBT assessment results | The mixture does not meet the criteria for PBT or vPvB. |
|------------------------|---|

### 12.6. Other adverse effects

|                                 |       |
|---------------------------------|-------|
| Other adverse effects / Remarks | None. |
|---------------------------------|-------|

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                    |   |
|------------------------------------|---|
| Specify the appropriate methods of | Collect spills and waste in closed, leak-proof containers for disposal at the |
|------------------------------------|---|



|                         |  |
|-------------------------|--|
| disposal                | local hazardous waste site.  |
| Hazardous waste packing | Packaging which contains residual product must be disposed of the same way as product. |
| EWC waste code          | EWC: 20 01 13 solvents   |

## SECTION 14: Transport information

### 14.1. UN number

|           |      |
|-----------|------|
| ADR       | 1170 |
| RID       | 1170 |
| IMDG      | 1170 |
| ICAO/IATA | 1170 |

### 14.2. UN proper shipping name

|           |                        |
|-----------|------------------------|
| ADR       | ETHYL ALCOHOL SOLUTION |
| RID       | ETHYL ALCOHOL SOLUTION |
| IMDG      | ETHYL ALCOHOL SOLUTION |
| ICAO/IATA | ETHYL ALCOHOL SOLUTION |

### 14.3. Transport hazard class(es)

|            |    |
|------------|----|
| ADR        | 3  |
| Hazard no. | 33 |
| RID        | 3  |
| IMDG       | 3  |
| ICAO/IATA  | 3  |

### 14.4. Packing group

|           |    |
|-----------|----|
| ADR       | II |
| RID       | II |
| IMDG      | II |
| ICAO/IATA | II |

### 14.5. Environmental hazards

### 14.6. Special precautions for user

|     |          |
|-----|----------|
| EmS | F-E, S-D |
|-----|----------|

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

## SECTION 15: Regulatory information

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

|                             |  |
|-----------------------------|--|
| Legislation and regulations | People under the age of 18 must not be exposed to this product cf. Council Directive 94/33/EC. For exceptions, see the Danish Working Environment Authority's Executive Order No. 239 of 6 April 2005. |
|-----------------------------|--|

### 15.2. Chemical safety assessment

|                                      |    |
|--------------------------------------|----|
| Chemical safety assessment performed | No |
|--------------------------------------|----|

## SECTION 16: Other information

|  |  |
|--|--|
| 1993-kodenr. (DK)  | 2-1  |
| Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] | Flam. Liq. 2; H225;  |
| List of relevant H-phrases (Section 2 and 3).                      | H336 May cause drowsiness or dizziness.<br>EUH 066 Repeated exposure may cause skin dryness or cracking.<br>H225 Highly flammable liquid and vapour. |

|  |   |
|--|---|
|  | H319 Causes serious eye irritation.   |
| Additional information   | <p>It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.</p> <p>The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.</p>  |
| Important data sources used to construct the safety data sheet | <p>Data sources in Denmark.</p> <p>Arbejdstilsynets bekendtgørelse nr. 301 af 13. maj 1993 om fastsættelse af kodenumre.</p> <p>Arbejdstilsynets bekendtgørelse nr. 292 af 26. april 2001 om arbejde med stoffer og materialer (kemiske agenser).</p> <p>Arbejdstilsynets bekendtgørelse nr. 239 af 6. april 2005 om unges arbejde.</p> <p>Bekendtgørelse nr. 1049 af 27. oktober 2005 om markedsføring og mærkning af flygtige organiske forbindelser i visse malinge og lakker samt produkter til autoreparationslakering. Bekendtgørelse nr. 1075 af 24. november 2011 om klassificering, emballering, mærkning, salg og opbevaring af stoffer og Cellulosefortynder Side 13 af 14 blandinger.</p> <p>Bekendtgørelse nr. 878 af 26. juni 2010 af lov om kemiske stoffer og produkter.</p> <p>Bekendtgørelse nr. 559 af 04/07/2002 om særlige pligter for fremstillere, leverandører og importører mv. af stoffer og materialer efter lov om arbejdsmiljø.</p> <p>Bekendtgørelse nr. 507 af 17/05/2011 om grænseværdier for stoffer og materialer, med senere ændringer.</p> <p>Bekendtgørelse nr. 1309 af 18/12/2012 om affald.</p> <p>EU forordning nr. 1907/2006 (REACH).</p> <p>EU forordning nr. 1272/2008 (CLP), med senere tilpasninger.</p> <p>ECHA <input type="checkbox"/> <input type="checkbox"/> Det europæiske kemikalieagentur</p> |
| Version  | 1   |
| Responsible for safety data sheet                              | Borup Kemi I/S  |
| Comments   | Valideret af mediator A/S - DH.   |