

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. P403+P235 Store in a well-ventilated place. Keep cool. 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 EC no.: 200-578-6 Index no.: 603-002-00-5 Synonyms: ethyl alcohol	Flam. Liq. 2; H225;	93 vægt%
butanone	CAS no.: 78-93-3 EC no.: 201-159-0 Index no.: 606-002-00-3 Registration number: 01-2119457290-43-XXXX Synonyms: ethyl methyl ketone	Flam. Liq. 2; H225; Eye Irrit. 2; H319; STOT SE3; H336; 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. 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. 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. 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 ³	
	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 ³	
	Registration number: 01-2119457290-43-XXXX	Sk, BMGV	
	Synonyms: ethyl methyl ketone	15 min.: 300 ppm	
		Sk, BMGV	
		15 min.: 899 mg/m ³	
		Sk, BMGV Sk = Can be absorbed through the skin.	

DNEL / PNEC from substances

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

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

PNEC

Exposure route: Water

Value: 55.8 mg/L

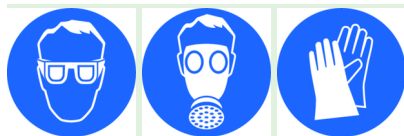
Remarks: Fresh

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 ³
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 Animal test species: rat
LD50 dermal	Value: > 20000 mL/kg bw Animal test species: rabbit
LC50 inhalation	Value: 124,7 mg/L air Animal test species: rat Duration: 4 h
Substance	butanone
LD50 oral	Value: 4,29 mL/kg bw Animal test species: Rat
LD50 dermal	Value: > 10 mL/kg bw 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 Method of testing: LC50 Duration: 96 h
Acute aquatic, algae	Value: ~ 1,96 g/L Method of testing: EC50 Duration: 96 h
Acute aquatic, Daphnia	Value: 5012 mg/L Method of testing: LC50 Duration: 48 h
Biodegradability	Value: 97 Test period: 28 days Method of testing: OECD Guideline 301 B
Bioaccumulation	Log Pow = -0,35
Substance	butanone
Acute aquatic, fish	Value: 2993 mg/L Method of testing: LC50 Duration: 96 h
Acute aquatic, algae	Value: 1972 mg/L Method of testing: EC50 Duration: 72 h
Acute aquatic, Daphnia	Value: 308 mg/L Method of testing: EC50 Duration: 48 h
Biodegradability	Value: 98 Test period: 28 days 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. EUH 066 Repeated exposure may cause skin dryness or cracking. 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.