

Safety data sheet

SereneB

Version 1.0 2

Effective date: 10-09-2021

Revised date: 28-03-2022

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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier.

Trade name: SereneB.

Product no.: -

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

Product use: Fuel.

1.3 Details of the Supplier of the safety data sheet:

Company: Advent Technologies A/S
Lyngvej 8
9000 Aalborg
Denmark
Tel.: +45 88 80 70 40
<https://serene.advent.energy/>

Contact: sales.dk@advent.energy – for latest revision see serene.advent.energy/fuel-mix/

1.4 Emergency telephone number:

Use your local emergency number.

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture according to CLP no. 1272/2008/GB CLP.

Flam. Liq. 3; H226, Acute Tox. 3; H301+H311+H331, STOT SE 1; H370.

2.2 Label elements CLP no. 1272/2008/GB CLP:

Hazard pictograms:



Signal word:

Danger

Contains: Methanol.

Hazard statements:

H226 Flammable liquid and vapor.

H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.

H370 Causes damage to organs (Eyes, Central nervous system).

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Precautionary statements:

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal:

-

Additional labeling:

-

2.3 Other hazards.

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture:

CAS/EC-no.	REACH-no.	Name	Content %	Classification CLP
67-56-1 / 200-659-6	01-2119433307- 44-XXXX	Methanol	60	Flam. Liq. 2; H225, Acute Tox. 3; H301+H311+H331, STOT SE 1; H370.
7732-18-5 / -	-	Water	40	Not classified

See full text of H-phrases in section 16. Occupational limits are listed in section 8, if these are available.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures:

General information:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Oxygen, if needed. No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. Call a physician immediately.

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- Skin contact:** Wash off immediately with soap and plenty of water. Call a physician immediately.
- Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 5 minutes. If eye irritation persists, consult a specialist.
- Ingestion:** Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Keep patient warm and at rest. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately.
- Protection of first aid responders:** First Aid responders should pay attention to self-protection and use the recommended protective clothing.
- 4.2 Most important symptoms and effects, both acute and delayed:**
Symptoms:
Effects of breathing high concentrations of vapor may include: respiratory tract irritation, Ingestion may provoke the following symptoms: Gastrointestinal discomfort, Nausea, Vomiting, Stomach pain, Headache, giddiness, See Section 11 for more detailed information on health effects and symptoms.
Effects:
Risk of blindness! Danger by skin absorption. See section 11 for more detailed information on health effects and symptoms.
- 4.3 Indication of any immediate medical attention and special treatment needed:**
Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

- 5.1 Extinguishing media:** Use alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media:** High volume water jet.
- 5.2 Special hazards arising from the substance or mixture:**
Highly flammable liquid and vapor.
Vapors are heavier than air and may spread along floors.
The product burns with an almost invisible flame.
Vapors may form explosive mixtures with air., In case of fire hazardous decomposition products may be produced such as:, Carbon oxides, Formaldehyde.
- 5.3 Advice for firefighters:** Wear self-contained breathing apparatus and protective clothing to prevent contact. Control smoke with water spray.
Cool closed containers exposed to fire with water spray. Heating will cause a pressure rise - with risk of bursting. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Wear appropriate personal protective equipment – see section 8.

Keep people away from and upwind of spill/leak. Avoid contact with the skin and the eyes. Do not breathe vapors or spray mist. Wear respiratory protection.

6.2 Environmental precautions:

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

In case of major leakage/spill, the product can be diluted according PNEC limits in section 8.1 after agreement with the respective authorities.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal.

Treat recovered material as described in section 13 "Disposal considerations".

6.4 Reference to other sections:

See section 8 for information on personal protective equipment.

See section 13 for waste treatment information.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Wear appropriate personal protective equipment – see section 8.

Keep container tightly closed. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures:

Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Keep working clothes separately.

7.2 Conditions for safe storage, including any incompatibilities:

Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. Suitable materials for containers: Stainless steel, approved plastic cans and 1000L approved plastic IBC tanks.

Unsuitable materials for containers: Aluminium; Lead; Zinc; polystyrene

Storage must follow the regulations for flammable liquids: Class I-2 (DK only).

Advice on protection against fire and explosion:

Combustible liquid. Keep away from sources of ignition - No smoking. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Take measures to prevent the build up of electrostatic charge. Use only in an area containing explosion proof equipment.

Further information on storage conditions:

Keep tightly closed in a dry and cool place. Keep in a well-ventilated place.

7.3 Specific end use(s):

This product should only be used for applications described in section 1.2.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits EH40 (Great Britain) 2020:

CAS-no:	Name:	Limits 8 h:	Limits 15 min.:	Ref./comments:
67-56-1	Methanol	200 ppm 266 mg/m	250 ppm 333 mg/m ³	EH40 Sk

Sk = Can be absorbed through skin.

DNEL:

Methanol CAS no. 67-56-1:

Workers, Acute - systemic effects, Skin contact: 40 mg/kg bw/day

Workers, Acute - systemic effects, Inhalation: 260 mg/m³

Workers, Acute - local effects, Inhalation: 260 mg/m³

Workers, Long-term - systemic effects, Skin contact: 40 mg/kg bw/day

Workers, Long-term - systemic effects, Inhalation: 260 mg/m³

Workers, Long-term - local effects, Inhalation: 260 mg/m³

Consumers, Acute - systemic effects, Skin contact: 8 mg/kg bw/day

Consumers, Acute - systemic effects, Inhalation: 50 mg/m³

Consumers, Acute - systemic effects, Ingestion: 8 mg/kg bw/day

Consumers, Long-term - local effects, Inhalation: 50 mg/m³

Consumers, Long-term - systemic effects, Ingestion: 8 mg/kg bw/day

Consumers, Long-term - systemic effects, Inhalation: 50 mg/m³

Consumers, Long-term - systemic effects, Skin contact: 8 mg/kg bw/day

Consumers, Acute - local effects, Inhalation: 50 mg/m³

PNEC:

Methanol CAS no. 67-56-1:

Fresh water: 154 mg/l

Marine water: 15,4 mg/l

Sediment: 570,4 mg/kg dry weight (d.w.)

Soil: 23,5 mg/kg ww

Sewage treatment plant (STP): 100 mg/l

Intermittent releases: 1540 mg/l

8.2 Exposure controls.

Appropriate technical measures:

Airborne concentrations must be kept as low as possible and below the current threshold values. Use for example an exhaust system if the normal air flow in the work room is not sufficient.

General information / Hygiene measures:

Smoking, consumption of food or liquid, and storage of tobacco, food or liquid, are not allowed in the workroom. 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. Make sure that eyewash and emergency showers are available. Avoid contact with eyes and skin. Avoid breathing mist/vapor.

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Personal protective equipment:

Only CE-marked personal protection equipment should be used.

Respiratory protection:

In case of brief exposure or low pollution use breathing filter apparatus. Respiratory protection complying with EN 141. Recommended Filter type: AX In case of intensive or longer exposure use self-contained breathing apparatus.

Hand protection:

Wear protective gloves. EN 374.
Option: Butyl-rubber gloves ≥ 480 min. Thickness: 0.5 mm.
Option: Fluorinated rubber gloves ≥ 240 min. Thickness: 0.4 mm.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Protective gloves should be replaced at first signs of wear.

Eye protection:

Goggles giving complete protection to the eyes. EN 166.

Body protection:

Solvent resistant protective clothing.

Measures to avoid environmental exposure:

Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Physical state:	Liquid
Colour:	Colourless
Odour:	Alcohol-like
Melting point/freezing point:	-98°C*
Boiling point:	64,7°C*
Flammability:	Not relevant/no data
Lower and upper explosion limit:	5.5 – 44 Vol. %*
Flash point:	23°C
Auto-ignition temperature:	>455°C*
Decomposition temperature:	Not relevant/no data
pH:	Not relevant/no data
Viscosity:	0.544-0-59 mPas*
Solubility:	Complete soluble in water
Partition coefficient n-octanol/water:	Not relevant/no data
Vapour pressure:	128 hPa - 20°C*
Density and/or relative density:	0.79 g/cm ³ *
Relative vapour density:	Not relevant/no data
Particle characteristics:	Not relevant/no data

*Methanol.

9.2 Other information:

None known.

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SECTION 10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** None under normal conditions.
- 10.2 Chemical stability:** Stable under normal storage conditions and recommended use.
- 10.3 Possibility of hazardous reactions:**
Vapors may form explosive mixture with air.
- 10.4 Conditions to avoid:** Heat, flames and sparks.
- 10.5 Incompatible materials:** Keep away from strong oxidizing agents and strong reducing agents. Aluminium, Lead, Magnesium, Alkali metals
- 10.6 Hazardous decomposition products:**
In case of fire hazardous decomposition products may be produced such as:
Carbon oxides, Formaldehyde.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

- Acute toxicity:** Not classified.
- Methanol CAS No. 67-56-1:
Toxic if swallowed.,May cause dizziness and nausea.,After many hours without problems headache, vomiting, gastric pain, vision disturbances, breathing difficulties, unconsciousness and shock may occur.,Risk for life-threatening poisoning and blindness, even if only small amounts have been swallowed.
Toxic if inhaled. Inhalation may cause headache, dizziness, tiredness and nausea. After many hours without problems vomiting, gastric pain, difficulty to see, difficulty to breathing and unconsciousness may occur at inhalation of high concentrations.
- Toxic in contact with skin. Degreases the skin which may cause dry and rough. Prolonged or repeated skin contact may result in dermatitis. Penetrates through the skin and may cause same symptom as at inhalation.
- Skin corrosion/irritation:** Not classified.
- Serious eye damage/irritation:** Not classified.
Splashes in eyes may cause strong pain. Vapour acts irritant.
- Respiratory or skin sensitisation:** Not classified.
- Germ cell mutagenicity:** Not classified.
- Carcinogenicity:** Not classified.
- Reproductive toxicity:** Not classified.

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Specific target organ toxicity - single exposure:

May cause respiratory irritation.

Specific target organ toxicity – repeated exposure:

Causes damage to organs (Eyes, Central nervous system).

Aspiration hazard:

Not classified.

11.2 Information on other hazards:

Endocrine disrupting properties:

The product/substance has no endocrine disrupting properties.

Additional information:

Most important adverse effects:

Inhalation may cause the following effects: Toxic if inhaled., Inhalation may cause headache, dizziness, tiredness and nausea. After many hours without problems vomiting, gastric pain, difficulty to see, difficulty to breathing and unconsciousness may occur at inhalation of high concentrations.

Skin contact may cause the following effects: Toxic in contact with skin., Degreases the skin which may cause dry and rough. Prolonged or repeated skin contact may result in dermatitis., Penetrates through the skin and may cause same symptom as at inhalation.

Eye contact may cause the following effects: Splashes in eyes may cause strong pain. Vapour acts irritant.

Ingestion may cause the following effects: Toxic if swallowed. May cause dizziness and nausea. After many hours without problems headache, vomiting, gastric pain, vision disturbances, breathing difficulties, unconsciousness and shock may occur. Risk for life-threatening poisoning and blindness, even if only small amounts have been swallowed.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Not classified.

Methanol CAS no. 67-56-1:

Fish – LC50 - 15400 mg/l (Lepomis macrochirus; 96 h) (flow-through test; EPA 600/3-75/009)

Daphnia – EC50 - >1000 mg/l (Daphnia magna (Water flea); 48 h) (OECD Test Guideline 202).

Algae – EC50 - 22000 mg/l (Pseudokirchneriella subcapitata (green algae); 96 h)

Bacteria – EC50 - 20000 mg/l (Bacteria; 15 h)

12.2 Persistence and degradability:

Methanol CAS no. 67-56-1:

Result: 97 % (Marine water; Exposure Time: 20 d) Readily biodegradable.

Result: 95 % (Fresh water; Exposure Time: 20 d)

Result: 83 - 91 % (Fresh water sediment; Exposure Time: 3 d)

Result: 71.5 % (Fresh water; Exposure Time: 5 d)

Result: 69 % (Marine water; Exposure Time: 5 d)

Result: 46,3 - 53,5 % (Soil; Exposure Time: 5 d)

12.3 Bioaccumulative potential:

Methanol CAS no. 67-56-1:

Result: log Kow -0,77

Result: BCF: < 10 The product has low potential bioaccumulation.

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12.4 Mobility in soil: Methanol CAS no. 67-56-1:
The substance is mobile in water environment.

12.5 Result of PBT and vPvB assesment:
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties:
The product/substance has no endocrine disrupting properties.

12.7 Other adverse effects: Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Must be disposed of in accordance with local and national regulations. The coding of a waste stream is based on the application of the product by the consumer. The waste code is established in consultation with the regional waste disposer.

Contaminated packing: Packaging which contains leftovers from the product must be disposed of in the same way as the product. Otherwise dispose according to the packaing material.

SECTION 14. TRANSPORT INFORMATION

This product is classified as dangerous to transport.

	ADR/RID	IMDG/IMO
14.1 UN number	1230	1230
14.2 UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S. (Methanol solution)	FLAMMABLE LIQUID, TOXIC, N.O.S. (Methanol solution)
14.3 Transport hazard class(es)	3 + (6.1)	3 + (6.1)
14.4 Packing group	II	II
14.5 Environmental hazards - MP	No F-E, S-E	No F-E, S-E
Other informations	LQ: 1 L. TUNNEL: D/E	LQ: 1 L. TUNNEL: D/E

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14.6 Special precautions for user:

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:

Sources:

Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). EC regulation 1907/2006 (REACH) Directive 2000/532/EC. Seveso directive: 96/82/EC. EU No. 2020/878. CLP 1272/2008. REACH 1907/2006. GB CLP.

Additional information:

People under the age of 18 must not be exposed to this product cf. Council Directive 94/33/EC.

Only persons, who are thoroughly instructed in the dangerous properties and the necessary safety precautions of the substance, are allowed to work with it.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has been carried out for Methanol.

SECTION 16. OTHER INFORMATION

Full text of H-phrases as mentioned in section 3:

H225 Highly flammable liquid and vapor.

H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.

H370 Causes damage to organs (Eyes, Central nervous system).

Additional information:

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Revised 28-03-2022 section:

1, 9, 15.

Validated by:

SRS

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