



Version 2, 2024-05-02

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

1.1. Product identifier: Biochar, charred agricultural residues

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

Relevant identified uses: Soil improvement, soil conditioner, filter in purification, stabilization of pollutants.

1.3. Details of the supplier of the safety data sheet

Manufacturer: Skånefrö AB, Storgatan 1, SE 272 93 Tommarp, <https://skanefro.se/>,
Email: info@skanefro.se

1.4. Emergency telephone number

In an emergency: Call 112 The emergency number 112 must be used in urgent emergency situations when there is danger to life, property, or the environment. An emergency is when you quickly need help from an ambulance, emergency services, police, air, sea, mountain rescue, priest on duty or poison information.

In less urgent cases: Call the Swedish Poisons Information Centre; 010-456 6700.

Note: These phone numbers apply in Sweden. In other countries, other numbers may apply.

Skånefrö AB: +46 414-41 25 00

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Flammable solid (category 2)

Acute toxicity, inhalation (category 4)

Serious eye damage/eye irritation (category 2)

[Substances that have the potential to induce reversible eye irritation shall be classified in Category 2 (eye irritation).]

Aspiration hazard (category 2)

Self-reactive substance type F

2.2. Label elements

Hazard pictograms:



Signal word: Warning

Hazard statements:

H228: Flammable solid

H242: Heating may cause a fire

H304: May be fatal if swallowed and enters airways

H315: Causes skin irritation

H319: Causes serious eye irritation

H332: Harmful if inhaled

H335: May cause respiratory irritation

Precautionary statements:

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

P261: Avoid breathing dust.

P284: Wear respiratory protection.

P301: In the event of ingestion that causes the product to enter the lungs, stop exposure and make sure to get fresh air. Give some drink. If necessary, call the Swedish Poisons Information Centre for further advice on what needs to be done.

P370 + P378: In case of fire: Use water to extinguish.

2.3. Other hazards

The material can be considered pyrophoric with moisture <10% at temperatures >400°C, where the substance can spontaneously ignite.

Dry material presents a dust hazard, and personal protective equipment should be used to alleviate irritation associated with dust.

SECTION 3: Composition/information on ingredients

3.1. Substances

Biochar

Main ingredient: Pyrolyzed agricultural residues

Ash from charred agricultural residues (recycled residues from seed cleaning)

3.2. Mixtures

Biochar from charred agricultural residues (measured on dry basis): 80.6 – 81.3 %

Ash from charred agricultural residues (measured on dry basis): 18.7 – 19.4 %

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Ensure that the person gets fresh air. If persistent irritation, severe coughing/difficulty breathing or a rash occurs, consult a physician before the person returns to work with biochar.

Eye contact: Rinse with water to remove dust particles from the eye. If the irritation persists, consult a physician.

Skin contact: If a rash, or persistent irritation or dermatitis occurs, a physician should be contacted before the person returns to work with biochar.

Use of personal protective equipment can limit contact if necessary - long pants, sleeves, gloves, eye protection, FFP1 respirator.

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

Overexposure to biochar dust can cause skin/eye and upper respiratory tract irritation along with allergic reactions and asthma.

Medical conditions that may be aggravated by exposure: Allergy such as dermatitis, asthma, bronchitis.

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

If an allergy such as dermatitis, asthma or bronchitis develops, it may be necessary to remove a sensitive worker from further exposure to biochar dust.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Water

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards: Fine dust dispersed in the air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. The minimum concentration for dust explosion risk is 0.140 g/l.

5.3. Advice for firefighters

Fire-fighting equipment: Full protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

Respiratory protection may be needed when cleaning.

6.2. Environmental precautions

Waste management: Handle in accordance with applicable waste regulations. Biochar is sorted as residual waste, combustible.

6.3. Methods and material for containment and cleaning up

Actions to be taken in case of biochar spillage: Sweep up or vacuum spillage for recycling or disposal.

6.4. Reference to other sections

See sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

When storing, consideration should be given to the quality requirements for the intended end use.

Respirator FFP1 to prevent inhalation should be used when handling loose material in storage. Use of long trousers, sleeves, gloves, and eye protection can limit contact if necessary.

7.2. Conditions for safe storage, including any incompatibilities

Store away from heat sources and prevent smoking or open flame near stored material.

7.3. Specific end use(s)

See information from The European Biochar Industry Consortium (EBI) at <https://www.biochar-industry.com/> and from the European Biochar Certification (EBC) at <https://www.european-biochar.org/en>.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ventilation: Whenever possible, local exhaust ventilation should be used to maintain the applicable limit values according to the regulations of Arbetsmiljöverket (Swedish Work Environment Authority) (AFS 2018:1) and allmänna råd (general advice) from Arbetsmiljöverket on hygienic limit values (*version with changes introduced up to and including 22 September 2021*). Item in the list of limit values: #Dust, carbon incl. carbon black – inhalable fraction, level limit value (LVV) 3 mg/m³.

8.2. Exposure controls

Respiratory protection: Respirator FFP1 to prevent inhalation should be used when handling loose material.

Safety glasses: Safety glasses should be used in case of dust formation.

Protective gloves: Recommended to reduce skin contact.

Other protective equipment: No special clothing is required unless a lot of dust is associated with handling. Use clean body-covering work clothes.

Ventilation: Whenever possible, local exhaust ventilation should be used to maintain on each occasion applicable regulations on hygienic limit values.

Use of long trousers, sleeves, gloves, and eye protection can limit contact if necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form: Solid, typically black in colour with particle sizes that vary depending on handling and processing

Smell: Minimal smell that of earthy or charcoal character

Smell Threshold: N/A

pH: 8–10

Melting point/melting range: N/A

Boiling Point/boiling range: N/A

Flash point: N/A

Evaporation rate: N/A

Self-ignition temperature: >400°C

Explosion Hazard: N/A Vapour pressure: N/A Vapour density: N/A

Relative density: 160.815–241.222 kg/m³ (10–15 lbs/ft³)

Solubility in/miscibility with water: Non soluble

9.2. Other information

Not self-igniting at temperatures <400°C.

The substance can be considered pyrophoric with moisture <10% at temperatures >400°C, where the substance can spontaneously ignite.

SECTION 10: Stability and reactivity

10.1. Reactivity

Self-reactive substance type F. Contact with strong oxidising agents may cause fire.

10.2. Chemical stability

The product is stable in closed containers at room temperature.

10.3. Possibility of hazardous reactions

If the moisture content is below <30%, the substance's temperature may rise. At temperatures >400°C, the substance can spontaneously ignite. The substance can be considered pyrophoric with moisture <30% at temperatures >400°C, where the substance can start to spontaneously glow.

10.4. Conditions to avoid

Moisture content below <30% at temperature >400°C, incompatible materials, combustible materials, sparks, heat, flames.

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂)

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute inhalation toxicity, Hazard Category 4

Skin Irritation, Hazard Category 2

Serious eye damage/eye irritation, Hazard Category 2 (reversible)

Respiratory or skin sensitisation: non-applicable

Germ cell mutagenicity: non-applicable

Carcinogenicity: non-applicable

Reproductive toxicity: non-applicable

STOT-single exposure: Hazard Category 4, respiratory sensitisation

STOT-repeated exposure: non-applicable

Aspiration hazard, Hazard Category 1

11.2. Information on other hazards

No other relevant information on adverse health effects is available.

SECTION 12: Ecological information

12.1. Toxicity

No information is available.

12.2. Persistence and degradability

No information is available.

12.3. Bioaccumulative potential

No information is available.

12.4. Mobility in soil

No information is available.

12.5. Results of PBT and vPvB assessment

No information is available.

12.6. Endocrine disrupting properties

No information is available.

12.7. Other adverse effects

No information is available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Biochar is sorted as residual waste, combustible.

Plastic bags are sorted as plastic packaging.

Paper bags are sorted as paper packaging.

Cardboard packaging is sorted as paper packaging.

Corrugated box is sorted as corrugated cardboard.

SECTION 14: Transport information

14.1. UN number or ID number

UN 3230, UN 1325

Biochar is very similar to activated carbon, which has UN number 1362 which is included in class 4.2, Self-igniting substances. However, biochar is not considered to be self-igniting at temperatures <400°C.

From ADR-S 2023, Chapter 3.2, List of dangerous goods, 3.2.1 Table A: List of dangerous goods in UN number order:

UN-nr	Benämning och beskrivning	Klass	Klassificeringskod	Förpackningsgrupp	Etiketter	Särbestäm- melser	Begränsade och reducerade mängder		Förpackning			UN-tankar och bulkcontainrar		ADR-tank		Fordon för tank- transport	Transport- kategori (Tunnel- restrik- tionskod)	Särbestäm- melser för transport				Farlighets- nummer		
									Förpack- nings- instruk- tioner	Särbe- stäm- melser för förpack- ningen	Bestäm- melser för sam- emalle- ring	Instruk- tioner	Särbe- stäm- melser	Tankkod	Särbestäm- melser			Kollin	Bulk	Lastning, lossning och han- tering	Använd- ning			
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)		
3.1.2		2.2	2.2	2.1.1.3	5.2.2	3.3	3.4	3.5.1.2	4.1.4	4.1.4	4.1.4	4.1.10	4.2.5.2	7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	9.1.1.2	1.1.3.6 (8.6)	7.2.4	7.3.3	7.5.11	8.5	5.3.2.3
1362	AKTIVT KOL	4.2	S2	III	4.2	648	0	E1	P002 IB08 LP02 R001	PP11 B3	MP14	T1	TP33	SGAV		AT	4 (E)	V1	VC1 VC2 AP1				40	

14.2. UN proper shipping name

Flammable solid fasta, n.o.s. (pyrolyzed agricultural residues, ash)

Self-reactive substance type F (pyrolyzed agricultural residues, ash)

14.3. Transport hazard class(es)

4.1 Flammable solid

14.4. Packing group

Land transport ADR/RID (cross-border): N/A

ADR/RID class: N/A

Air transport ICAO-TI and IATA-DGR: N/A

ICAO/IATA Class: N/A

14.5. Environmental hazards

Sea transport IMDG: N/A

14.6. Special precautions for user

See sections 6.1, 6.2 and 7.1

14.7. Maritime transport in bulk according to IMO instruments

The product must not be transported in bulk.

AVSNITT 15. Gällande föreskrifter

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

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (CLP)
- Directive 2008/98/EC of the European Parliament and of the Council on waste
- Avfallsförordningen (2020:614)

15.2. Chemical safety assessment

The producer has not carried out a chemical safety assessment of the substance.

AVSNITT 16. Annan information

The safety data sheet has been prepared in accordance with Article 31 and Annex II of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH).

Version description:

First version in English, translated from the second Swedish version, which is reconstructed and revised in full.