

	<b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)  <b>Product: CO<sub>2</sub>-Hempextract</b>	Page 1 of 10  Revision: 1  Revision Date: 04.07.2019
--	---	--

## 1. Identification of the Substance and of the Company

### 1.1 Product identifier

Substance name: CO<sub>2</sub>-Hemp Extract  
 EC-No.: 289-644-3  
 CAS No.: 89958-21-4  
 REACH No.: The substance is not registered. It is mainly used in food industry.

#### 1.1.1 Other means of identification

Synonyms: Cannabis sativa, ext.  
 Hemp Extract  
 Industrial Hemp Extract  
 CO<sub>2</sub>-Extract of the upper plant parts (flowers and leaves) of hemp  
 (Cannabis sativa, varieties as in EU Catalogue of Varieties according to  
 Regulation (EU) No. 1307/2013.

### 1.2 Relevant identified uses

#### 1.2.1 Relevant identified uses

Additional product for food and pharmaceutical industry.

#### 1.2.2 Uses advised against

This product is intend for use as an intermediate product. Any other application has to be discussed with the manufacturer.

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

#### 2.1.1 Classification according to Regulation (EC) No. 1272/2008 (CLP) and hazard statements

Hazard-class and -category			Hazard statements
Irritant effect on skin	2	H315	Causes skin irritation.
Eye irritation	2	H319	Causes serious eye irritation.

	<b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)  <b>Product: CO<sub>2</sub>-Hempextract</b>	Page 2 of 10  Revision: 1  Revision Date: 04.07.2019
--	---	--

### 2.1.2 Other statements

No statements.

## 2.2 Label elements

Labelling according to Regulation (EC) No.1272/2008 (CLP).

### Hazard Pictogram



GHS07

### Signal Word

Warning

### Precautionary statements

P264 Wash hands thoroughly after handling.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 If eye irritation persists: Get medical advice/attention.  
 P302+P352 IF ON SKIN: Wash with plenty of water/soap.  
 P332 + P313 If skin irritation occurs: Get medical advice/attention.  
 P362 + P364 Take-off contaminated clothing and wash it before reuse.

## 2.3 Other hazards

Not known.

### Result of PBT- and vPvB-assessment:

**PBT:** Not applicable.

**vPvB:**Not applicable.

## 3. Information on Ingredients

### 3.1 Chemical characterization

Greasy extract, extracted from Hemp, with the main components:

Cannabinoids	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Concentration %
Cannabichromene (CBC) CAS-No.: 20675-51-8	Acute Tox. 4, H302 Aquatic Chronic 4, H413	0,07 - 1,37
Total-cannabidiol (CBD) (calculated) CAS-No.: 13956-29-1	No classification.	0,29 - 39,4
Total-Δ-9-Tetrahydrocannabinol (THC) (calculated) CAS-No.: 1972-08-3	Acute Tox.4, H302 Repr. 2, H361	0,04 - 2,95

	<b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)  <b>Product: CO<sub>2</sub>-Hempextract</b>	Page 3 of 10 Revision: 1 Revision Date: 04.07.2019
--	---	--

Fatty acids	Classification	Concentration %
Linoleic-acid (C18:2m6) CAS-No.: 60-33-3	No classification.	30,3 – 34,9
a-Linolenic-acid (C18:3m3) CAS-No.: 463-40-1	No classification.	11,8-13,7
Palmitic-acid (C16:0) CAS-No.: 57-10-3	No classification.	6,5 - 8,2
Oleic-acid (C18:l) CAS-No.: 112-80-1	No classification.	5,8 - 6,7
Stearic-acid (C18:0) CAS-No.: 57-11-4	No classification.	1,6 – 1,9
Caproic-acid (C6:0) CAS-No.: 142-62-1	Skin Corr. 1C, H314 Eye Dam. 1, H318	0,3 – 1,4
γ-Linolenic-acid (C18:3m6) CAS-No.: 506-26-3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	1,2 – 1,3

All concentrations given are experience values. As this is a natural product, the concentrations of the ingredients are subject to natural fluctuation.

## 4. First Aid Measures

### 4.1 Description of first aid measures

#### General information

Attent to self-protection. Remove product-contaminated clothing.

#### Inhalation

After inhalation of vapors from thermal decomposition: take the affected person to fresh air and ensure unhindered breathing.

#### Skin contact

Wash with warm water and soap. If skin irritation occurs, get medical attention.

#### Eye contact

Rinse affected eye with open eyelids with fluent water (at least 15 min). Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms last, consult an eye specialist.

#### Ingestion

Flush mouth and drink water to dilute. Turn a person, which is vomiting and lying on the back, to the side and consult medical attention.

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

None known.

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

Measures described in Section in 4.1.

## 5. Fire-fighting Measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

CO<sub>2</sub>, dry powder, foam, sand.

	<p align="center"><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p align="center"><b>Product: CO<sub>2</sub>-Hempextract</b></p>	<p align="right">Page 4 of 10 Revision: 1 Revision Date: 04.07.2019</p>
--	---	---

#### **Unsuitable extinguishing media**

Use no water to extinguish.

#### **5.2 Special hazards arising from the substance**

The substance is flammable. In case of fire dangerous combustion gases can be formed: nitrogen oxide (NO<sub>x</sub>), carbon monoxide, carbon dioxide.

#### **5.3 Advice to fire-fighters**

##### **Special protective equipment**

At residence in dangerous area use respiratory protection (preferably self-contained respirator).

### **6. Accidental Release Measures**

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

If unintended spill or unintended release of huge amount: Use suitable protective equipment. Avoid contact with eye or skin, keep unprotected person away. Do not swallow. Danger of slipping.  
Remove sources of ignition. At formation of vapors/aerosols take care of sufficient ventilation and use respirator.

#### **6.2 Environmental precautions**

Do not allow to reach in sewerage/ groundwater/ soil.

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

Pick up mechanically, absorb with oil binding material. Take care of sufficient ventilation. Supply the absorbed material in suitable container to a recovery or supply to correct disposal. Re-clean.

#### **6.4 Reference to other sections**

Information about safe handling see Section 7.  
Information about personal protective equipment see Section 8.  
Information about disposal see Section 13.

### **7. Handling and Storage**

#### **7.1 Precautions for safe handling**

Avoid excessive contact with the product. Use appropriate protective equipment as indicated in Section 8. Wash hands after use and take of contaminated clothes.

##### **Measures to prevent fire and explosions**

Avoid sources of ignition – do not smoke. Keep fire extinguisher ready.

##### **Aerosol and dust generation preventions**

Keep container tightly closed.  
Take care of sufficient ventilation at workplace.

##### **Environmental precautions**

Do not allow to reach in sewerage/ groundwater/ soil. Not considered as endangering the environment. Natural product.



	<b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)  <b>Product: CO<sub>2</sub>-Hempextract</b>	Page 5 of 10  Revision: 1  Revision Date: 04.07.2019
--	---	--

**Advice on general occupational hygiene**

Do not eat, drink or smoke at working place.

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures and storage conditions**

Store container at a good ventilated location.

Store dry and tightly closed. Avoid heat and direct sunlight.

**Packaging materials**

Store only in original container.

**Storage class**

LGK 10: flammable fluids, which are not allocated to one of former storage classes.

**7.3 Specific end uses**

For use in food industry. It should be used in accordance with applicable food legislation.

**8. Exposure Controls/Personal Protection**

**8.1 Control parameters**

**Occupational exposure limits**

None.

**8.2 Exposure controls**

**8.2.1 Appropriate engineering controls**

Not necessary.

**8.2.2 Personal protective equipment**

**Body protection**

Wear protective equipment. Avoid skin contact.

**Eye/Face protection**

At work with fluid product, e.g. while heating, wear safety glasses or face protection because of risk of splashing.

**Skin protection**

PVC, rubber, latex or nitrile-gloves are suitable and should be used.

**Respiratory protection**

At proper storage and handling not necessary.

**8.2.3 Environmental exposure controls**

See Section 6.2.

	<p align="center"><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p align="center"><b>Product: CO<sub>2</sub>-Hempextract</b></p>	<p align="right">Page 6 of 10</p> <p align="right">Revision: 1</p> <p align="right">Revision Date: 04.07.2019</p>
--	---	---

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Appearance: colour/form:	Dark yellow-dark green/viscous-pasty
Odour:	Sweetish, ethereal, hemp-similar aroma
Odour threshold:	Not determined.
pH (10g/l, at 20 °C):	3 - 4
Change of state:	
Melting point:	Approx. 15-50 °C
Initial boiling point:	No data available.
Sublimation point:	No data available.
Flash point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas)	No data available.
Ignition temperature:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Explosive limits:	
Lower explosive limits:	No data available.
Upper explosive limits:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Density (at 20 °C):	Approx. 0,9 g/cm <sup>3</sup>
Bulk density:	Not relevant.
Solubilities	
in water:	Not soluble.
in organic solvent	Soluble in Ethanol, Methanol and Aceton.
log K <sub>OW</sub> (distribution coefficient n-Octanol/water)	No data available.
Viscosity:	high

## 10. Stability and Reactivity

### 10.1 Reactivity

No reactivity hazards known.

### 10.2 Chemical stability

Stable under proper storage and handling. See Section 7.2 and 10.5.

### 10.3 Possibility of hazardous reactions

None known.

### 10.4 Conditions to avoid

No safety-relevant information available.

Oxidizing support conditions like heat or UV-light effect a quality reduce. Avoid high temperatures.

	<b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)  <b>Product: CO<sub>2</sub>-Hempextract</b>	Page 7 of 10  Revision: 1  Revision Date: 04.07.2019
--	---	--

#### 10.5 Incompatible materials

No safety-relevant information available. Oxidizing agents have a quality degrading effect.

#### 10.6 Hazardous decomposition products

None known at proper storage and handling (see Section 7.2).

### 11. Toxicological Information

#### 11.1 Information on toxicological effects

This product is a natural substance and determined for use in food industry.

##### Acute toxicity

This product is not classified. Calculated ATE-values (oral and dermal) are located above a classification limit of 2000 mg/kg.

Statements to contents, which are classified as urgent toxic:

Content	CAS-No.	LD <sub>50</sub>
Cannabichromene	20675-51-8	Exchange value according to REACH, 500 mg/kg*
THC	1972-08-3	3150 mg/kg (oral/monkey, literary value)

\* REACH (EG) 1272/2008

##### Skin corrosion/irritation

Skin irritation Category 2. The classification occur on the content to which additivity method is applicable.

##### Eye damage irritation

Eye irritation Category 2. The classification occur on the content to which additivity method is applicable.

##### Skin sensitization

No indication.

##### Sensitization to the respiratory tract

No indication.

##### Germ cell mutagenicity

No indication.

##### Carcinogenicity

No indication.

##### Reproductive toxicity and developmental toxicity (teratogenicity)

The product is not classified.

##### Specific target organ toxicity (STOT) (single exposure)

The product is not classified.

##### Specific target organ toxicity (STOT) (repeated exposure)

No indication.

##### Aspiration hazard

No indication.

	<b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)  <b>Product: CO<sub>2</sub>-Hempextract</b>	Page 8 of 10  Revision: 1  Revision Date: 04.07.2019
--	---	--

## 12. Ecological information

### 12.1 Toxicity

#### Aquatic toxicity

The product is not classified.

#### Other organism

No indication.

### 12.2 Persistence and degradability

The product is a natural product and therefore it is biodegradable.

### 12.3 Bioaccumulative potential

A bioaccumulation is not expected.

### 12.4 Mobility in soil

No indication.

### 12.5 Results of PBT and vPvB assessment

This product contains no components, which are persistent, as bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in concentration of 0.1 % or higher classified.

## 13. Disposal Considerations

### 13.1 Waste treatment methods

No hazardous disposal in accordance to the List of Waste Regulation (AVV).

If a recovery is not possible, waste has to be eliminated in accordance to the local official regulations. Product should not get into sewage.

#### Waste Code

Recommendation: Arrange exact waste code with the disposal company.

#### Packaging

##### Uncleaned packaging

Recommendation: Disposal in accordance to the local official regulations.

Arrange exact waste code with the disposal company. Labels should not be removed from containers until they have been cleaned.

##### Cleaned packaging

Container should be cleaned with suitable methods and thereafter in accordance with current local and national regulations be reused, recycled or disposed.

## 14. Transport Information

Not subjected to transport regulation for hazardous goods, because it is no hazardous good according to ADR/RID.

## 15. Regulatory Information

This safety data sheet meet the requirements of REACH-Regulation (EC) No. 1907/2006, last changed by Regulation (EU) No. 2018/589, as well as CLP-Regulation (EC) No. 1272/2008, last changed by Regulation (EU) No. 2017/776.



	<p align="center"><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p align="center"><b>Product: CO<sub>2</sub>-Hempextract</b></p>	<p align="right">Page 9 of 10</p> <p align="right">Revision: 1</p> <p align="right">Revision Date: 04.07.2019</p>
--	---	---

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

For food industry.

#### EU Regulations

REACH: Regulation (EC) No. 1907/2006, last changed by Regulation (EU) No. 2018/589.  
Classification according to Annex I Part 3.

#### National Regulations (Germany)

Administrative regulation of water contaminating substances (AwSV, chapter 2):  
Water contaminating class: WGK 1 (slightly water contaminating) – Self-classification.

Reason of classification:

The content of substances of WGK 1 conduct more than 3 % and the density is <1 g/cm<sup>3</sup>.

The product is a greasy extract. Manufacturing process and fat content are comparable to Hop Extract (CAS-No.: 8060-28-4). Hop Extract, as well as further greasy products are classified in WGK 1 (see database Rigoletto).

### 15.2 Chemical Safety Assessment

For this substance, a chemical safety assessment is not implemented.

## 16. Other Information

The information in this safety data sheet is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on our present knowledge and should be used only as a supplement to information already in your possession concerning this product. It does not represent any guarantee of the properties of the product. The determination of whether and under what condition the product should be used is yours to make.

### 16.1 Indication of changes

Revision 1    04.07.2019    adjustment according to REACH Regulation (EC) No. 1907/2006.

	<p align="center"><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p align="center"><b>Product: CO<sub>2</sub>-Hempextract</b></p>	<p align="right">Page 10 of 10</p> <p align="right">Revision: 1</p> <p align="right">Revision Date: 04.07.2019</p>
--	---	--

## 16.2 Abbreviations and acronyms

ADR	European Agreement concerning the international carriage of dangerous goods by road
ATE	Acute Toxicity Estimates
BGR/GUV	Rules of employers liability insurance association for safety and health during work/principles of accident prevention (German: Berufsgenossenschaftliche Regeln für Sicherheit und Gesundheit bei der Arbeit / Grundsätze der Unfallverhütung)
CAS	Chemical Abstracts Service
C&L	Classification and Labelling
CLP	Regulation (EC) No. 1272/2008 (Classification, Labelling and Packaging)
EC	European Community
EU	European Union
GHS	Globally Harmonized System of Classification, Labelling and Packaging of Chemicals
LGK	Storage class (German: Lagerklasse)
log K <sub>ow</sub>	Distribution coefficient between octanol and water
PBT	persistent, bioaccumulative, toxic
REACH	EC-Regulation (Registration, Evaluation, Authorisation and Restriction of Chemicals)
RID	Convention concerning International Carriage by Rail
MSDS	Material safety data sheet
vPvB	very persistent and very bioaccumulative
AwSV	Ordinance on facilities for the handling of substances hazardous to water (Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen)
WGK	Water Hazard Class (German: Wassergefährdungsklasse)