

## Safety data sheet according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

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

- **1.1 Product identifier**
- **Trade name:** **Light Stable Kettle Extract (LSKE)**
- **Substance name:** Hop, Humulus lupulus, ext
- **CAS Number:**  
8060-28-4
- **EINECS Number:** 232-504-3
- **1.2 Relevant identified uses of the substance or mixture and uses advised against:** -
- **Application of the substance / the preparation:** Manufacturing of food
- **Uses advised against** -
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier/Manufacturer:**  
Simon H. Steiner  
Hopfen GmbH  
Auhofstr. 18  
84048 Mainburg  
Germany  
  
Tel.: +49-8751-8605-0  
Fax: +49-8751-8605-80
- **Email competent person:** sds@kft.de
- **Information department:** See supplier/manufacturer
- **1.4 Emergency telephone number:**  
Simon H. Steiner, Hopfen, GmbH, Mainburg, Germany  
Tel.: +49-8751-8605-0 (Monday – Friday 08:00 – 17:00)

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS06

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one
- **Hazard statements**  
H301 Toxic if swallowed.
- **Precautionary statements**  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P330 Rinse mouth.

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

---

**Trade name: Light Stable Kettle Extract (LSKE)**


---

(Contd. of page 1)

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable
  - **vPvB:** Not applicable
- 

### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances** Manufacturing of food

- **CAS No. Description:**

8060-28-4 Hop, Humulus lupulus, ext

- **Dangerous components:**

CAS: 468-28-0	3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one	12-35%
---------------	--	--------

EINECS: 207-405-3	Acute Tox. 3, H301	
-------------------	--------------------	--

CAS: 8007-04-3	hop oil	2-10%
----------------	---------	-------

	Flam. Liq. 3, H226; Asp. Tox. 1, H304	
--	---------------------------------------	--

---

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:** If symptoms persist or in case of doubt, seek medical advice.

- **After inhalation:** In case of complaints which may be caused by vapours supply fresh air and call a doctor.

- **After skin contact:** Wash with water and soap.

- **After eye contact:**

Rinse opened eye for several minutes under running water.

If symptoms persist, consult a doctor.

- **After swallowing:**

Rinse mouth with water.

Spit liquid out again.

Seek immediate medical advice.

- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **4.3 Indication of any immediate medical attention and special treatment needed** Symptomatic treatment
- 

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire fighting measures that suit the environment.

- **For safety reasons unsuitable extinguishing agents:** High volume water jet

- **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO<sub>2</sub>)

- **5.3 Advice for firefighters**

- **Protective equipment:** Wear self-contained respiratory protective device.

- **Additional information:**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

---

GB  
(Contd. on page 3)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

Trade name: **Light Stable Kettle Extract (LSKE)**

(Contd. of page 2)

### SECTION 6: Accidental release measures

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

Ensure adequate ventilation.

Do not smoke - keep ignition sources away

Avoid contact with eyes and skin.

#### · 6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

#### · 6.3 Methods and material for containment and cleaning up:

Absorb with non-combustible material like sand, soil or diatomite.

Small quantities:

If spilled/leaked: absorb main quantity with cloth.

Make sure to recycle or dispose of in suitable receptacles.

#### · 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

#### · 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Avoid ingestion and inhalation.

Keep away from heat and direct sunlight.

Avoid contact with eyes and skin.

#### · Information about protection against explosions and fires:

Vapours may form explosive mixtures with air.



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Observe the national regulations for storage of flammable liquids.

Observe the general rules of industrial fire protection.

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

##### · Storage:

##### · Requirements to be met by storerooms and receptacles:

Store container tightly sealed at a cool and dry place with sufficient ventilation.

Store only in the original receptacle.

· **Information about storage in one common storage facility:** Refer to national regulations for storing hazardous chemicals.

##### · Further information about storage conditions:

Store and transport packagings always in an upright position.

Protect from contamination.

Protect from heat and direct sunlight.

storage temperature: &lt; 10 °C

· **Storage class:** 6.1C: Combustible substances, acute toxic cat. 3/toxic or having chronic effects

· **7.3 Specific end use(s)** No further relevant information available

### SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

#### · 8.1 Control parameters

· **Components with limit values that require monitoring at the workplace:** Not required

(Contd. on page 4)

— GB —

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

---

**Trade name: Light Stable Kettle Extract (LSKE)**


---

(Contd. of page 3)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures should be adhered to when handling chemicals.

Wash hands before breaks and at the end of work.

Avoid contact with eyes and skin.

After skin contact, cleanse skin thoroughly.

· **Breathing equipment:**

Not necessary if room is well-ventilated

In case of unintended release:



In case of brief exposure or low pollution use a respiratory filter device. In case of intensive or longer exposure use a respiratory protective device that is independent of circulating air.

Filter A (colour code: brown)

· **Protection of hands:**

Chemical resistant gloves (EN 374)

The glove material has to be impermeable and resistant to the product/substance/preparation.

Selection of the glove material in consideration of the penetration times, rates of diffusion and the degradation

Due to missing tests no recommendation to the glove material can be given for the product / preparation / chemical mixture.

· **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material:**

The exact penetration time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Safety glasses with side shields

· **Body protection:** Protective work clothing

---

## SECTION 9: Physical and chemical properties

---

· **9.1 Information on basic physical and chemical properties**

· **General Information:**

· **Appearance:**

<b>Form:</b>	Viscous
<b>Colour:</b>	Amber coloured Gold coloured

· **Odour:** Characteristic

· **Odour threshold:** Not determined

· **pH-value:** 7.5 - 8.0

· **Change in condition:**

<b>Melting point/Melting range:</b>	Not determined
<b>Boiling point/Boiling range:</b>	Not determined

· **Flash point:** ca. 97 °C

· **Flammability (solid, gaseous):** Not applicable

· **Ignition temperature:** Not determined

· **Decomposition temperature:** Not determined

· **Self ignition temperature:** Product is not self-igniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures is possible.

(Contd. on page 5)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

Trade name: Light Stable Kettle Extract (LSKE)

(Contd. of page 4)

· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
· <b>Oxidizing properties:</b>	Not determined
· <b>Vapour pressure:</b>	Not determined
· <b>Density at 20 °C:</b>	1.05 - 1.10 g/ml
· <b>Relative density:</b>	Not determined
· <b>Vapour density:</b>	Not determined
· <b>Evaporation rate:</b>	Not determined
· <b>Solubility in / Miscibility with Water:</b>	Slightly soluble precipitate if acidified
· <b>Partition coefficient (n-octanol/water):</b>	Not determined
· <b>Viscosity:</b>	
<b>dynamic at 50 °C:</b>	300-600 mPas
<b>kinematic at 50 °C:</b>	ca. 270-570 mm <sup>2</sup> /s
<b>Surface tension:</b>	Not determined
· <b>9.2 Other information</b>	Miscible with alcohol

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid**
  - Heat
  - sun rays
- **10.5 Incompatible materials:** Oxidants
- **10.6 Hazardous decomposition products:**
  - No hazardous decomposition products if instructions for storage and handling are followed

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
  - Toxic if swallowed.
- **LD/LC50 values that are relevant for classification:**
  - ATE oral: 285 mg/kg
  - 468-28-0 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one**
  - Oral LD<sub>50</sub> 100 mg/kg (rat)
  - Lungs, thorax, or respiration: cyanosis, behavioral: ataxia. Arzneimittel-Forschung. Drug Research. Vol. 17, Pg. 79, 1967.
- **Primary irritant effect:**
- **Skin corrosion/irritation** May cause irritation to the skin.
- **Serious eye damage/irritation** May cause irritation to the eyes.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.

(Contd. on page 6)

— GB —

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

---

**Trade name: Light Stable Kettle Extract (LSKE)**


---

(Contd. of page 5)

- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
  - **Aspiration hazard** Based on available data, the classification criteria are not met.
- 


### SECTION 12: Ecological information

- **12.1 Toxicity**
  - **Aquatic toxicity:** Presently there are no ecotoxicological values available.
  - **12.2 Persistence and degradability** No further relevant information available
  - **12.3 Bioaccumulative potential** No further relevant information available
  - **12.4 Mobility in soil** No further relevant information available
  - **Additional ecological information:**
  - **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous to water  
Classification according to German VwVwS dt. 17.05.1999 appendix 3  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Danger to drinking water is possible if large quantities leak into the ground or into water course.  
Ident number.: 6390
  - **12.5 Results of PBT and vPvB assessment**
  - **PBT:** Not applicable
  - **vPvB:** Not applicable
  - **12.6 Other adverse effects** No further relevant information available
- 

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
  - **Recommendation:**  
Must be recycled or disposed of according to the regulations. Waste has to be classified according to the European Waste Catalogue based on the identification of the waste generating source.  
Disposal according to instructions of local authorities
  - **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.
- 

### SECTION 14: Transport information

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                | UN2810  |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | Void<br>TOXIC LIQUID, ORGANIC, N.O.S. (3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one)  |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>               | <div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul> |
| <ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                            | 6.1 Toxic substances<br>6.1<br><br>III  |

(Contd. on page 7)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

Trade name: Light Stable Kettle Extract (LSKE)

(Contd. of page 6)

· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b>	
· <b>Danger code (Kemler):</b>	Warning: Toxic substances 60
· <b>EMS Number:</b>	F-A,S-A
· <b>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	
Not applicable	
· <b>Transport/Additional information:</b>	
-----	
· <b>ADR</b>	
· <b>Limited quantities (LQ):</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>Transport category:</b>	2
· <b>Tunnel restriction code:</b>	E
-----	
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5 L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
-----	
· <b>IATA</b>	
· <b>Remarks:</b>	Packing Instructions: For Limited Quantities: Y642 (Max Net Qty/Pkg: 2 l) Passenger and Cargo Aircraft: 655 (Max Net Qty/Pkg: 60 l) Cargo Aircraft only: 663 (Max Net Qty/Pkg: 220 l)
· <b>UN "Model Regulation":</b>	Void

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category H2 ACUTE TOXIC**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations**
- **Information about limitation of use:** Take note of Directive 94/33/EC on the protection of young people at work.
- **Water hazard class:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Ident number.: 6390
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

(Contd. on page 8)

— GB —

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 26.10.2016

Version: 1.00

Revision: 26.10.2016

**Trade name: Light Stable Kettle Extract (LSKE)**

(Contd. of page 7)

• **Relevant phrases**

H226 Flammable liquid and vapour.

H301 Toxic if swallowed.

H304 May be fatal if swallowed and enters airways.

• **Classification according to Regulation (EC) No 1272/2008** Acute Tox. 3 (H301) calculation method

• **Department issuing SDS:**

KFT Chemieservice GmbH

Im Leuschnerpark. 3 64347 Griesheim

Postfach 1451 64345 Griesheim

Germany

Phone: +49 6155 8981 400 Fax: +49 6155 8981 500

Safety Data Sheet Service: +49 6155 8981 522

• **Contact:** Dr. Daniel Ries

• **Abbreviations and acronyms:**

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 3: Acute toxicity – Category 3

Asp. Tox. 1: Aspiration hazard – Category 1

• **Sources:**

Information provided by the manufacturer

ECHA - European Chemicals Agency