

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

#### 1.1. Product identifier

Product form : Substance (UVCB)  
Trade name : Lupulin Powder / Lupulin Pellets  
Other means of identification : Hop, Humulus lupulus

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Manufacturing of food

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier/Importer

Simon H. Steiner, Hopfen, GmbH  
Auhofstr. 18  
84048 Mainburg  
Germany  
T +49 8751 8605 0 - F +49 8751 8605 80

##### Supplier/Importer

S. S. Steiner, Inc.  
1 West Washington Avenue  
WA 98903 Yakima  
USA  
T +1 509 453 4731

##### Manufacturer/Supplier

Hallertauer Hopfenveredelungsges. mbH  
Auhofstr. 18  
84048 Mainburg  
Germany  
T +49 8751 8605 500

##### Supplier/Importer

Steiner Hops Ltd.  
15A Henley Business park  
Pirbright Road  
GU3 2DX Normandy Guildford, Surrey  
United Kingdom  
T +44 1992 572 331

##### Email competent person

sds@kft.de

#### 1.4. Emergency telephone number

Emergency number : Simon H. Steiner, Hopfen, GmbH  
Tel.: +49 8751 8605 0 (Montag – Freitag 08:00 – 17:00, Central European Time)

Hallertauer Hopfenveredelungsges. mbH  
Tel.: +49 8751 8605 500 (Montag – Freitag 08:00 – 17:00, Central European Time)

Steiner Hops Ltd.  
Phone: +44 1992 572 331 (Monday to Friday 8.00-17.00, Greenwich Mean Time)

S. S. Steiner, Inc.  
Phone: +1 509 453 4731 (Monday to Friday 8.00-17.00, Pacific Time Zone)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315  
Serious eye damage/eye irritation, Category 2 H319  
Skin sensitisation, Category 1 H317

Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

May cause an allergic skin reaction. Causes skin irritation. Causes serious eye irritation.

# Lupulin Powder / Lupulin Pellets

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H319 - Causes serious eye irritation.

Precautionary statements (CLP) :

P261 - Avoid breathing dust, fume.  
P264 - Wash hands, face thoroughly after handling.  
P280 - Wear protective clothing, protective gloves, eye protection.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.

### 2.3. Other hazards

Other hazards which do not result in classification : Dust may form explosive mixture in air.

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

| Component   |   |
|---|---|
| hop oil (8007-04-3)   | PBT: not relevant – no registration required<br>vPvB: not relevant – no registration required   |
| 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (468-28-0) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Comments :

Origination: Hop, Humulus lupulus

Substance type :

UVCB

Name :

Lupulin Powder / Lupulin Pellets

| Name   | Product identifier  | %       | Classification according to Regulation (EC) No. 1272/2008 [CLP]  |
|--|---|---------|--|
| 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (Natural component) | CAS-No.: 468-28-0<br>EC-No.: 207-405-3<br>REACH-no: 01-2120766877-32-0001 | 1-14    | Acute Tox. 4 (Oral), H302 (ATE=700 mg/kg bodyweight)<br>Acute Tox. 4 (Dermal), H312 (ATE=1100 mg/kg bodyweight)<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317 |
| hop oil (Natural component)  | CAS-No.: 8007-04-3<br>EC-No.: 640-023-9                                   | 0,1-5,6 | Flam. Liq. 3, H226<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412   |

Full text of H- and EUH-statements: see section 16

### 3.2. Mixtures

Not applicable

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : In all cases of doubt, or when symptoms persist, seek medical attention.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

- Symptoms/effects after skin contact : May cause an allergic skin reaction. Irritation.
- Symptoms/effects after eye contact : Eye irritation.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
- Unsuitable extinguishing media : Strong water jet.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : May ignite spontaneously if exposed to air.
- Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon monoxide. Carbon dioxide.

#### 5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Other information : Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Avoid dust formation. Avoid contact with skin and eyes. Avoid breathing dust, fume.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid sub-soil penetration. Prevent entry to sewers and public waters.

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

- Methods for cleaning up : Avoid dust formation. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.
- Other information : Disposal must be done according to official regulations.

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### 6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

|                                   |   |
|-----------------------------------|---|
| Additional hazards when processed | : Dust could form explosive mixtures with air.  |
| Precautions for safe handling     | : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust, fume.  |
| Hygiene measures                  | : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. |

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

|  |   |
|--|---|
| Storage conditions                                       | : Store in a well-ventilated place. Keep cool.          |
| Storage temperature                                      | : < 5 °C  |
| Information about storage in one common storage facility | : Keep away from food, drink and animal feeding stuffs. |

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

|  |   |
|--|---|
| <b>Lupulin Powder / Lupulin Pellets</b>                          |   |
| <b>Germany - Occupational Exposure Limits (Generic OEL data)</b> |   |
|  | Observe general threshold limit for dust. |

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

|  |                        |
|--|------------------------|
| <b>3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (468-28-0)</b> |                        |
| <b>DNEL/DMEL (Workers)</b>   |                        |
| Long-term - systemic effects, dermal   | 6 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation   | 21 mg/m <sup>3</sup>   |
| <b>DNEL/DMEL (General population)</b>  |                        |
| Long-term - systemic effects, inhalation   | 10 mg/m <sup>3</sup>   |
| Long-term - systemic effects, dermal   | 3 mg/kg bodyweight/day |
| <b>PNEC (Water)</b>  |                        |
| PNEC aqua (freshwater)   | 1.87 µg/L              |
| PNEC aqua (marine water)   | 0.187 µg/L             |
| PNEC aqua (intermittent, freshwater)   | 1.87 µg/L              |
| PNEC aqua (intermittent, marine water)   | 0.187 µg/L             |
| <b>PNEC (STP)</b>  |                        |
| PNEC sewage treatment plant  | 10 mg/l                |

#### 8.1.5. Control banding

No additional information available

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### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

**Appropriate engineering controls:**

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

##### 8.2.2.1. Eye and face protection

**Eye protection:**

Wear closed safety glasses. ISO 16321-1

##### 8.2.2.2. Skin protection

**Skin and body protection:**

Wear suitable protective clothing. EN ISO 13688

**Hand protection:**

In case of repeated or prolonged contact wear gloves. Chemically resistant protective gloves. Nitrile rubber. ISO 374-1. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

##### 8.2.2.3. Respiratory protection

**Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment. Dust production: dust mask with filter type P2. EN 143. . Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust

##### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**

Avoid release to the environment.

**Other information:**

Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Always wash hands after handling the product.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                           |   |
|---------------------------|---|
| Physical state            | : Solid   |
| Colour                    | : Green.  |
| Appearance                | : Pellet. Powder.   |
| Odour                     | : characteristic.   |
| Odour threshold           | : Not available   |
| Melting point             | : Not available   |
| Freezing point            | : Not applicable  |
| Boiling point             | : Not available   |
| Flammability              | : Not self-igniting   |
| Explosive properties      | : Product is not explosive. Dust may form explosive mixture in air. |
| Oxidising properties      | : Non oxidizing.  |
| Lower explosion limit     | : Not applicable  |
| Upper explosion limit     | : Not applicable  |
| Flash point               | : Not applicable  |
| Auto-ignition temperature | : Not applicable  |
| Decomposition temperature | : Not available   |
| pH                        | : Not available   |
| pH solution               | : Not available   |
| Viscosity, kinematic      | : Not applicable  |
| Viscosity, dynamic        | : Not applicable  |
| Solubility                | : Water: Slightly soluble   |

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|   |                  |
|---|------------------|
| Partition coefficient n-octanol/water (Log Kow) | : Not available  |
| Vapour pressure                                 | : Not available  |
| Vapour pressure at 50°C                         | : Not available  |
| Density   | : Not available  |
| Relative density                                | : Not available  |
| Relative vapour density at 20°C                 | : Not applicable |
| Particle size                                   | : Not available  |

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

Other properties : Combustible

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Dust may form explosive mixture in air.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

|                             |   |
|-----------------------------|---|
| Acute toxicity (oral)       | : Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (dermal)     | : Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (inhalation) | : Not classified (Based on available data, the classification criteria are not met) |

#### 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (468-28-0)

|                                   |   |
|-----------------------------------|---|
| LD50 oral rat                     | 700 mg/kg bodyweight  |
| Skin corrosion/irritation         | : Causes skin irritation.   |
| Serious eye damage/irritation     | : Causes serious eye irritation.  |
| Respiratory or skin sensitisation | : May cause an allergic skin reaction.  |
| Germ cell mutagenicity            | : Not classified (Based on available data, the classification criteria are not met) |
| Carcinogenicity                   | : Not classified (Based on available data, the classification criteria are not met) |
| Reproductive toxicity             | : Not classified (Based on available data, the classification criteria are not met) |
| STOT-single exposure              | : Not classified (Based on available data, the classification criteria are not met) |
| STOT-repeated exposure            | : Not classified (Based on available data, the classification criteria are not met) |
| Aspiration hazard                 | : Not classified (Not relevant)   |

#### Lupulin Powder / Lupulin Pellets

|                      |                |
|----------------------|----------------|
| Viscosity, kinematic | Not applicable |
|----------------------|----------------|

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### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : No ecotoxicological data about this product are known.  
Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)  
Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

### 12.2. Persistence and degradability

| Lupulin Powder / Lupulin Pellets  |   |
|---|---|
| Persistence and degradability   | The product has not been tested.            |
| 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (468-28-0) |   |
| Persistence and degradability   | Readily biodegradable, failing 10-d window. |
| Biodegradation  | 26 % (28 d; (OECD 301D method))             |

### 12.3. Bioaccumulative potential

| Lupulin Powder / Lupulin Pellets  |  |
|---|--|
| Bioaccumulative potential   | The product has not been tested.         |
| 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (468-28-0) |  |
| Partition coefficient n-octanol/water (Log Pow)   | 4 – 5.5 (40 °C; pH 7; (OECD 117 method)) |

### 12.4. Mobility in soil

| Lupulin Powder / Lupulin Pellets  |   |
|---|---|
| Ecology - soil  | The product has not been tested.                                |
| 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (468-28-0) |   |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc)  | 2.7 – 2.9 (Quantitative structure-activity relationship (QSAR)) |

### 12.5. Results of PBT and vPvB assessment

| Lupulin Powder / Lupulin Pellets  |   |
|---|---|
| PBT: not relevant – no registration required  |   |
| vPvB: not relevant – no registration required   |   |
| Component   |   |
| hop oil (8007-04-3)   | PBT: not relevant – no registration required<br>vPvB: not relevant – no registration required   |
| 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one (468-28-0) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Other adverse effects : No additional information available.

# Lupulin Powder / Lupulin Pellets

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Disposal must be done according to official regulations. European waste catalogue. Do not dispose of with domestic waste. Do not discharge into drains or the environment.

Product/Packaging disposal recommendations : Recycle or dispose of in compliance with current legislation.

HP Code : HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.  
HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

| ADR                                     | IMDG          | IATA          | ADN           | RID           |
|---|---------------|---------------|---------------|---------------|
| <b>14.1. UN number or ID number</b>     |               |               |               |               |
| Not regulated for transport             |               |               |               |               |
| <b>14.2. UN proper shipping name</b>    |               |               |               |               |
| Not regulated                           | Not regulated | Not regulated | Not regulated | Not regulated |
| <b>14.3. Transport hazard class(es)</b> |               |               |               |               |
| Not regulated                           | Not regulated | Not regulated | Not regulated | Not regulated |
| <b>14.4. Packing group</b>              |               |               |               |               |
| Not regulated                           | Not regulated | Not regulated | Not regulated | Not regulated |
| <b>14.5. Environmental hazards</b>      |               |               |               |               |
| Not regulated                           | Not regulated | Not regulated | Not regulated | Not regulated |
| No supplementary information available  |               |               |               |               |

#### 14.6. Special precautions for user

##### Overland transport

Not regulated

##### Transport by sea

Not regulated

##### Air transport

Not regulated

##### Inland waterway transport

Not regulated

##### Rail transport

Not regulated

#### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

Other information, restriction and prohibition regulations : Take note of Directive 94/33/EC on the protection of young people at work.



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### REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) |  |
|--|--|
| Reference code                         | Applicable on  |
| 3(a)                                   | hop oil  |
| 3(b)                                   | hop oil ; 3,5-dihydroxy-2,6,6-tris(3-methylbuten-2-yl)-4-(3-methyl-1-oxobutyl)cyclohexa-2,4-dien-1-one |
| 3(c)                                   | hop oil  |
| 40.                                    | hop oil  |

### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

### REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

### 15.1.2. National regulations

#### Germany

|  |  |
|--|--|
| Employment restrictions                    | : Employment prohibitions or restrictions on the protection of young people at work according to § 22 JArbSchG in the case of formation of hazardous substances have to be observed.   |
| National Rules and Recommendations         | : TRGS 400: Risk Assessment for Activities involving Hazardous Substances.<br>TRGS 401: Risks resulting from skin contact - identification, assessment, measures.<br>TRGS 510: Storage of hazardous substances in non-stationary containers.<br>TRGS 520: Construction and operation of collection points and temporary storage for small amounts of hazardous waste.<br>TRGS 900: Occupational Exposure Limits. |
| Water hazard class (WGK)                   | : WGK 1, Slightly hazardous to water.  |
| Storage class (LGK, TRGS 510)              | : LGK 11 - Combustible solids.   |
| Hazardous Incident Ordinance (12. BImSchV) | : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)   |

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

| Indication of changes |                                    |          |                      |
|-----------------------|------------------------------------|----------|----------------------|
| Section               | Changed item                       | Change   | Comments             |
|                       | General revision                   |          |                      |
| 1.1                   | CAS-No.                            | Removed  |                      |
| 1.1                   | EC-No.                             | Removed  |                      |
| 1.1                   | Chemical name                      | Removed  |                      |
| 1.1                   | Other means of identification      | Added    |                      |
| 2.2                   | Precautionary statements           | Modified |                      |
| 2.3                   | Results of PBT and vPvB assessment | Modified |                      |
| 3.1                   | Comments                           | Added    |                      |
| 3.1                   | Classification                     | Modified | Constituent: hop oil |

# Lupulin Powder / Lupulin Pellets

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| Abbreviations and acronyms: |   |
|-----------------------------|---|
| ADN                         | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways   |
| ADR                         | European Agreement concerning the International Carriage of Dangerous Goods by Road               |
| ATE                         | Acute Toxicity Estimate   |
| CLP                         | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008                       |
| IATA                        | International Air Transport Association   |
| IMDG                        | International Maritime Dangerous Goods  |
| LD50                        | Median lethal dose  |
| PBT                         | Persistent Bioaccumulative Toxic  |
| REACH                       | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| RID                         | Regulations concerning the International Carriage of Dangerous Goods by Rail                      |
| SDS                         | Safety Data Sheet   |
| vPvB                        | Very Persistent and Very Bioaccumulative  |
| BCF                         | Bioconcentration factor   |
| DMEL                        | Derived Minimal Effect level  |
| DNEL                        | Derived-No Effect Level   |
| EC50                        | Median effective concentration  |
| IARC                        | International Agency for Research on Cancer   |
| LC50                        | Median lethal concentration   |
| LOAEL                       | Lowest Observed Adverse Effect Level  |
| NOAEC                       | No-Observed Adverse Effect Concentration  |
| NOAEL                       | No-Observed Adverse Effect Level  |
| NOEC                        | No-Observed Effect Concentration  |
| OECD                        | Organisation for Economic Co-operation and Development  |
| PNEC                        | Predicted No-Effect Concentration   |
| STP                         | Sewage treatment plant  |
| TLM                         | Median Tolerance Limit  |
| CAS-No.                     | Chemical Abstract Service number  |

|  |   |
|--|---|
| Data sources                                 | : Information provided by the manufacturer. European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a> .  |
| Department issuing data specification sheet: | : KFT Chemieservice GmbH<br>Im Leuschnerpark 3<br>D-64347 Griesheim<br><br>Phone: +49 6155-8981-400<br>Fax: +49 6155 8981-500<br>SDS Service: +49 6155 8981-522   |
| Contact person                               | : Dr. Stefanie Finsterbusch-Kettner   |
| Other information                            | : This safety data sheet is for informational purposes only and does not fully comply with national legal requirements. The national distributor is responsible for a legally compliant safety data sheet. A safety data sheet is not required for this product. This Product Safety Information Sheet has been created on a voluntary basis. Version/s 1.00 is/are not available in this language. |

| Full text of H- and EUH-statements: |   |
|-------------------------------------|---|
| Acute Tox. 4 (Dermal)               | Acute toxicity (dermal), Category 4                               |
| Acute Tox. 4 (Oral)                 | Acute toxicity (oral), Category 4                                 |
| Aquatic Chronic 3                   | Hazardous to the aquatic environment – Chronic Hazard, Category 3 |
| Asp. Tox. 1                         | Aspiration hazard, Category 1                                     |
| Eye Irrit. 2                        | Serious eye damage/eye irritation, Category 2                     |
| Flam. Liq. 3                        | Flammable liquids, Category 3                                     |
| H226                                | Flammable liquid and vapour.                                      |
| H302                                | Harmful if swallowed.   |
| H304                                | May be fatal if swallowed and enters airways.                     |
| H312                                | Harmful in contact with skin.                                     |
| H315                                | Causes skin irritation.   |
| H317                                | May cause an allergic skin reaction.                              |
| H319                                | Causes serious eye irritation.                                    |
| H412                                | Harmful to aquatic life with long lasting effects.                |

# Lupulin Powder / Lupulin Pellets

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

|               |                                       |
|---------------|---------------------------------------|
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1  | Skin sensitisation, Category 1        |

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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.