

SECTION 1: Identification

1.1. Identification

Product form : Substance
Trade name : Lupulin Powder / Lupulin Pellets
Chemical name : Hop, Humulus lupulus, ext.
CAS-No. : 8060-28-4

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Manufacturing of food

1.3. Supplier

Manufacturer/Supplier/Importer

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

Manufacturer/Supplier/Importer

Steiner Hops Ltd.
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T +44 1992 572 331

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Manufacturer

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

Manufacturer/Supplier/Importer

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

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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

| | | |
|--|------|---|
| Skin corrosion/irritation Category 2 | H315 | Causes skin irritation |
| Serious eye damage/eye irritation Category 2 | H319 | Causes serious eye irritation |
| Skin sensitization, Category 1 | H317 | May cause an allergic skin reaction |
| Combustible Dust | | May form combustible dust concentrations in air |

Full text of H statements : see section 16

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according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

May form combustible dust concentrations in air

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

Precautionary statements (GHS US) :

P261 - Avoid breathing dust, fume.

P264 - Wash hands, forearms and face thoroughly after handling.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear protective clothing, protective gloves, eye protection.

P302+P352 - If on skin: Wash with plenty of water.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type

: UVCB

Chemical name

: Hop, Humulus lupulus, ext.

CAS-No.

: 8060-28-4

| Name | Product identifier | % | GHS US classification |
|---|--------------------|---------|---|
| 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 | 5 – 20 | Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 |
| hop oil (Natural component) | CAS-No.: 8007-04-3 | 0.8 – 8 | Flam. Liq. 3, H226 Asp. Tox. 1, H304 |

Full text of hazard classes and H-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 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/doctor/physician if you feel unwell. |

4.2. Most important symptoms and effects (acute and delayed)

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

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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. Specific hazards arising from the chemical

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

5.3. Special protective equipment and precautions for fire-fighters

| | |
|--------------------------------|--|
| 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 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. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|--|
| Methods for cleaning up | : Take up mechanically (sweeping, shoveling) 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. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| |
|--|
| Hop, Humulus lupulus, ext. (8060-28-4) |
| No additional information available |
| hop oil (8007-04-3) |
| No additional information available |
| 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) |
| No additional information available |

8.2. Appropriate engineering controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Ensure good ventilation of the work station. |
| Environmental exposure controls | : Avoid release to the environment. |

8.3. Individual protection measures/Personal protective equipment

| |
|--|
| Hand protection: |
| In case of repeated or prolonged contact wear gloves. Nitrile rubber. EN 374. 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 |
| Eye protection: |
| Wear closed safety glasses. EN 166 |
| Skin and body protection: |
| Wear suitable protective clothing. EN 13034. EN ISO 13688 |

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Dust formation: dust mask. P2. EN 143. Short term exposure

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 |
| Appearance | : Pellet. Powder. |
| Color | : Green |
| Odor | : characteristic |
| Odor threshold | : No data available |
| pH | : No data available |
| Melting point | : No data available |
| Freezing point | : Not applicable |
| Boiling point | : No data available |
| Flash point | : Not applicable |
| Relative evaporation rate (butyl acetate=1) | : Not applicable |
| Flammability (solid, gas) | : Not self-igniting |
| Vapor pressure | : Not applicable |
| Relative vapor density at 20°C | : Not applicable |
| Relative density | : No data available |
| Solubility | : Water: Slightly soluble |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : Not applicable |
| Viscosity, dynamic | : Not applicable |
| Explosion limits | : No data available |
| Explosive properties | : Product is not explosive. Dust may form explosive mixture in air. |
| Oxidizing properties | : Non oxidizing material. |

9.2. Other information

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. To avoid thermal decomposition, do not overheat.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Potential dust explosion hazard from airborne release.

10.4. Conditions to avoid

No additional information available

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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 toxicological effects

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)

hop oil

| | |
|---------------|------------------------|
| LD50 oral rat | 2700 mg/kg body weight |
|---------------|------------------------|

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 body weight |
|---------------|-----------------------|

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : 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)
Viscosity, kinematic : Not applicable
Symptoms/effects after skin contact : May cause an allergic skin reaction. Irritation.
Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecotoxicological data about this product are known.

12.2. Persistence and degradability

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 | Not readily biodegradable. |
|-------------------------------|----------------------------|

| | |
|----------------|---------------------------------|
| Biodegradation | 26 % (28 d; (OECD 301D method)) |
|----------------|---------------------------------|

12.3. Bioaccumulative potential

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)) |
|---|--|

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12.4. Mobility in soil

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. Other adverse effects

Other adverse effects : No additional information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Disposal must be done according to official regulations. 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.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

| DOT | IMDG | IATA |
|---|----------------|----------------|
| 14.1. UN number | | |
| Not regulated for transport | | |
| 14.2. Proper Shipping Name | | |
| Not applicable | Not applicable | Not applicable |
| 14.3. Transport hazard class(es) | | |
| Not applicable | Not applicable | Not applicable |
| 14.4. Packing group | | |
| Not applicable | Not applicable | Not applicable |
| 14.5. Environmental hazards | | |
| Not applicable | Not applicable | Not applicable |
| No supplementary information available | | |

14.6. Special precautions for user

DOT
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

SECTION 15: Regulatory information

15.1. US Federal regulations

CAUTION: This product is exempt from all requirements of the Toxic Substances Control Act (exemption for food and food additive according to Toxic Substances Control Act Title 15, Chapter 53, §2602, B (VI))

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

Hop, Humulus lupulus, ext. (8060-28-4)

Regulatory reference
Manufacturing of food

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: Other information

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

Revision date : 12/19/2022

Data sources : Information provided by the manufacturer. European Chemicals Agency, <http://echa.europa.eu/>.

Department issuing data specification sheet: : KFT Chemieservice GmbH
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Phone: +49 6155-8981-400

Fax: +49 6155 8981-500

SDS Service: +49 6155 8981-522

Contact person : Dr. Stefanie Finsterbusch-Kettner

Other information : A safety data sheet is not required for this product. This Product Safety Information Sheet has been created on a voluntary basis.

Full text of H-phrases

| | |
|------|--|
| H226 | Flammable liquid and vapor |
| 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 |

Abbreviations and acronyms

| | |
|-----|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
|-----|---|

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according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

| Abbreviations and acronyms | |
|-----------------------------------|---|
| 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 |

Indication of changes:

General revision. Hazards identification. Toxicological information. Regulatory information.

KFT SDS US 00

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.