Isomerized Hop Extract 30 % (Iso-Extract),
Isomerized Hop Extract 20 % (Iso-Extract),
Isomerized Hop Extract 10 % (Iso-Extract)

Safety Data Sheet
Date of issue: 09/01/2017  Revision date: 09/01/2017  Supersedes: 11/17/2016  Version: 4.00

SECTION 1: Identification

1.1. Identification
Trade name : Isomerized Hop Extract 30 % (Iso-Extract), Isomerized Hop Extract 20 % (Iso-Extract), Isomerized Hop Extract 10 % (Iso-Extract)

1.2. Recommended use and restrictions on use
Use of the substance/mixture : Manufacturing of food

1.3. Supplier
Manufacturer/Supplier/Importer
S. S. Steiner, Inc.
655 Madison Avenue
New York, NY 10065 - USA
T +1 212 838 8900

Email competent person
sds@kft.de

Manufacturer/Supplier/Importer
Simon H. Steiner, Hopfen, GmbH
Auhofstr. 18
Mainburg, 84048 - Germany
T +49 -(0)8751-8605-0 - F +49 -(0)8751-8605-80

Supplier/Importer
Steiner Hops Ltd.
185-189 High St
Epping, Essex CM16 4BL - United Kingdom

1.4. Emergency telephone number
Emergency number : S. S. Steiner, Inc.
Phone: +1 212 838 8900 (Monday – Friday 08.00 – 17.00, Eastern Time Zone)

Simon H. Steiner, Hopfen, GmbH
Tel.: +49-8751-8605-0 (Monday – Friday 08:00 – 17:00, Central European Time)

Steiner Hops Ltd.
Phone: +44 1992 572 331 (Monday – Friday 08.00 – 17.00, Greenwich Mean Time)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Not classified

2.2. GHS Label elements, including precautionary statements
GHS-US labeling
No labeling applicable

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
Not applicable

3.2. Mixtures
This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

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.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Strong water jet.

5.2. Specific hazards arising from the chemical

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

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Cool closed containers exposed to fire with water spray.

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.

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: Take up liquid spill into absorbent material. Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

Other information: Disposal must be done according to official regulations.

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

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.

Maximum storage period: ≈ 3 year(s)

Storage temperature: 41 - 59 °F

Heat-ignition: Keep away from heat and direct sunlight.

Information about storage in one common storage facility: Keep away from food, drink and animal feeding stuffs.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters
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. 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:
Not required for normal conditions of use. Use splash goggles when eye contact due to splashing is possible.

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Not required for normal conditions of use.
Accidental release measures. Filter type: P1.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>clear</td>
</tr>
<tr>
<td>Color</td>
<td>yellowish</td>
</tr>
<tr>
<td>Odor</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>8 - 10</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>≈ 206 °F</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>1.06 - 1.07 g/cm³ (68°F)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in propylene glycol. Soluble in alcohols. Water: Miscible Ethanol: Miscible</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>15 - 20 mPa.s (68°F)</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Product is not explosive.</td>
</tr>
</tbody>
</table>
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9.2. Other information

Other properties : No additional information available.

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

No dangerous reactions known under normal conditions of use.

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 toxicological effects

Acute toxicity : Not classified
(Based on available data, the classification criteria are not met)

Skin corrosion/irritation : Not classified
(Based on available data, the classification criteria are not met)

pH: 8 - 10

Serious eye damage/irritation : Not classified
(Based on available data, the classification criteria are not met)

pH: 8 - 10

Respiratory or skin sensitization : Not classified
(Based on available data, the classification criteria are not met)

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)

Specific target organ toxicity – single exposure : Not classified
(Based on available data, the classification criteria are not met)

Specific target organ toxicity – repeated exposure : Not classified
(Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

No additional information available
12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Effect on the global warming : No known effects from this product.
GWPmix comment : No known effects from this product.

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.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not applicable

TDG
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory
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.

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Manufacturing of food</td>
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</tbody>
</table>

15.2. International regulations
No additional information available

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

Revision date : 09/01/2017
Data sources : Information provided by the manufacturer.
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Safety Data Sheet

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Germany

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Safety Data Sheet Service: +49 6155 8981-522

Contact person: Stefanie Zgorzelski

Abbreviations and acronyms:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
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</table>

Indication of changes:

<table>
<thead>
<tr>
<th>Section</th>
<th>Changed item</th>
<th>Change</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1</td>
<td>Trade name</td>
<td>Modified</td>
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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.