



BarthHaas[®] Hop Oil

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Identifier Hop Oil

1.2 Synonyms Hops Oil, Hop Oil HAL, Hop Oil No 1, Varietal Hop Oil, Hop Oil Type Dry, Humulene
Rich Oil, Hop Oil Saaz Saazer, Hop Oil Distillate Short Path, Hop Oil Distillate Degasser,
Hop Oil Distillate Wiped Film

1.3 Relevant Uses This product is manufactured for use as a flavoring preparation for foods and beverages. Hops are a traditional ingredient of beer. Not for direct consumption as an undiluted product.

1.4 Supplier BarthHaas / BarthHaas UK Ltd.

1.5 Emergency Contact Hop Pocket Lane, Paddock Wood, Kent, TN12 6DQ, UK

Details Emergency phone: +44 1892 833 415 (09:00 – 17:30 Mon-Thurs; 09:00 – 16:30 Fri, UK time)

Email: enquiries@barthhaas.co.uk



2. HAZARDS IDENTIFICATION

2.1 Classification

According to Regulation (EC) 1272/2008:

- Aspiration Toxicity (Category 1)

Classification according to EU Dangerous Substances Directive (67/548/EEC)

- Harmful: may cause lung damage if swallowed
- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- Aquatic Chronic 3

2.2 Label Elements

According to Regulation (EC) 1272/2008 [CLP]:

- Hazard Pictogram



- Signal Word:

- **Danger**

- Hazard Statement

- H304 May be fatal if swallowed and enters airways
- H412 May cause long lasting harmful effects to aquatic life

- Precautionary Statement

- P273: Avoid release to the environment
- P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- P331: Do NOT induce vomiting
- P405 Store locked up
- P501: Dispose of contents/container in accordance with local and national regulations.

2.3 Other Hazards

Components of hop oil may cause irritation or allergic reactions cause irritation or allergic reactions - see section 11.4.

3. COMPONENTS/INFORMATION ON INGREDIENTS

Hop oil

CAS number: 8007-04-3



4. FIRST AID MEASURES

4.1 Description of First

Aid Methods:

- **Inhalation**
 - **Skin Contact**
 - **Eye Contact**
 - **Oral Ingestion**
- Move the exposed person to fresh air. Obtain medical attention if discomfort persists.
 - Wash skin thoroughly with soap and water.
 - Wash eye with plenty of water. Obtain medical attention if irritation persists
 - Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician

4.2 Most important symptoms and Effects

May be fatal if swallowed and enters airways

4.3 Indications of Immediate Medical

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

5. FIRE AID MEASURES

5.1 Extinguishing Media Carbon dioxide, dry powder, foam.

5.2 Special Hazards Arising from Substance Hop oil is combustible and may give rise to hazardous fumes in a fire.

5.3 Advice for Firefighters Fire fighters should wear self-contained positive pressure breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Protection Wear appropriate protective clothing – see Section 8.

6.2 Environmental Precautions Do not discharge onto the ground or into watercourses. Advise authorities if such spillage does occur.

6.3 Methods for Cleaning Up Contain spillage using earth, sand or other inert material Transfer to suitable sealed container prior to disposal.



7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Use only in well-ventilated areas. Avoid inhalation of vapors, spilling skin and eye contact

7.2 Conditions for Safe Storage

Keep container closed when not in use. Keep away from heat and from sources of ignition. Suitable storage is high-grade stainless steel, glass or store in a cool place

7.3 Specific End Uses

The substance is manufactured from food ingredients, and it is for use as a processing during the manufacture of foodstuffs. It is therefore not subject to registration via REACH (Regulation (EC) No.1907/2006) for such uses. It should be used in accordance with applicable food legislation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Not applicable.

8.2 Exposure Controls:

- | | |
|--|---|
| <ul style="list-style-type: none">- Engineering Controls- Eye/Face Protection- Hand Protection- Skin Protection- Respiratory Protection | <ul style="list-style-type: none">- Provide adequate ventilation. Minimize the risk of inhalation of vapors.- If danger of splashing wear chemical goggles- PVC or rubber gloves.- If danger of splashing wear PVC or rubber apron- Not normally required |
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9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|---------------------------------|
| a) Physical state | Liquid |
| b) Color | Yellow/brown |
| c) Odor | Characteristic |
| d) Melting point/Freezing point | Not practical to measure |
| e) Boiling point | Not practical to measure |
| f) Flammability | Not practical to measure |
| g) Lower and upper explosion limit | Not practical to measure |
| h) Flash point | >60 °C |
| i) Auto-ignition temperature | Not practical to measure |
| j) Decomposition temperature | Not practical to measure |
| k) pH | Not practical to measure |
| l) Kinematic viscosity | 3.9 cP measured for Hop Oil HAL |
| m) Solubility | Insoluble |
| n) Partition coefficient n-octanol/water (log value) | Not practical to measure |
| o) Vapor pressure | Not practical to measure |



- p) Density [kg/m³]** 800 – 900
- q) Relative vapor density** Not practical to measure
- r) Particle characteristics** Not practical to measure

10. STABILITY AND REACTIVITY

- 10.1 Reactivity** No reactivity hazards known.
- 10.2 Chemical Stability** Stable if stored according to Section 7.2 and 10.5
- 10.3 Possibility of Hazardous Reaction** None known
- 10.4 Conditions to Avoid** Keep container closed when not in use. Keep away from heat and From sources of ignition
- 10.5 Incompatible Materials** Oxidizing agents
- 10.6 Hazardous Decomposition Products** None known



11. TOXICOLOGICAL INFORMATION

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|---|---|
| 11.1 Acute Toxicity | LD ₅₀ oral, mouse: 3,500 mg.kg ⁻¹ . LD ₅₀ oral, rat: 2,700 mg.kg ⁻¹ . Source: United States National Library of Medicine, ChemIDplus Lite |
| 11.2 Skin Corrosion/Irritation | No data available |
| 11.3 Serious Eye Damage/Irritation | No data available |
| 11.4 Respiratory or Skin Sensitization | No data available on hop oil. Hazardous Substances Data Bank (HSDB includes a reference to myrcene (CAS 123-35-3), which is a component of hop oil: "a 28-yr old man employed as a brewery inspector is presented with resp hypersensitivity reaction to beta-myrcene component of Humulus lupulus (hops). dermatitis, sneezing, itching & increased nasal congestion are reported 6 months prior to the presenting symptom complex." |
| 11.5 Germ Cell Mutagenicity | No data available |
| 11.6 Carcinogenicity | No data available |
| 11.7 Reproductive Toxicity | No data available |
| 11.8 STOT- Single Exposure | No data available |
| 11.9 STOT-Repeated Exposure | No data available |
| 11.10 Aspiration Hazard | Hop oil is classified by the European Flavor Association Aspiration Toxicity (Category 1) due to its hydrocarbon content and viscosity. Hop oil typically contains the following hydrocarbons as major components: myrcene, humulene, caryophyllene, farnesene. The kinematic viscosity of hop oil HAL at 40 °C is 2.75 mm ² s ⁻¹ |



12. ECOLOGICAL INFORMATION

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| 12.1 Ecotoxicity | No data available. Hop oil is classified by ECHA (COP 2008 version 2) as R52/53 "Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment", due to the presence of limonene at ~1%. Hop oil is extracted from hops (<i>Humulus lupulus</i>) and is a natural product – considered biodegradable. |
| 12.2 Persistence and Degradability | Hop oil is extracted from hops (<i>Humulus lupulus</i>) and is a natural product – considered biodegradable. |
| 12.3 Bioaccumulative Potential | No data available. Hop oil is extracted from hops (<i>Humulus lupulus</i>) and is a natural product – considered biodegradable. |
| 12.4 Mobility in Soil | No data available |
| 12.5 Results of PBT Exposure: | No data available. Hop oil is extracted from hops (<i>Humulus lupulus</i>) and is a natural product – considered biodegradable. |
| 12.6 Other Adverse Effects Exposure | No data available |

13. DISPOSAL CONSIDERATIONS

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|--------------------------------|---|
| 13.1 Product Disposal | Dispose in accordance with all applicable local and national regulations. |
| 13.2 Container Disposal | Labels should not be removed from containers until they have been cleaned. Contaminated containers should not be treated as household waste. Containers should be cleaned using appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. |



14. TRANSPORT INFORMATION

14.1 UN-Number Non-hazardous for transport

14.2 Shipping Name N/A

14.3 Transport Hazard Class Non-hazardous for transport

14.4 Packing Group Non-hazardous for transport

14.5 Marine Pollutant No data available

15. REGULATORY INFORMATION

15.1 Safety, Health, and Environmental Regulations No data available

15.2 Chemical Safety Assessments No data available

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. We do not accept any liability for loss, injury or damage that may result from its use.