




1. Identification of the Preparation and of the Company

1.1 Product Identifier:	Hop Oil
Other Names:	Hops Oil, Hop Oil HAL, Hop Oil No 1, Varietal Hop Oil, Hop Oil Type Dry, Humulene Rich Oil, Hop Oil Saaz Saazer
1.2 Relevant Uses	This product is manufactured for use as a flavouring preparation for foods and beverages. Hops are a traditional ingredient of beer. Not for direct consumption as an undiluted product.
1.3 Supplier:	BarthHaas / BarthHaas UK Ltd.
1.4 Emergency Contact Details:	Hop Pocket Lane, Paddock Wood, Kent, TN12 6DQ, UK Emergency phone: +44 1892 833 415 (09:00 – 17:30 Mon-Thurs; 09:00 – 16:30 Fri, UK time) Email: intray@BarthHaas.co.uk

2. Hazards Identification

2.1 Classification:	<p>Classification according to Regulation (EC) No 1272/2008 Aspiration Toxicity (Category 1)</p> <p>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</p>										
2.2 Label Elements:	Labelling according to Regulation (EC) No 1272/2008										
	Pictogram:										
	Signal Word:	Danger									
	Hazard Statements:	<table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">H304</td> <td>May be fatal if swallowed and enters airways</td> </tr> <tr> <td>H413</td> <td>May cause long lasting harmful effects to aquatic life</td> </tr> </table>	H304	May be fatal if swallowed and enters airways	H413	May cause long lasting harmful effects to aquatic life					
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Precautionary Statements:	<table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">P273</td> <td>Avoid release to the environment</td> </tr> <tr> <td>P301 + P310</td> <td>IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</td> </tr> <tr> <td>P331</td> <td>Do NOT induce vomiting</td> </tr> <tr> <td>P405</td> <td>Store locked up</td> </tr> <tr> <td>P501</td> <td>Dispose of contents/container in accordance with local and national regulations.</td> </tr> </table>	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.
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P501	Dispose of contents/container in accordance with local and national regulations.										

2.3 Other Hazards:	Components of hop oil may cause irritation or an allergic reaction in some individuals – see Section 11.4
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3. Components/Information on Ingredients

	Hop oil CAS number: 8007-04-3
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4. First Aid Measures

4.1 Description of First Aid Methods:	<p><u>Inhalation:</u> Move the exposed person to fresh air at once. Obtain medical attention.</p> <p><u>Skin Contact:</u> Wash skin thoroughly with soap and water.</p>
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	<p><u>Eye Contact:</u> Wash eye with plenty of water. Obtain medical attention.</p> <p><u>Oral Ingestion:</u> Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.</p>
4.2 Most Important Symptoms and Effects:	May be fatal if swallowed and enters airways
4.3 Indication of Immediate Medical Attention or Special Treatment:	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
5. Fire-Fighting Measures	
5.1 Extinguishing media:	Carbon dioxide, dry powder and 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 vapours, 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 aluminium. Store in a cool place.
7.3 Specific End Uses:	The substance is manufactured for use as a food ingredient and for such uses is not subject to registration via REACH (Regulation (EC) No.1907/2006). 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:	<p><u>Engineering Controls:</u> Provide adequate ventilation. Minimize the risk of inhalation of vapours.</p> <p><u>Eye/Face Protection:</u> If danger of splashing wear chemical goggles.</p> <p><u>Hand Protection:</u> PVC or rubber gloves.</p> <p><u>Skin Protection:</u> If danger of splashing wear PVC or rubber apron.</p> <p><u>Respiratory Protection:</u> Not normally required.</p>

9. Physical and Chemical Properties

Appearance:	Yellow/brown liquid
Odour:	Characteristic
Odour Threshold:	Not measured
pH:	N/A

Freezing Point:	Not measured
Boiling Point:	Not measured
Flash Point:	>60 °C
Evaporation Rate:	Not measured
Flammability:	No data available
Upper/Lower Flammability:	Not measured
Vapour Pressure:	Not measured
Vapour Density:	Not measured
Density:	850 - 910 kg.m ⁻³
Solubility in Water:	Insoluble
Partition Coefficient:	Not measured

Autoignition Temperature:	Not measured
Decomposition Temperature:	Not measured
Viscosity at 20 °C:	3.9 cP measured for Hop Oil HAL.
Explosive properties:	No data available
Oxidising properties:	No data available

10. Stability and Reactivity

10.1 Reactivity:	No reactivity hazards known
10.2 Chemical Stability:	Stable if stored in accordance with 7.2 and 10.5
10.3 Possibility of Hazardous Reactions:	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:	Oxidising agents
10.6 Hazardous Decomposition Products:	None known

11. Toxicological Information

11.1 Acute Toxicity:	LD ₅₀ oral, mouse: 3,500 mg.kg ⁻¹ . LD ₅₀ oral, rat: 2,700 mg.kg ⁻¹ . <i>Source:</i> 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 Sensitisation:	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 Flavour Association (EFFA) as 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

12.1 Toxicity:	No data available. Hop oil is classified by EFFA (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 and not expected to bioaccumulate.
12.4 Mobility in Soil:	No data available
12.5 Results of PBT and vPvB Assessment:	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:	No data available

13. Disposal Considerations

Product disposal:	Dispose in accordance with all applicable local and national regulations.
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

UN-Number:	Non-hazardous for transport
Class:	Non-hazardous for transport
Shipping name:	N/A
Packing group:	Non-hazardous for transport
Marine pollutant:	No data available

15. Regulatory Information

15.1 Safety, Health and Environmental Regulations:	No data available
15.2 Chemical Safety Assessment:	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.