

BarthHaas®

FLEX®

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Identifier: FLEX®

1.2 Synonyms: Flowable Hop Bittering Product

1.3 Relevant Uses: For use as an ingredient in the brewing of beer

1.4 Supplier: BarthHaas / John I. Haas, Inc.

1.5 Emergency Contact Details:
BarthHaas / John I. Haas, Inc.
1600 River Rd., Yakima, WA 98902, USA.
Emergency phone: +1 509 469 4000 (office hours)
Email: info@johnihaas.com

2. HAZARDS IDENTIFICATION

2.1 Classification: Not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.2 Label Elements: N/A (not classified)

2.3 Other Hazards: This product is a natural product produced from hops for use as an ingredient for the brewing of beer. Ingestion of a large dose may cause irritation of mouth, throat and digestive tract. The product may cause eye irritation and prolonged handling may cause dermatitis.

3. COMPONENTS/INFORMATION ON INGREDIENTS

The product is a mixture of bittering and aroma substances produced from the dried cones of the cultivated hop plant *Humulus lupulus*.

CAS: 8060-28-4

EINECS No. 232-504-3

4. FIRST AID MEASURES

4.1 Description of First Aid Methods:

<u>Inhalation:</u>	Move to fresh air
<u>Skin contact:</u>	Wash skin thoroughly with soap and water.
<u>Eye contact:</u>	Flood the eye with plenty of water. If any symptoms persist obtain medical attention.
<u>Oral ingestion:</u>	Drink large amounts of water to dilute. Vomiting may occur but should not be induced. Obtain medical attention if symptoms persist.

4.2 Most important Symptoms and Effects

May cause irritation of eyes if in contact with eyes.

4.3 Indications of Immediate Medical Attention or Special Treatment

None known.

5. FIRE AID MEASURES

5.1 Extinguishing media:

Carbon dioxide, dry powder and foam.

5.2 Special Hazards Arising from Substance

Some components of FLEX® are 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.

6.3 Methods for Cleaning Up:

respirator

Contain spillage using earth, sand or other inert material
Transfer to suitable sealed container prior to disposal. Flush area with hot soapy water to remove final traces. Use adequate ventilation or a respirator if in a confined area.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Avoid generating excessive dust. Avoid excessive contact with product
Use appropriate protective clothing as indicated in Section 8. Wash hands after use.

7.2 Conditions for Safe Storage:

Store at 13 – 24 °C (55 – 75 °F). Suitable storage is high grade stainless steel glass, high-density polyethylene and high phenolic lacquered mild steel.

7.3 Specific End Uses: subject

The substance is manufactured for use as a food ingredient and for such uses is not 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	<u>Engineering Controls:</u>	Provide adequate ventilation.
	<u>Eye/Face Protection:</u>	Chemical goggles must be worn during handling.
	<u>Hand Protection:</u>	PVC, rubber, latex or nitrile gloves
	<u>Skin Protection:</u>	If danger of splashing wear PVC or rubber apron.
	<u>Respiratory Protection</u>	Not normally required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Viscous liquid, light amber to yellow

Odour: Characteristic, typical hoppy, resinous aroma

Odour Threshold: Not measured

pH: N/A

Boiling Point: Not measured

Flash Point: >60 °C

Evaporation Rate: Not measured

Flammability: No data available

Upper/Lower Flammability: No data available

Vapour Pressure: Not measured

Vapour Density: Not measured

Density (kg/m³): 800 - 1000

Solubility in Water: Insoluble; forms an emulsion

Partition Coefficient: Not measured

Auto-ignition Temperature: Not measured

Decomposition Temperature: Not measured

Viscosity at 22 °C: Typically in the range of 1400 - 1700 mPa-s

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
10.3 Possibility of Hazardous Reactions:	None known
10.4 Conditions to Avoid:	Keep container closed when not in use
10.5 Incompatible Materials:	None known.
10.6 Hazardous Decomposition Products:	None known

11. TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity: (GRAS)	No data available. Hops and hop extracts are generally recognized as safe for their intended use in accordance with US FDA regulation, 21 CFR 170.30(c) and 170.3(f). Supported by a long history of safe use in brewing.
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
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:	No data available

12. ECOLOGICAL INFORMATION

12.1 Excotoxicity: No data available

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available

12.5 Results of PBT Exposure: And vPvB Assessment: No data available

12.6 Other adverse effects: Exposure: 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

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 Assessment: No data available

16. OTHER INFORMATIONS

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.