



# FLEX®

## Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

<b>1.1 Product Identifier</b>	FLEX®
<b>1.2 Synonyms</b>	Flowable Hop Bittering Product
<b>1.3 Relevant Uses</b>	For use as an ingredient in the brewing of beer
<b>1.4 Supplier</b>	<b>BarthHaas / John I. Haas, Inc.</b>
<b>1.5 Emergency Contact Details</b>	BarthHaas / John I. Haas, Inc. 1600 River Rd., Yakima, WA 98902, USA. Emergency phone: +1 509 469 4000 (office hours) Email: <a href="mailto:info@johnihaas.com">info@johnihaas.com</a>

### 2. HAZARD IDENTIFICATION

<b>2.1 Classification</b>	Not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
<b>2.2 Label Elements</b>	N/A (not classified)
<b>2.3 Other Hazards</b>	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:

- **Inhalation**
  - **Skin Contact**
  - **Eye Contact**
  - **Oral Ingestion**
- Move to fresh air
  - Wash skin thoroughly with soap and water.
  - Flood the eye with plenty of water. If any symptoms persist obtain medical attention
  - 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

None known

### 5 FIRE AID MEASURES

**5.1 Extinguishing Media** Carbon dioxide, dry powder, 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**      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 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**      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:

- **Engineering Controls**      - Provide adequate ventilation.
- **Eye/Face Protection**      - Chemical goggles must be worn during handling.
- **Hand Protection**      - PVC, rubber, latex or nitrile gloves
- **Skin Protection**      - If danger of splashing wear PVC or rubber apron
- **Respiratory Protection**      - Not normally required



## 9. PHYSICAL AND CHEMICAL PROPERTIES

a) <b>Physical state</b>	Viscous liquid
b) <b>Color</b>	light amber to yellow
c) <b>Odor</b>	Characteristic, typical hoppy, resinous aroma
d) <b>Melting point/Freezing point</b>	Not practical to measure
e) <b>Boiling point</b>	Not practical to measure
f) <b>Flammability</b>	Not practical to measure
g) <b>Lower and upper explosion limit</b>	Not practical to measure
h) <b>Flash point</b>	> 60 °C
i) <b>Auto-ignition temperature</b>	Not practical to measure
j) <b>Decomposition temperature</b>	Not practical to measure
k) <b>pH</b>	Not practical to measure
l) <b>Kinematic viscosity</b>	Typically in the range of 1400 - 1700 mPa-s at 22 °C
m) <b>Solubility</b>	Insoluble; forms an emulsion
n) <b>Partition coefficient n-octanol/water (log value)</b>	Not practical to measure
o) <b>Vapor pressure</b>	Not practical to measure



- p) Density [kg/m<sup>3</sup>]** 800 - 1000
- 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
- 10.3 Possibility of Hazardous Reaction** 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

<b>11.1 Acute Toxicity</b>	No data available. Hops and hop extracts are generally recognized as safe (GRAS) 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
<b>11.2 Skin Corrosion/Irritation</b>	No data available
<b>11.3 Serious Eye Damage/Irritation</b>	No data available
<b>11.4 Respiratory or Skin Sensitization</b>	No data available
<b>11.5 Germ Cell Mutagenicity</b>	No data available
<b>11.6 Carcinogenicity</b>	No data available
<b>11.7 Reproductive Toxicity</b>	No data available
<b>11.8 STOT- Single Exposure</b>	No data available
<b>11.9 STOT-Repeated Exposure</b>	No data available
<b>11.10 Aspiration Hazard</b>	No data available



## 12. ECOLOGICAL INFORMATION

**12.1 Ecotoxicity** 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:** No data available

**12.6 Other Adverse Effects Exposure** No data available

## 13. DISPOSAL CONSIDERATIONS

**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.