LUPOMAX®

Hop Pellets are not classified as dangerous products according to European Union legislation, and their use is as a food product in the brewing of beer. However, this safety data sheet is provided voluntarily according (as appropriate) to the principles of the Classification, Labelling and Packaging Regulations (Regulation (EC) No.1272/2008).

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Identifier	**Hop Pellets**
1.2 Synonyms	Kettle Pellets, Hop Pellets, Lupulin Enriched Hop Pellets
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 **Hopfenveredlung St. Johann GmbH** Mainburger Str. 15, 93358 St. Johann, Germany Emergency phone: +49 9444 878 0 (office hours) Email: contact@hopfenveredlung.de

2. HAZARD INDENTIFCATION

2.1 Classification

Not classified (Regulation (EC) No. 1272/2008)

Not classified (Directive 67/548/EEC)

2.2 Label Elements

N/A (not classified)

2.3 Other Hazards

Associated dust may be irritating to eyes, mouth and throat.

3. COMPONENTS/INFORMATION ON INGREDIENTS

The product consists entirely of pelleted hop cones of the cultivated hop plant *Humulus lupulus* that have been enriched by physical means. Many different varieties and degrees of enrichment.

4. FIRST AID MEASURES

4.1 Description of First Aid Methods:

- **Inhalation**
- **Skin Contact**
- **Eye Contact**
- **Oral Ingestion**

- Move to fresh air
- Brush off excess material and wash skin thoroughly with soap and water.
- Flood the eye with plenty of water. If any symptoms persist obtain medica 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

None known. See Section 2.3.

4.3 Indications of Immediate Medical

None known

5 FIRE AID MEASURES

5.1 Extinguishing Media

Carbon dioxide, dry powder, foam. Keep container and surroundings cool with water spray. Great care should be taken using water/jet spray.

5.2 Special Hazards Arising from Substance

Not known

5.3 Advice for Firefighters

Fire fighters should wear self-contained positive pressure breathing apparatus

6. ACCDIENTAL 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

Normal clean-up procedures as for any agricultural commodity.

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

To guarantee quality avoid heat, moisture and strong odours during storage. Pellets should not be exposed to temperatures above 20 °C (68 °F) since it is possible that gases are formed from hop constituents. The resulting pressure increase may cause bursting of the foils. Consequently the pellets will be exposed to air and oxidation resulting in a considerable deterioration of quality. Suitable storage containers are thick gauge laminated foil bags, stainless steel and lacquered mild steel.

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:

- **Engineering Controls**	- Provide adequate ventilation - If in danger of generating dust, wear goggles.
- **Eye/Face Protection**	- Gloves possible (not mandatory) - Gloves possible (not mandatory)
- **Hand Protection**	- If in danger of generating dust, wear a facemask
- **Skin Protection**	
- **Respiratory Protection**	

9. PHYSICAL AND CHEMICAL PROPERTIES

a) Physical state	Pelleted powder
b) Color	Various shades of green
c) Odor	Characteristic, typical hoppy, depends on variety
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	Not practical to measure
i) Auto-ignition temperature	Not practical to measure
j) Decomposition temperature	Not practical to measure
k) pH	Not practical to measure
l) Kinematic viscosity	Not practical to measure
m) Solubility	Not practical to measure
n) Partition coefficient n-octanol/water (log value)	Not practical to measure
o) Vapor pressure	Not practical to measure

p) Density [kg/m³]	450 - 700
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	See Section 7.2
10.5 Incompatible Materials	None known
10.6 Hazardous Decomposition Products	None known

11. TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity	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.
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
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 Ecotoxicity	No data available
12.2 Persistence and Degradability	No data available- All-natural product.
12.3 Bioaccumulative Potential	No data available. All-natural product, not expected to bioaccumulate
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 Non-hazardous for transport

14.3 Transport Hazard Class N/A

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.