Spectrum

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Identifier	**Spectrum**
1.2 Synonyms	
1.3 Relevant Uses	For use as an ingredient in foods
1.4 Supplier	**BarthHaas / BarthHaas UK Ltd.**
1.5 Emergency Contact Details	**BarthHaas / BarthHaas UK Ltd.** 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: enquiries@barthhaas.co.uk

2. HAZARD INDENTIFCATION

2.1 Classification

Classification according to Regulation (EC) No 1272/2008 [CLP]:

- Skin Irritation Category 2
- Eye Irritation Category 2
- Skin Sensitisation Category 1

2.2 Label Elements

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

- **Hazard Pictogram**

- **Signal Word:** - **Warning**

- **Hazard Statemenet**
  - H315: Causes skin irritation
  - H317: May cause an allergic skin reaction
  - H319: Causes serious eye irritation

- **Precautionary Statement**
  - P280: Wear protective gloves and eye protection
  - P302+P352: IF ON SKIN: Wash with plenty of soap and water
  - P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

2.3 Other Hazards

None

3. COMPONENTS/INFORMATION ON INGREDIENTS

Hop Extracts, CAS: 8060-28-4, EINECS No. 232-504-3

4. FIRST AID MEASURES

4.1 Description of First Aid Methods:

- **Inhalation** — Move to fresh air.
- **Skin Contact** — Wash skin thoroughly with soap and water
- **Eye Contact** — Flood the eye with plenty of water. Obtain medical attention if irritation persists.
- **Oral Ingestion** — Rinse mouth out with water and drink a portion of water (ca. 200 ml). Vomiting may occur but should not be induced Consult a physician if any symptoms persist.

4.2 Most important symptoms and Effects — Skin and eye irritation

4.3 Indications of Immediate Medical — Action as indicated in Section 4.1 above

5 FIRE AID MEASURES

5.1 Extinguishing Media — Carbon dioxide, dry powder, foam.

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

5.3 Advice for Firefighters — Wear self-contained breathing apparatus

6. ACCDIENTAL RELEASE MEASURES

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

6.2 Environmental Precautions Avoid sub-soil penetration. Prevent entry to sewers and public waters.
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 Use appropriate protective clothing as indicated in Section 8. Wash hands after use

7.2 Conditions for Safe Storage Store at 2 – 8 °C. Suitable storage is high grade stainless steel, glass, high-density polyethylene and high phenolic lacquered mild steel

7.3 Specific End Uses For use as a food ingredient. It should be used in accordance with applicable 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 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) Physical state	Thick liquid
b) Color	Brown
c) Odor	Hoppy, resinous
d) Melting point/Freezing point	Not practical to measure
e) Boiling point	Not practical to measure
f) Flammability	Not flammable
g) Lower and upper explosion limit	Not practical to measure
h) Flash point	ca. 80 °C (176 °F) or above, depending on variety
i) Auto-ignition temperature	Not practical to measure
j) Decomposition temperature	No hazardous decomposition when used for its intended use.
k) pH	Not practical to measure
l) Kinematic viscosity	Approx. 5000 cP
m) Solubility	Readily dispersible
n) Partition coefficient n-octanol/water (log value)	Not practical to measure
o) Vapor pressure	Not practical to measure

p) Density [kg/m³]	1.110 – 1.300
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; avoid high temperatures.
10.5 Incompatible Materials	None known
10.6 Hazardous Decomposition Products	None known

11. TOXICOLOGICAL INFORMATION

Hop extracts have a long history of safe use as a beer ingredient.

11.1 Acute Toxicity	Typical hop extracts are not classified as hazardous. Estimated ATE values (oral, dermal) are > 2000 mg/kg bw.
11.2 Skin Corrosion/Irritation	Skin irritation Category 2.
11.3 Serious Eye Damage/Irritation	Eye irritation Category 2.
11.4 Respiratory or Skin Sensitization	Skin Sensitization Category 1.
11.5 Germ Cell Mutagenicity	OECD Guideline 471 (Bacterial Reverse Mutation Assay) not mutagenic. Bacterial Reverse Mutation Assay on 40 % beta-acids: not mutagenic.
11.6 Carcinogenicity	Hop extracts have a long history of safe use as a component of beer. Bacterial reverse mutation assay: not mutagenic.
11.7 Reproductive Toxicity	Weight of evidence indicates lack of reproductive toxicity. Long history of safe use as a component of beer. Hop extracts are generally recognized as safe (GRAS) in accordance with US FDA regulation 21 CFR 182.20.
11.8 STOT- Single Exposure	Weight of evidence indicates safety when used for its intended use. See (11.7) above.
11.9 STOT-Repeated Exposure	Weight of evidence indicates safety when used for its intended use. See (11.7) above.
11.10 Aspiration Hazard	Not hazardous

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity	Toxicity to fish: Carassius auratus (goldfish) - Etude pharmacologique de l'action du lupulin et de la fleur d'organer sur le poisson. *Pharmaceutica acta*

Helvetiae (1953) **28**(7-8), pp.183-206: lowest dose causing adverse effects estimated by calculation as *ca*. 80 mg/l. Toxicity to Daphnia and other aquatic invertebrates:
EC50 - Daphnia magna (Water flea) – >5.8 mg/l – 48 h. NOEC
– Daphnia magna – ca. 2.2 mg/l – 48 h.
Toxicity to freshwater algae:
EC50 – 42.7 mg/l – 48 h. NOEC – 12.5 mg/l – 72 h.

12.2 Persistence and Degradability

Hop extract: Ultimate biodegradation (natural product).

12.3 Bioaccumulative Potential

Hop extract: Natural product, not expected to bioaccumulate.

12.4 Mobility in Soil

Hop extract: Log Koc 1.7 – <4.5 (modelling by EPISuite™)
Other information:
low hazardous to water. Water contaminant class 1 (self assessment) according
to VwVwS from May 17th 1999 appendix 3. Do not discharge onto the ground or into watercourses.

12.5 Results of PBT Exposure:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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: Not data available

15. REGULATORY INFORMATION

15.1 Safety, Health, and Environmental Regulations Germany: Water contaminant class 1 (self assessment) according to VwVwS from May 17th 1999 appendix 3. Do not discharge onto the ground or into watercourses.

15.2 Chemical Safety Assessments N/A when used for food applications

16. OTHER INFORMATION

(a) Key literature references and sources for data:

- REACH registration dossier for EC 232-504-3

(b) Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

- Skin Irritation Category 2: *in vitro* test data for REACH registration dossier for EC 232-504-3
- Eye Irritation Category 2: *in vitro* test data for REACH registration dossier for EC 232-504-3
- Skin Sensitisation Category 1: *in vitro* test data for REACH registration dossier for EC 232-504-3

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.