

Redihop®

Safety Data Sheet

Redihop® is not classified as dangerous products according to European Union legislation, and they are used as flavourings for food, for example 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).

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Identifier	Redihop®
1.2 Synonyms	Reduced isomerized hop extract, Reduced Isohumulone, 'Rho', Dihydro-iso-alpha extract, Dihydro-iso-alpha-acids, Dihydroisohumulone
1.3 Relevant Uses	For use as an ingredient in the brewing of beer
1.4 Supplier	BarthHaas / BarthHaas UK
1.5 Emergency Contact	BarthHaas / BarthHaas UK
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: enquiries@barthhaas.co.uk
	BarthHaas Group / John I. Haas, Inc. 1600 River Rd., Yakima, WA 98902, USA. Emergency phone: +1 509 469 4000 (office hours) Email: info@johnihaas.com



2. HAZARD IDENTIFICATION

- 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** This product is a bittering ingredient for beer. It is therefore extremely bitter, and it is mildly alkaline. Ingestion of a large dose may cause irritation of mouth, throat and digestive tract. Since the product is mildly alkaline, it may cause eye irritation if in contact with eyes.

3. COMPONENTS/INFORMATION ON INGREDIENTS

Component	Concentration (% m/m)	Hazard classification of the individual component
Potassium salts of dihydroisohumulones in aqueous solution	Ca. 30 %	Not classified
Water	Balance	Not classified



4. FIRST AID MEASURES

4.1 Description of First

Aid Methods:

- **Inhalation**
 - **Skin Contact**
 - **Eye Contact**
 - **Oral Ingestion**
- None
 - Wash skin thoroughly with soap and water
 - Flood the eye with plenty of water. If any symptoms persist obtain medical attention.
 - The product is extremely bitter and so it is very unlikely that anyone would ingest large amounts. Nevertheless, should this happen, drink large amounts of water to dilute. Vomiting may occur but should not be induced. Consult a physician if any 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

No data available

5 FIRE AID MEASURES

5.1 Extinguishing Media Dry powder, foam, carbon dioxide or water

5.2 Special Hazards Arising from Substance The product is an aqueous solution and is therefore not expected to burn.
Not known unusual fire or explosion hazards.

5.3 Advice for Firefighters Wear self contained 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.
Wash spillage site with water. Do not contaminate water sources or sewer.

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 15 – 25 °C (60 – 77°F). Keep container closed. Use open containers as soon as possible. Store in original container or suitable high-grade stainless steel, low silicate glass or high-density polyethylene.
- 7.3 Specific End Uses** The substance is manufactured from food ingredients, and it is for use as a processing aid during the manufacture of foodstuffs. It is therefore not subject to registration via REACH (Regulation (EC) No. 1907/2006) for such uses. 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** - Not required
 - **Eye/Face Protection** - Safety goggles
 - **Hand Protection** - PVC, rubber, latex or nitrile gloves
 - **Skin Protection** - If danger of splashing wear PVC or rubber apron
 - **Respiratory Protection** - Not required



9. PHYSICAL AND CHEMICAL PROPERTIES

a) Physical state	Liquid
b) Color	Amber/reddish-brown
c) Odor	Hoppy, resinous
d) Melting point/Freezing point	Not practical to measure
e) Boiling point	93 - 104 °C (200 - 220 °F)
f) Flammability	Non flammable
g) Lower and upper explosion limit	Not practical to measure
h) Flash point	Not applicable due to high water content
i) Auto-ignition temperature	Not practical to measure
j) Decomposition temperature	Not practical to measure
k) pH	8 - 11
l) Kinematic viscosity	Approx. 20 - 40 mPas at 20 °C (68 °F)
m) Solubility	Miscible
n) Partition coefficient n-octanol/water (log value)	Miscible in Water
o) Vapor pressure	Not practical to measure

- p) Density [kg/m³]** Ca. 1.090
- 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	None known
10.5 Incompatible Materials	Will precipitate if acidified.
10.6 Hazardous Decomposition Products	None known

11. TOXICOLOGICAL INFORMATION

Substance contains modified hop extracts, which may be safely used in beer, e.g. in accordance with US FDA regulation 21 CFR 172.560. The substance has not been fully assessed. Not considered harmful by ingestion (see 4.1; the product is extremely bitter). Not considered harmful in contact with skin, but observe precautions in section 8.2. May cause slight skin irritation due to its alkaline nature, but does not require classification as an irritant. May cause slight eye irritation due to its alkaline nature, but does not require classification as an irritant. Observe precautions in section 8.2. Skin sensitization - although some plant extracts can be sensitizing to the skin, there is no evidence of sensitization caused by this product.

12. ECOLOGICAL INFORMATION

To the best of our knowledge, the substance has not been fully assessed so its ecological information is not 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** Not listed
- 14.2 Class** Non-hazardous for transport
- 14.3 Shipping name** N/A
- 14.4 Packing Group** Not listed
- 14.5 Environmental Hazards** Not listed
- 14.6 Special Cautions** None known

15. REGULATORY INFORMATION

- 15.1 Safety, Health, and Environmental Regulations** Not classified (Regulation (EC) No. 1272/2008)
Not classified (Directive 67/548/EEC)
The substance is a food ingredient and its therefore not subject to registration via REACH (Regulation (EC) No. 1907/2006).
- 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.