Hop Products Australia
446 Elizabeth Street, North Hobart
Tasmania 7000 Australia
Tel: +61 3 6282 2000
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www.hops.com.au

TYPE 90 HOP PELLETS SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Identifier	Hop Pellets (Type 90)
1.2 Synonyms	Kettle hops, kettle pellets
1.3 Relevant Uses	For use as an ingredient in the brewing of beer
1.4 Supplier	Hop Products Australia (HPA)
1.5 Emergency Contact Details	446 Elizabeth Street, North Hobart, Tasmania 7000, Australia + 61 3 6282 2000 info@hops.com.au

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

Pelletised, powdered cones of the cultivated hop plant Humulus lupulus. Hop pellets are available from many varieties of hops. Used as an ingredient in the brewing of beers. This SDS applies equally to all varieties.

	Humulones (Alpha Acid)	Lupulones (Beta Acids)
CAS Number	26472-41-3	468-28-0

4. FIRST AID MEASURES

4.1 Description of First Aid Methods:	- Move to fresh air
- Inhalation	- Brush off excess material and wash skin thoroughly with soap and water.
- Skin Contact	- Flood the eye with plenty of water. If any symptoms persist obtain medica attention.
- Eye Contact	- Drink large amounts of water to dilute. Vomiting may occur but should not be induced. Obtain medical attention if symptoms persist.
- Oral Ingestion	

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4.2 Most important symptoms and Effects	None known. See Section 2.3.
4.3 Indications of Immediate Medical	None known

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media	Use a dry powder, foam or carbon dioxide. Keep containers and surrounding cool with water spray.
5.2 Special Hazards Arising from Substance	
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
6.2 Environmental Precautions	Do not allow product to enter drains, watercourses, or discharge onto the ground
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	Storage temperature 0-5oC (32-41oF) To guarantee quality avoid heat, moisture, strong odours during storage. Pellets should not be exposed to temperatures above 20oC (68oF) since it is possible that gases are formed from hop constituents. The resulting pressure increase may cause bursting of the foils. Consequently, the pellets are exposed to air and oxidation takes place resulting in a considerable deterioration of quality. Suitable storage containers are thick gauge laminated foil bags, stainless steel and lacquered mild steel.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

a) Physical state	Pelleted powder
b) Colour	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]	470 - 700 q)
q) Relative vapor density	Not practical to measure
r) Particle characteristics	Not practical to measure

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10. STABILITY AND REACTIVITY

10.1 Reactivity	Hop constituents oxidize in contact with air, no hazardous reactivity known. If originally sealed packages are stored at temperatures above 20oC (68oF), gas formation is possible. Combustion will generate oxides of carbon.
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 See Section 7.2	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. Supported by a long history of safe use in brewing and in accordance with US FDA 21 CFR 182.2, hop pellets and hop extracts are generally recognised as safe (GRAS).
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 Bio accumulative 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

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13. DISPOSAL CONSIDERATIONS

13.1 Product Disposal	Dispose of 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	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