



MATERIAL SAFETY DATA SHEET FOR T90 HOP PELLETS

MSDST90PELLETS

Reference Manual

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Version No. 10

PRODUCTS AND MANUFACTURER

MANUFACTURER'S NAME

Hop Products Australia (HPA)

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ADDRESS

446 Elizabeth Street, North Hobart, Tasmania 7000, Australia

CHEMICAL NAME AND SYNONYMS

Pelletised, powdered hops.

TRADE NAME AND SYNONYMS

Hop Pellets (Type 90), Kettle hops, kettle pellets

CHEMICAL FAMILY

Desired components include the hop bitter acids and essential oils.

FORMULA

Not applicable

MATERIALS OR COMPONENTS

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 MSDS applies equally to all varieties.

CAS Number

Humulones (Alpha Acid)
26472-41-3

Lupulones (Beta Acids)
468-20-0

PHYSICAL DATA

FORM

Pelleted Powder

COLOUR

Various shades of green

AROMA

Characteristic, typical hoppy, depends on variety

DENSITY (KG/M³)

470 -700

BOILING POINT (°C.)

Not applicable.

SPECIFIC GRAVITY (WATER = 1).

Not applicable.

VAPOUR PRESSURE (mm Hg.)

Not applicable.

VOLATILE BY VOLUME (%)

Applicable only to the essential oil fraction which comprises 0.5 - 5%.

VAPOUR DENSITY (AIR = 1)

Not applicable.

EVAPORATION RATE (WATER = 1)

Not applicable.

SOLUBILITY IN WATER

Insoluble in water.

PH

Not applicable

FLASH POINT

Not applicable



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FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA

Use a dry powder, foam or carbon dioxide. Keep containers and surrounding cool with water spray.

UNSUITABLE EXTINGUISHING MEDIA

Great care should be taken using water jet/spray.

SPECIFIC FIRE FIGHTING PROCEDURES

Fire fighters should wear self contained positive pressure breathing apparatus

UNUSUAL FIRE AND EXPLOSION HAZARDS

None known

HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

None.

EFFECTS OF OVEREXPOSURE

None known.

MAIN HAZARDS

None

ORAL INGESTION

Associated dust may be irritating to mouth and throat

EYE CONTACT

Associated dust may be irritating to eyes

SKIN CONTACT

May cause skin irritation.

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

Flood eye with plenty of water. If any systems persist obtain medical attention.

SKIN CONTACT

Brush of excess material and wash skin thoroughly with mild soap and water.

INHALATION

Move to fresh air

ORAL INGESTION

Drink large amounts of water to dilute. Vomiting may occur but should not be induced. Obtain medical attention if symptoms persist



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ACCIDENTIAL SPILL OR LEAK PROCEDURES

PERSONAL PROTECTION

Wear appropriate protective clothing

ENVIRONMENTAL PRECAUTIONS

Do not allow product to enter drains, watercourses, or discharge onto the ground

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Normal clean-up procedures as for any agricultural commodity.

WASTE DISPOSAL METHODS

Biodegradable material acceptable at landfill sites.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)

IF ANY DANGER OF GENERATING DUST USE FACEMASK

PROTECTIVE GLOVES

Normally not required

EYE PROTECTION

If in danger of generating dust use facemask or goggles

OTHER PROTECTIVE EQUIPMENT

Not Applicable

Engineering controls

Provide adequate ventilation

HANDLING AND STORAGE

Storage temperature 0-5°C (32-41°F)

To guarantee quality avoid heat, moisture, 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 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.

STABILITY AND REACTIVITY

Hop constituents oxidize in contact with air, no hazardous reactivity known. If originally sealed packages are stored at temperatures above 20°C (68°F), gas formation is possible. Combustion will generate oxides of carbon.

TOXICOLOGICAL INFORMATION

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).

ECOLOGICAL INFORMATION

The product is all natural and biodegradable.
Not expected to bioaccumulate



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DISPOSAL CONSIDERATIONS

PRODUCT DISPOSAL – Dispose of in accordance with all applicable local and national regulations

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.

TRANSPORT INFORMATION

UN-No.

Non-hazardous for transport

RID

Non-hazardous for transport

CLASS

Non-hazardous for transport

RECOMMENDED TRANSPORT CONDITIONS

Quickest possible transport at temperatures below 20°C (68°F)

REGULATORY INFORMATION

LABELLING ACCORDING TO EC DIRECTIVES

R-PHRASES:

Not applicable

S-PHRASES

Not applicable

EINECS LISTING

Not listed

NOTICE FROM HOP PRODUCTS AUSTRALIA

The information in this Material Data Safety Sheet is correct to the best of our knowledge. This information herein is furnished without warranty of any kind. This information should be used only as a supplement to information already in your possession concerning this product. The determination of whether and under what conditions the product should be used by your employees is yours to make. We do not accept any liability for loss, injury or damage that may result from its use.