

## Stabilised Hop Pellets

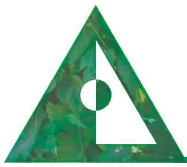
Stabilised Hop Pellets offer improvements in utilization of alpha acids due to the presence of excess  $Mg^{++}$  ions, added as MgO during processing. They can be produced as either Type 90 or Type 45 pellets and can replace conventional alpha and aroma hop products without any change to beer quality. Stabilized hop pellets show reduced loss of bittering potential compared to standard pellets after prolonged storage.

### Specifications:

<b>Description:</b>	Cylindrical pellets produced from whole hops which are dried, milled, blended with food grade magnesium oxide, pelletizes and foil packed.
<b>Consistency:</b>	A solid which normally breaks up into a powder
<b>Colour:</b>	Different shades of green (depending on variety)
<b><math>\alpha</math>-acids:</b>	2 – 25 % (depending on the original alpha content of the variety and the crop year)
<b><math>\beta</math>-acids:</b>	1 – 15 % (depending on variety and crop year)
<b>Hop oils:</b>	1 – 6 % of product (depending on variety and crop year)
<b>Moisture:</b>	7-9 %

### Quality:

All Aromatrix Flora products are produced in plants accredited to internationally accepted quality standards.



# AROMATRIX FLORA PVT. LTD.

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District Solan, Himachal Pradesh -173205, INDIA  
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## Product Use:

Stabilised Hop Pellets can be used as a replacement of cone hops or Type 90 Pellets in the kettle. Expect an improvement of up to 38 - 45% in utilization over that of cone hops or pellets. Because the  $\alpha$ -acids are mostly as  $Mg^{++}$  ions, high bitterness utilization will be achieved due to the  $Mg^{++}$  ions catalyzing the rapid conversion of alpha acids to Iso-alpha acids. Although a good utilization of bittering components can be achieved with Stabilised Hop Pellets added late to the wort boil, this will also impact on the hop aroma imparted to the beer. We therefore recommend that Stabilised Hop pellets are added early in the boil for bitterness, with conventional Type 90 or Type 45 pellets added late for hop aroma.

## Packaging:

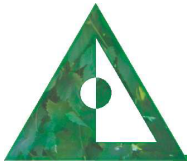
Stabilised Hop Pellets are packed in laminated foils with an aluminium layer as a barrier against diffusion of oxygen. They are sealed under inert gas and/or vacuum packed. The foil material used meets all food industry packaging regulations. The residual oxygen content in the foil packs is less than 2% by volume. Pack size is available in 10 kg.

## Storage and Best-Before Recommendation:

Stabilised Hop Pellets should be stored cool at 0-5° C. Pellets should be used within 3 years after processing. If stored at -20° C Pellets should be used within 5 years. Foils once opened should be used within days to avoid deterioration of bitter acids and essential oils.

## Safety:

If dust is generated, it is advisable to use a dust mask. Hop pellets are a combustible material. For further information please see the relevant Aromatrix Flora Material Safety Data Sheet (MSDS) from our web site.



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## Analytical Methods:

The determination of  $\alpha$ -acids,  $\beta$ -acids, Pre-formed Iso- $\alpha$ -acids and Hop oil in Stabilised Hop Pellets can be done by the following methods:

- ❖ Iso- $\alpha$ -acids,  $\alpha$ -acids,  $\beta$ -acids can be measured by any of the following methods:
  - By HPLC, using the current ICE & ICS standards, according to the EBC 7.11 method, or the ASBC method Hops-14 (for  $\alpha$  and  $\beta$ -acids) & Hops-15 (for Iso- $\alpha$ -acids)
  
- ❖ Hop oil concentration can be measured by steam distillation:
  - EBC 7.10
  - ASBC Hops-13

## Technical Support:

We will be pleased to offer help and advice on the use of Stabilised Hop Pellets in brewing.