

# Common questions from brewers on SPECTRUM™

Questions from brewers and answers from BarthHaas

**Q: The documentation cites a range of dose rates and replacement rates. What does this depend on?**

A: This will depend on the beer style but also the point of addition. The further upstream the product is dosed, the more will be required to get a similar impact. It also depends on the dry hopping method (i.e. static or dynamic) normally used in the brewery.

**Q: Where is the best place/timepoint in the brewing process to dose this product?**

A: This depends on the desired flavour outcome, but secondary fermentation is a good starting point as it delivers a full, rounded flavour. NB: Exact flavour matches for existing brands will be challenging. We therefore recommend testing this product in its own right before trying to match existing recipes.

**Q: How does this product compare to other advanced hop products, such as hop oil products or Incognito?**

A: Unlike most hop oil products, SPECTRUM™ does not contain any carriers or emulsifiers. It's 100% hop-derived. Unlike hop oil products, it also contains additional fractions of the hops, i.e. resins and polyphenols, which means that it provides a much greater depth of flavour. With regard to Incognito, the two products are complementary. Incognito is a hop product for hot-side flavour and aroma addition, while SPECTRUM™ is intended for cold-side addition. NB: SPECTRUM™ should be dispersed in cold, room temperature or warm liquids (<70 °C). Very hot dispersion may lead to phase separation and can have a negative impact on its sensory qualities.





**Q: What is the oil content of the product? The data sheet gives a range.**

A: The oil content varies between varieties (but is standardised for each variety). The exact content for each batch can be found on the label on the flask and/ or the CoA.



**Q: Does SPECTRUM™ induce hop creep?**

A: No, the hop enzymes in SPECTRUM™ are deactivated, so a full substitution of pellets with SPECTRUM™ will eliminate hop creep. A partial substitution will cause a proportional reduction in hop creep activity.

**Q: What impact does SPECTRUM™ have on the bitterness of the beer?**

A: SPECTRUM™ contains no iso-alpha acids and some alpha acids, which are not normally soluble in cold beer. Therefore, unlike pellets, SPECTRUM™ has very little impact on beer bitterness. It neither adds IBUs, nor does it remove them (as pellets do in high IBU beers). Like pellets, however, overdosing SPECTRUM™ can lead to a harsh resinous character.



**Q: Based on the recommendations on the data sheet (store cold, blanket with gas, use within one month of opening), we are concerned about the stability of the product. Could this be an issue if we use lots of small quantities over an extended period of time?**

A: Due to the product being at an early stage of its life cycle, we only have limited shelf life data, so we are making very careful recommendations. However, if the product is not heated, and resealed and stored cold between trials, there should be no noticeable degradation over the course of a few weeks.



**Q: To avoid continually reopening the flasks, would it be possible to pre-disperse some of the product in a keg, for instance, and store that cold in the brewery for dosing?**

A: We have not found the pre-dispersion to be stable and would recommend a fresh pre-dispersion for every brewing trial.





**Q: We've noticed that our beers dry hopped with SPECTRUM™ are darker than our beers dry hopped with pellets. Could this be due to oxidation?**

A: We have seen this effect with some recent batches of SPECTRUM™ and have confirmed in internal tests that this is not related to oxidation but to the colour of SPECTRUM™ itself, which currently fluctuates due to the production process. We are working to eliminate these fluctuations. Generally speaking, there is no increase in oxygen ingress when using SPECTRUM™ compared to pellets and potentially even a reduction, depending on how it is dosed.



**Q: What is the standard pack size you currently offer?**

A: We currently have a range of sizes available. The options are 1,5 and 10 kg.

**Q: How do I ensure that I get all of the material out of the flask or pail?**

A: You can rinse the container with deaerated, sterile water or beer or wort, and add this to your beer tank or dosing vessel.

