

ODOUR MATTERS!

COMPARATIVE ODOUR ASSESSMENT OF ORGANIC SELENIUM SOURCES



Imagine the premix room at the start of a busy shift. A tote is opened, a scoop goes in, and within seconds the air changes. People notice. Comments start. Someone suggests "let's avoid that one next time." This goes beyond focusing only on animal health and performance, at this stage it is about the human experience of handling ingredients every day. Selenium sources differ not only in form and bioavailability, but also in sensory properties. Strong or unpleasant odours can trigger worker discomfort, impacts on premix handling and issues in warehouse/storage areas.

FROM ANECDOTE TO ANALYTICAL EVIDENCE

To move beyond opinions and anecdotes, an independent odour evaluation compared multiple selenium sources under standardized conditions, including:

- L-selenomethionine (L-SeMet; Excential Selenium 4000; Orffa Additives B.V.)
- L-selenomethionine (Chinese origin)
- OH-selenomethionine (OH-SeMet)
- Zinc-L-selenomethionine (Zinc-L-SeMet)
- Selenized yeast

100 g product was incubated in odour bags with nitrogen, stored for 24 hours at 20 °C, after which it was analyzed. Testing was conducted by Olfasense BV with trained panelists, which were blinded to product identity. The odour concentration measured according to EN 13725 and hedonic value was assessed according to NVN 2818.

In this comparative assessment, Excential Selenium 4000 and selenized yeast showed lower odour emission, while the other tested sources emitted ~4–5× higher odour concentration (Figure 1). Selenized yeast typically contains a mixture of selenium species, with L-selenomethionine representing only a fraction of the total selenium content. The remaining portion consists of other organic and inorganic selenium compounds, as well as residual yeast matrix components. This more complex and diluted composition reduces the proportion of free or reactive selenium species, which may contribute to a lower odour emission compared to more concentrated forms. In contrast, purified sources such as L-selenomethionine provide a significantly higher and more consistent L-SeMet concentration.

Excential Selenium 4000 delivers up to 2× higher bioavailable L-SeMet compared to selenized yeast while maintaining a low odour profile comparable to selenized yeast. enabling precise and efficient selenium nutrition

Importantly, despite this higher concentration, Excential Selenium 4000 maintains a low odour profile, comparable to selenized yeast, combining performance with a superior handling experience. For Excential Selenium 4000, a special technology is used, which helps in masking the odour and keeping the product dust-free. The OH-SeMet, Zinc-L-SeMet and Chinese origin L-SeMet have a very strong odour emission, indicating unpleasant handling at the workplace.

CONTRIBUTING TO A HAPPY AND HEALTHY WORKPLACE

When you handle a selenium source as a concentrated ingredient (premix, mineral blend, warehouse), lower odour emission can reduce complaints, improve acceptance, and make day-to-day handling more pleasant and consistent, especially where multiple operators work with the same materials.

Excential Selenium 4000 supports a cleaner, more user-friendly handling experience, combining low odour emission with low dust potential and a focus on precision nutrition.

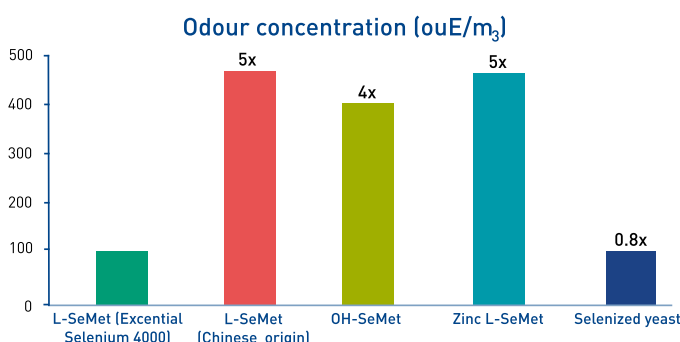


Figure 1: odour concentration for different commercial selenium sources



Independent odour assessment



Odour differences between selenium sources



Excential Selenium 4000 has low odour emission



Improved workplace handling experience

