

FRAGOL



Mineral oils and food A partnership for the future?

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Fragol: H1 food Lubricant specialist

- 50 year old family owned German company
- Own product development and production.
- Focus on
 - **Compressor and vacuum lubricants**
 - **H1 food safe lubricants**
 - **PAG lubricants**
 - **Heat transfer fluids**

There are 3 ways that mineral oil hydrocarbons find their way into food.

- Intentional as food ingredient and as mold release agent
- Via incidental food contact from production equipment
- As a migration from other materials such as packaging

The food producing industry

- **HACCP**
 - H1, H2, H3, 3H, HT1; GRAS
- **EU law, directives and guidelines**
- **ISO 21469**
- **ISO 22000**
- **GMP**
- **Kosher and Halal**

Difference between FDA and EU

- FDA limits quantity of m.o. entering into foodstuff
- EU maximises ADI (acceptable daily intake)
 - **Viscosity class 1**

Mineral oils in food

- Globally the most common used guidelines are those of the FDA for mineral oils in food category 3H (intentional) 21CFR 172.878 white mineral oils.
- Limitations are given under this section.

Typical use (FDA)

- Release agent in medicine and food flavoring (0,6% mass)
- Binder lubricant in medicine and food flavoring (0,6% mass of the tablet)
- In vinigar and wine production sealing against air (quantity according to GMP)
- Defoamer in food (in accordance with 173,340)

Typical use (FDA)

- Release agent in bakery (0,15%)
- Dehydrated fruits release agent (0,02%)
- Egg white solids release agent (0,1%)
- Protective coating on fruit and veg (GMP)
- Frozen meat as hot melt coating (0,095%)
- Protective coat on curing pickles (GMP)
- Molding starch confectionary (0,2%)

Typical use (FDA)

- Release agent and as sealing and polishing agent in production of confectionary – advent chocolate (0.2%)
- Anti dusting agent in sorbic acid (0,25%)
- Dust control for wheat corn soybean barley rice oats etc (0,02 % -iso 100 at 100 F and 0,08 by weight of grain)

Other mineral oil contact points

- **Category H1 lubricants with incidental food contact.**
 - **Mineral oils , addition to food not to exceed 10 p.p.m.**
 - **Machine lubrication**
 - **Agriculture**
 - **Animal feed**
 - **Food processing**

Other mineral oil contact points

- Corrosion protection
- Human error
- Leakage
- Equipment design

Where legislation meets practice

- It seems there is a wide gap between what the industry best practice represents and what the signal is that is send to the public on risk and acceptability.
- Is there an problem perception or is there a real risk?

- **3 questions**
 - **Can we avoid M.O.H. in the final food product?**
 - **Must we avoid M.O.H. in the food?**
 - **What is crucial for the Lubricant producers and food producing industry?**

Can we avoid mineral oils in the final food?

- The food chain is global, not limited to Europe.
- H1 Mineral oils are cheap and reliable products. What alternatives are equally good and available?
- Total global equipment re-design will be required if answered with „yes“. From harvester to animal feed to final food production will need new equipment.

Must we avoid Mineral Oils Hydrocarbons in food stuff?

- We need to establish (globally) acceptable safe levels of controlled quality lubricants (H1 category).
- Studies need to confirm and put into context the risks.
- We need to study the consequences of a ban, and the impact on production in quantity and cost.

Food stuff producers and Lubricant producers need:

- Clear rules and regulations on lubricant use.
- Commercially viable solutions.
- Fast and cost effective testing methods.
- Global standards in a global playing field.
- Clear understanding of the risks involved with lubricants in food stuff.
- A positive list of lubricant components (XH1)

Conclusion

- Let us prove that mineral oils, at a controlled maximum level in food stuff, present an acceptable risk.
- Let us bring the discussion around mineral oil hydrocarbon from an emotional discussion into a factual, balanced consideration.