

Converting to all food-grade lubricants reduces contamination risk



- Using all NSF H1 registered lubricants in a facility can eliminate sources of potential contamination with hazardous substances while maintaining the same, or even achieving better equipment performance.
- The newest lubricants designed for use in food and beverage facilities are capable of performing in the same way as a conventional industrial lubricant.

Creating an all food-grade lube cabinet

Look inside the lubricant cabinet of a food, beverage or pharmaceutical plant and it's surprising what you find. Upon close inspection, you'll see the cabinet isn't holding only food-grade (NSF H1) lubricants, but may also contain cleaners, glue removers and penetrating sprays, which often turn out to be just industrial chemicals and/or degreasers and when non-food-grade lubricants clutter up a storage cabinet there's always the chance that someone reaches for the wrong lubricant at the wrong time.

A cabinet may also contain multiple common grease guns that aren't see-through; these types don't allow visibility from the label to the actual grease inside, which can result in a problem if a maintenance person is absent from the business and a new employee or one who is unfamiliar with the equipment is doing the filling. In these cases it is very possible that the wrong grease gun will be used and, with a mix of food-grade and non-food-grade lubricants in a plant there is the potential risk of an unexpected ingredient such as lithium or barium making its way into the grease fitting. Given this possibility for end-product contamination it makes sense if the whole manufacturing site is food grade, thus lowering any chance of contamination, even if mixing occurs the risk is mitigated.

Lubricants suitable for food, beverage and pharmaceutical applications are registered as H1 by NSF International (National Sanitation Foundation), an independent registration body, and comply with food regulations. These lubricants are physiologically inert, tasteless and odourless and are suitable for incidental, technically unavoidable contact with a food product up to 10ppm. They can safely be used on machinery components such as pumps, mixers, gearboxes, chain drives and conveyor belts used for handling, canning, bottling, blending, chilling, cooking, cutting, slicing and peeling.



Use food-grade lubricants above and below the line for assured safety.

Above the line versus below the line

The thinking used to be that you only needed to use food-grade lubricants **'above the line'** and that industrial (NSF H2) lubricants could be used **'below the line'**, so for components above a conveyor holding bread the lubricant used should be food grade that way if a hydraulic line were to burst or the gearbox leak the risk to human health is minimised, but for the components operating below the conveyor the thinking was that there was no risk of contamination therefore using a non-food grade lubricant was acceptable.

This thinking has since changed as studies and experience have shown that contamination can occur from **'below the line'** - one extreme example of this was reported where listeria contamination could have actually been traced back to rubber floor mats which are certainly below the line. In addition there is always the risk of mistakes being made where industrial oil designed for the gearbox on the floor is mistakenly filled into the gearbox overhead.



Converting to all food-grade lubricants reduces contamination risk

Performance and Safety

The only way to completely avoid the contamination risk of H1 and non-H1 lubricants is to eliminate all non-food-grade lubricants in the lube cabinet and in the plant, but there's a misconception that a food-grade lubricant compromises performance - after all, they don't contain the same substances and additives as industrial oils and greases that provide excellent lubrication, so how can they possibly work as well as conventional industrial products?

The good news for maintenance managers is that the newest lubricants designed for use in food and beverage facilities are capable of doing all the things that a conventional industrial lubricant does. Technical advances in the industry show that H1 lubricants can deliver the same or better performance than conventional industrial gear oils and can be used safely on machinery components such as pumps, mixers, gearboxes, chain drives and conveyor belts. Even at higher temperatures or loads and in wash-down environments, the appropriate NSF H1 lubricant will still reduce friction and wear, protect against corrosion, dissipate heat and have a sealing effect.

For example **Klübersynth® UH1 6 Series** is a noteworthy H1 lubricant that offers superior performance in terms of efficiency, operational reliability and extended life. Some gearbox manufacturers actually use this H1 product for their first-fill even when the box is not necessarily intended for use in a food, beverage or pharmaceutical facility.

It's true that not all food and beverage companies are required to use H1 lubricants, however by performing a careful inventory and converting to an all NSF H1 registered lubricant facility, Maintenance Managers can eliminate any chance of potential contamination with hazardous substances leading to product recall whilst still achieving the same or in many cases better equipment performance.

It's a win-win formula that not only saves money when it comes to contamination clean-up, but it also pays dividends by driving food safety and quality forward in the plant environment for years to come.



Food-grade lubricants that don't compromise performance

About the company

Klüber Lubrication is a manufacturer of specialty lubricants. For more information about food-grade lubricants and best practices, visit www.klueber.com

Klüber Lubrication GB Ltd
Unit 10 Longbow Close
Bradley
Huddersfield
West Yorkshire
HD2 1GQ
Tel: +44 (0) 1422 205115
Website: www.klueber.com

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 85 years.