

Moving Beyond NSF H1

What the ISO 21469 lubricant standard means for food safety

- Klüber Lubrication took a number of steps to meet the ISO 21469 standard – including a hygiene strategy that takes into account any chemical risks, physical risks and biological risks associated with the intended use of the lubricant.
- End-users benefit from assurance through third-party process audits and product analysis that the ISO 21469-compliant lubricants will consistently meet food safety requirements.

Since 1998, when the National Sanitation Foundation (NSF) took over the H1 lubricant standard from the U.S. Department of Agriculture (USDA), concerns about food safety have only increased. In 2000, the Global Food Safety Initiative (GFSI) was formed to define food safety requirements along the entire food supply chain, then in 2011 the Food and Drug Administration (FDA) implemented the Food Safety Modernization Act, which shifted the focus from responding to food contamination problems to preventing them. In the intervening years, the NSF itself introduced numerous plant audit and certification processes, culminating in the introduction of the ISO 21469 standard in 2006. The ISO 21469 standard is voluntarily implemented by lubricant manufacturers who care to do so. This certification creates new benchmarks for lubricant manufacturers that ultimately benefit end-users by taking a holistic “farm to fork” approach to the manufacturing of food grade lubricants.

The ingredients of the NSF ISO 21469

In general, food-grade lubricants perform typical lubricant functions: reducing wear, friction, corrosion, oxidation and heat build-up. In addition, they must resist microbial growth and degradation from food ingredients, chemicals and water/steam, while being odorless, tasteless and chemically inert. Specifically the NSF H1 accreditation indicates the specific lubricant is acceptable for incidental food contact and can be used in food processing areas. H1 lubricants must be formulated from a USDA-list of approved ingredients known as FDA 21 CFR 178.3570 and be properly labelled and reviewed for the proposed end use.



H1 accreditation does not, however, validate the manufacturing process or the veracity of the labelling.

The ISO 21469 program evaluates the lubricant in terms of:

- Formulation and label review to ensure ingredient safety and label accuracy
- Risk assessment to ensure the manufacturer has identified and evaluated relevant hazards in the lubricant's manufacture and use
- Production facility audits to confirm adherence to quality procedures and good manufacturing practices
- Analytical testing to verify integrity of product composition

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.

Moving Beyond NSF H1

What the ISO 21469 standard means for food safety

In other words, ISO 21469 looks at both the lubricant and how it is made as a whole. It accounts for the lubricant and its ingredients, as well as the manufacturing process, handling, packaging and storage. The goal of this holistic approach is to ensure the lubricant is not only manufactured in accordance with the standards, but that it is also delivered intact and free from outside contaminants. The ISO 21469 standard provides a detailed lubricant definition and requires the use of such lubricants for incidental contact – not only with food products, but also cosmetics, pharmaceuticals, tobacco and animal feed. Furthermore, NSF ISO 21469 requires that an American National Standards Institute (ANSI) accredited certification program provides an independent, third-party assessment that the lubricant conforms to the International Organization for Standardization's (ISO) hygiene requirements.

What the NSF ISO 21469 lubricant standard brings to the food-safety table

Klüber Lubrication has the most NSF ISO 21469 certified facilities in the industry. Its manufacturing facilities took a number of steps to meet the standard – including a hygiene strategy that takes into account any chemical risks (such as cleansing agents and non-approved raw materials), physical risks (including adulteration by foreign substances picked up from machinery) and biological risks (presence of pathogens, toxins, etc) associated with the intended use of the lubricant. The extra scrutiny involved with NSF ISO 21469 covers factors that can be overlooked, such as the process of switching from the production of one formulation to another. With NSF ISO 21469, a risk analysis on cleaning procedures is performed to ensure the separation from alternative industrial lubricants. Since NSF ISO 21469 was introduced, a wide range of certified products are now available - products from Klüber Lubrication include synthetic refrigeration compressor oils that offer high resistance to oxidation, synthetic gear oils formulated to resist aging and oxidation, while extending service life and improving gear efficiency, and fluid greases with a soft consistency that provide good lubrication to the friction point, along with a special thickener for good adhesion and corrosion protection to extend component life.

Klüber Lubrication found that these steps also helped advance end-users on their own quality journey.

“It goes beyond the lubricant formulations being recommended,” says Toby Porter, market manager for the food industry at Klüber Lubrication North America L.P. “With the NSF ISO 21469 certification, these products are being manufactured through a hygienic process that works to avoid risks for contamination. We then offer support on best practices to the end user that include the proper storage, handling and use of these lubricants to further mitigate these types of risks and deliver more than food safety.”



Another important best practice recommendation in the food industry is proper product labelling at the application point, the use of clear grease guns, and setup of appropriate storage areas.

Additionally, Klüber Lubrication offers its customers a lubrication risk analysis audit that identifies all Hazard Analyses and Critical Control Points (HACCP). In one case, a customer received a complete HACCP lubrication audit within one week that identified all lubrication points, complete with proper lubrication charts and on-site assistance for implementing the required actions.

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.

Moving Beyond NSF H1

What the ISO 21469 lubricant standard means for food safety

Avoid premature wear and failures with automatic lubrication

Automated lubrication methods may also be recommended as a means of dispensing the right lubricant continuously and uniformly over an adjustable period of up to 12 months. Automatic lubrication provides many advantages over manual lubrication when it comes to lubrication points that are far apart from each other, or experience high temperatures. As well as these advantages workplace safety is also increase as maintenance engineers no longer have to perform manual lubrication of components that are difficult to access.

The automatic dispensing systems from Klüber Lubrication are available in several designs which all facilitate variable lubrication interval settings. Klübermatic systems can be used for single-point lubrication of rolling and plain bearings, slideways, open gears, toothed racks, threaded spindles, shaft seals and chains



The bottom line benefits for NSF ISO 21469 lubricants

Compared to the existing H1 lubricant standard, the NSF ISO 21469 standard is a significant advancement. NSF ISO 21469 improves formulation and label review, requires manufacturing risk assessments, requires third-party production facility audits, and involves analytical product testing. These points ensure that NSF ISO 21469-compliant lubricant products will consistently meet food safety requirements; this is a significant benefit to the end user.

For more information, please contact Klüber Lubrication at info@uk.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.