ISO 21469: Why this International Standard is on the rise

The uptake of global food safety standards in recent years has prompted sectors throughout the food safety supply chain to implement more rigorous product safety measures, and the lubricants industry is no exception. In 2006, the need for an internationally recognised set of requirements was made apparent to the International Organisation for Standardisation (ISO). This need was to establish a new, voluntary ISO standard for lubricants used in the manufacturing and processing of food and similar products. The document was titled ‘ISO 21469: 2006(E) - Safety of machinery - Lubricants with Incidental Product Contact’, by the Technical Committee ISO/TC 199, Safety of Machinery, and it specifies the hygiene requirements for the formulation, manufacture and use of lubricants which may come into contact with food products during processing.

The scope of this international standard goes beyond lubricants used in food applications to also cover lubricants used for processing high risk products including cosmetics, pharmaceuticals and animal feed. The intention behind the broadened scope of ISO 21469 is to provide additional risk mitigation solutions for other product categories where hygiene standards in manufacturing are of particular concern.

You may be asking why an article about a standard published in 2006 is so relevant now. In the past two to three years, certification to
ISO 21469 has gained traction and now making an impact on the food grade lubricant industry and food safety proponents are taking notice. As more lubricant companies and production locations achieve ISO 21469 certification, and increasing audience of stakeholders – end users, regulators, and lubricant manufacturers alike – are feeling the benefits.

"ISO 21469 goes beyond the requirements of H1 and covers the whole lifecycle of the lubricant. The lubricant manufacturer is required to analyse the hygiene aspects that arise from handling a lubrication product, and to advise the user accordingly. So a food and beverage producer can be assured that every effort has been made to take their safety and hygiene requirements into account; all this whilst delivering long-term lubricant performance and equipment protection," stated Jesus Díaz, Market Manager at Klüber Lubrication München Se & Co. Kg.

**What does international recognition mean?**

The development of this standard like many others was intended to ensure uniformity of product safety and quality with a particular industry. The ISO 21469 standard appeals to lubricant manufacturers seeking compliance to a single, internationally accepted standard that is comprehensive enough to address lubricants used across multiple industries and product sectors. International acceptance of this standard helps companies to gain access to new markets and communicate the safety and compliance of their products to end users, regardless of geography.

While international standards facilitate harmonisation of product requirements, they also serve to facilitate more effective industry coordination and eliminate barriers to international commerce. For countries where the food grade lubricants industry is less developed, having an international standard levels the playing field for companies seeking to export their products into regions with higher lubricant demand. For example, the Emirates Standardisation & Metrology Authority (ESMA), the official federal body in the United Arab Emirates, announced adoption of ISO 21469 as the mandatory requirement for incidental contact lubricants. This adoption in itself exemplifies significant progress in minimising lubricant trade barriers for the Middle Eastern market.

In addition to facilitating trade, certifications to ISO 21469 are strategic tools that assist companies in tackling the most demanding challenges facing businesses today. Efficiencies, cost savings, streamlined processes, and risk mitigation are key issues as companies work to operate effective businesses and increase productivity. Achieving certification to an internationally accepted standard can
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SUPPLEMENT

translate to cost savings from optimised operations, enhanced customer satisfaction based on improved product quality, and increased market share resulting from a competitive marketing advantage. Further, certified companies may also reap environmental benefits by reducing the negative impacts from disposing of contaminated or adulterated products.

As one of the leading producers of food grade lubricating oil and greases, Mrs. Zhaoying Yu-Zhu, Sales – Asia Area & Food Grade Group Product Manager of Axel Christensson has stated that they “are very proud that our manufacturing facility dedicated to food grade products, has been certified NSF ISO 21469 since 2009. ‘NSF H1 certified’ is a good way to guarantee our products meet the food grade lubricant requirements. In addition, certification by NSF to ISO 21469 provides us a stronger safety insurance regarding manufacturing process towards our customers. With ISO 21469 certification, it allows us to differentiate compared to other non-certificated manufacturers. This also gives us a competitive advantage to expand our distribution internationally.”

Figure 1: Once all assessment elements have been completed satisfactorily, products can then be marked as ISO 21469 certified

ISO 21469 certification covers four key assessment elements for achieving and maintaining annual certification. These include: 1) an initial formulary and label review of the ingredients in the lubricants; 2) annual testing of certified product; 3) a completed risk assessment for all products certified; and 4) annual production facility audit.

Formulary and label review
The company or its suppliers shall submit complete formulation information for all components of a product submitted for evaluation

How is ISO 21469 raising the bar?
Companies seeking to demonstrate their commitment to quality by applying for ISO 21469 certification are thoroughly evaluated to ensure that their products meet particular hygiene requirements for the formulation, manufacture, use and handling processes of lubricants that may have incidental product contact. ISO 21469 certification requires lubricant manufacturers to develop a hygiene strategy and to consider chemical, physical and biological hazards in the context of the lubricant end use.

Let's work magic!

Any sufficiently advanced technology is indistinguishable from magic. Increasingly complex production processes require professional solutions in the means of optimum performance, lower energy consumption and longer service life. Anderol Specialty Lubricants comprises an impressive array of high quality lubricants with a strong focus on gas compression, vacuum applications and H1 food grade applications.
Food adulteration due to contamination by traditional lubricants can result in product recalls and be costly, both to the bottom line and a company’s reputation.

Testing
Product samples are to be analysed by Fourier Transform Infrared Spectroscopy (FTIR). FTIR analysis provides a highly specific measure of material identification by comparison of a test sample spectrum with a reference spectrum. This annual testing serves as a quality control check in the ISO 21469 certification to again verify the formulations of the certified product are consistent in their qualitative composition.

Risk assessment
Certification to ISO 21469 requires that the lubricant manufacturer complete a risk assessment addressing the potential sources of contamination during production of the lubricant. The risk assessment is designed to ensure that all potential risk factors in the possible contamination of a certified lubricant have been defined, measured and quality controls have been set in place to ensure that those risks are mitigated on an ongoing basis.

Audit
In order to gain and then maintain certification, an annual production facility audit must be conducted and corrective actions resolved. Audits are a critical piece to aide in ensuring that the products originally certified are those that are being produced each and every time production is run. Audits include actual production facility walk-through to inspect maintenance of equipment in accordance with Good Manufacturing Practices, verification of risk management procedures, review of supplier qualification records, verification of raw materials, review of labeling of certified product and any additional control measures necessary to guarantee quality product. Additionally, the audit scope may be influenced by corrective or preventative actions or other necessary measures for minimising hazards identified in the risk assessment.

At the point in which all of the elements have been completed satisfactorily, products can then be marked as ISO 21469 certified (see Figure 1, page 6).

As stated by Rocol Lubricants: “The positive effects of ISO 21469 are felt by many stakeholders: Lubricant manufacturers seek ISO 21469 accreditation as the highest accolade that can prove their suitability for food grade applications. Auditors are reassured by the presence of accreditation as it allows full traceability of the lubricant manufacturing process. Food manufacturers prevent contamination of their products and reduce waste whilst supplying safe products to major super-

markets and other distributors. Consumers are protected against the possibility of eating a product which is tainted with hazardous material. Once ISO 21469 certification is achieved it proves that a lubricant is manufactured in a hygienic environment, using both best practices and the safest ingredients.” The impact that ISO 21469 certified products have on all stakeholders of the lubricant industry is significant.

Effectively managing risks in their supply chain is priority number one for today’s food and beverage companies.

ISO 21469 is a voluntary standard but the food industry has already recognised the value and benefits of it as they are proactively adopting ISO 21469 into their lubricant purchasing specifications. The value of ISO 21469 certification for end-users is that it provides added assurance that the lubricant formula meets food safety requirements, label information is accurate and traceable and lubricant manufacturing and packaging conditions are hygienic.

Food adulteration due to contamination by traditional lubricants can result in product recalls and be costly, both to the bottom line and a company’s reputation. The benchmark the lubricants industry is striving towards – increased efficiency, cost reduction, streamlined processes, and risk mitigation – can be synonymous with making a safer lubricant product. For companies focused on protecting and improving the integrity of the food supply chain, ISO 21469 is the standard that helps brings both worlds together.

To access the most current list of ISO 21469 certified products, please visit: www.nsf.org

www.newfoodmagazine.com