Understanding the Changing Requirements for Food-grade Lubricants

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With the deadline for compliance of the Food Safety Modernization Act (FSMA) already passed, it is increasingly important for all food and beverage plants to understand the scope of this legislation. No longer is there voluntary compliance with food-grade lubrication principles. It is now the law and must be followed with severe penalties for those who don't comply. There are key items you must follow to ensure that your product is unadulterated.

What Has Changed

For years, the regulation and use of food-grade lubricants have largely been on a voluntary basis. This has worked well, as most companies relied on internal or customer audits to ensure their processes were sound and their products were not contaminated by any foreign material that could taint it. The events of Sept. 11, 2001, sparked the need to review our food processes and the safety risks associated with them. A large portion of the food consumed in this country is imported and, as such, was viewed at risk for bioterrorism.

In 2011, the Food Safety Modernization Act (FSMA) was enacted. This act has widespread ramifications for any facility that makes food for humans or pets. The biggest change from the past is that this law focuses on the prevention of contamination. The legislation also allows for mandatory recalls and criminal compliance liability for food processors. There are even specific deadlines for businesses to become compliant with the full scope of this act. The deadlines have all passed, with many companies requesting extensions. The extended deadlines were granted on a case-by-case basis.

HACCP

One of the tools utilized during this changeover period is a risk assessment of the plant. The FSMA's focus is on preventing product contamination, so the plant must be scrutinized to determine where there are possibilities of contamination and how they can be monitored, controlled and prevented. A process known as a Hazard Analysis and Critical Control Point (HACCP) is the standard way this risk assessment is performed. There are seven steps associated with the HACCP plan:

- Conduct a hazard analysis
- Identify critical control points
- Establish critical limits
- Establish monitoring procedures
- Establish corrective actions
- Establish verifications procedures

- Record-keeping

Each of these steps must be documented and communicated to ensure everyone is on the same page. For lubrication, this often means that the maintenance, operations and reliability departments are all aware of which lubricants are used where and that they are applied in a manner that doesn't lead to contamination.

An example of this would be a bearing located over a food line. This would need to be identified as a critical control point. The limit for a food-grade mineral oil is 10 parts per million, which is a tiny margin. Basically, it is the same as saying there is no allowable contamination of lubricants in the finished product. Once you have your limits, your procedures would be set to grease only the proper amount or possibly not grease at all, depending on criticality. This same process would need to be repeated at every point along the food-processing line.

Lubricants

With all the procedures in place to mitigate accidental contamination by a lubricant, selecting the proper lubricant for the application becomes the next step in the process. The traditional food-grade lubricant classifications are still active. The registration of food-grade lubricants is managed and maintained by the National Sanitation Foundation (NSF). This organization lumps food-grade lubricants into three categories: H1, H2 and H3.

H1 lubricants are used anywhere there is a possibility of incidental contact of the lubricant with the food product. H2 lubricants are used in locations where there is no possibility of contact between the food and the lubricant. H3 products are water-soluble and used to help control corrosion. If the lubricant is a food-grade lubricant, you will be able to find the registration of the product on the NSF website (http://info.nsf.org/USDA/psnclistings.asp).

Keep in mind that many products listed as food-grade lubricants are registered as an H2 lubricant, which means they still cannot be used anywhere there is the potential for contact with food. Therefore, you must do your research and document which lubricant you use where.

ISO 21469

New lubricants can often be cross-contaminated with other lubricants. In fact, you could be ordering food-grade lubricants that are accidentally mixed with non-food-grade lubricants. This risk is currently being addressed in the industry.

ISO 21469 is a standard gaining momentum in the industry regarding the manufacturing of food-grade lubricants. This standard speaks to the manufacturer of the lubricant in question. If the lubricant blending plant has this approval, you can rest assured that there is very minimal risk that the food-grade lubricant you ordered is tainted with anything else.

What You Must Do

If you have not heard of FSMA or know what your plant is doing to become compliant, you must find out immediately. The act has verbiage that each plant must have a "qualified person" who is trained and accountable for the program. Some easy steps you can take to ensure you don't have problems from the lubrication side would include documentation and labeling. Document each lube point and the lubricant that is to be applied. Perform your own HACCP audit and look for places where there are risks of contamination. For these areas, ensure your lubricants are registered as an H1 lubricant. Check the rest of your lubricants and verify that the food-grade lubes you are using match the registration that are needed for their respective areas.

Finally, label everything. Use clear and easily readable labels for what is used for food-grade and what isn't. Label top-up containers, filter carts, grease guns, tools, anything and everything that could accidentally come in contact with both the lubricant and the food process. As the labels are applied in the field, they will help all involved in the program to hold each other accountable for using the proper tools and lubricants in the correct places.