

## The Selection and Usage of Food Safe Lubricants

Herewith please find the descriptions for some common terms relating to lubricants used in the food industry:

- H1 – the term for Lubricants for incidental food contact, fits in the HACCP plan with maximum incidental levels of lubricant presence in the food stuff as defined by the FDA.
- H2 – the term for Lubricants NOT for food contact. Does not fit in any HACCP plan
- H3 – the term for fluids used as rust protective for hooks and knives and defined as soluble oils. Must be wiped off prior to equipment use. Not for food contact.
- 3H – the term for Mould release fluids. Maximum levels of fluid present in the food defined by the FDA.
- NSF and InS – two organisations that internationally register H1 lubricants and list registered products on their websites.
- ISO21469 – the International standard programme for H1 lubricant producers. The point where HACCP applies to the lubricant industry itself.
- ISO22000 – a management systems standard developed for food producers. Not applicable for equipment, lubricant and maintenance part suppliers.
- E.H.E.D.G. – the European Hygienic Equipment Design Group is a consortium of equipment manufacturers, food industries, research institutes as well as public health authorities. The principal goal of EHEDG is the promotion of safe food by improving hygienic engineering and design in all aspects of food manufacture.
- E.H.E.D.G. Doc 23. This document describes best practice for food producers on how to use lubricants and how to limit and or avoid contamination. It also presents a flow chart and check list for moving to food safe lubricants. See [www.ehedg.org](http://www.ehedg.org) for downloads.
- H.A.C.C.P. Hazard Analysis of Critical Control Points. The methodology for defining and controlling present or potential hazards in food production.

### Some Questions answered:

#### **What lubricants should I use in my food production plant?**

H1 lubricants, also known as incidental contact lubricants.

They are not expected to, but may occasionally come into contact with food under normal use conditions. As per requirements established by the US Food and Drug Administration (FDA) H1 lubricants must comply with 21 CFR 178.3570. This regulation establishes formulary requirements for greases and lubricants intended for use in food processing and handling applications where incidental contact may occur.



**Are H1 Lubricants FDA Approved?**

No, the FDA does not approve or register lubricants. The ingredients comply with FDA “Regulation 178.3570” or “21 CFR 178.3570”.

**How do lubricants impact on my HACCP plan?**

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**If my product is an H2 grease is it “Food Grade”?**

No, the terminology “Food Grade” is only acceptable for H1 products. H2 products are lubricants and greases not suitable for food contact.

**If my product is a 3H product, can I use as much as I want in direct contact with the food?**

No, 3H products are also subject to similar limitations specific by application. The “FDA Regulation 21 CFR 172.878” specifies the limits for each application and should be referred to.

**What if my “lubricant” is 3H, surely that is safe?**

If you use the product to lubricate a mechanical part – such as a bearing, chain, slide etc. – then this is covered by H1. As stated earlier, these are incidental contact products so subject to limitations.

Remember, the use of the product has to be taken into account, it is not safe to assume 3H products can be used with little care, if they are designed to be used as equipment lubricants they usually have H1 registration too.

**Should I use H1 lubricants across my facility? What about applications below the production line?**

Your HACCP assessment is the ultimate guide to this. From a safety point, it is advisable and recommended to use H1 lubricants across all feasible applications, so reducing risk by minimising any possible use of none H1 lubricants.

This applies below the production line too. Again, it is about reducing the risk of contamination and running a lubrication programme as cleanly as possible.

**How do I change to H1 lubricants from my current products?**

Firstly, partner with an appropriate high quality lubricant supplier. They should then be in a position to advise on the correct lubricant choice and methodology.

The EHEDG Document 23 Guidelines provide comprehensive guidance on the changeover and the multiple aspects that should be taken into account.

### **What is ISO 21469 and is it relevant?**

ISO 21469 sets out hygiene requirements for H1 incidental food contact lubricants. This covers the full product lifespan of formulation, manufacture, use and lubricant handling. Manufacturers with ISO 21469 certification have had all of these aspects externally assessed and are certified to be of appropriate high quality. Assessment is annually, so current certification can be assessed.

As for relevance, this certification shows that the product along with processes associated to the product have been assessed. This provides an assurance of process and product quality beyond H1 registration.

## **Making the Right Choices**

In summary, H1 lubricants internationally recognised for incidental food contact are recommended for use in food, feed and pharmaceuticals production and handling. To ensure a smooth process, select a reputable lubricant partner with the right products.

Next, verify that the chosen products are registered to the appropriate use category. This should be confirmed and registrations supplied. These can also be verified at [www.insservices.eu](http://www.insservices.eu) or [www.nsfwhitebook.org](http://www.nsfwhitebook.org), for example.

In usage and storage, adopt a multiple level control procedure. Firstly, the product names, then an identification with the lubrication point such as colour coding or numbering.

Next, use dedicated lubrication and filling equipment. Cross contamination should be avoided at all times to ensure product quality. One method is to adopt colour coded equipment and lubrication points.

Seek assistance with your HACCP plan from your lubricant supplier. High quality documentation, assistance with lubricant usage minimisation and control procedures should be available.