



LUBRICANT
EXPO EUROPE

17th - 19th September 2024
Hall 9, Messe Düsseldorf, Germany

Overcoming Challenges of Food-Grade Lubrication Environments

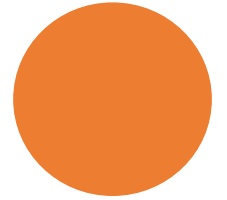
Dr George S. Dodos
ELDON'S S.A.



Who we are

ELDON'S S.A.

- Established in 1975 - Privately owned company in Greece
- Lubricating Oils & Greases (mineral & synthetic based) + Special Products.
- More than 600 products in the portfolio - more than 50 foodgrade registered products
- Two production sites – one exclusively for grease production
- International customers in more than 30 countries worldwide
- Consistent R&D on new technologies, products, and energy efficiency improvement – International collaborations



Food grade lubricants. Why?



- Public safety
- Responsible care
- Producer liability
- HACCP & GMP & ISO 22000
- Brand protection
- Religious demands
- Marketing

Exposure and economic impact

Many cases were reported in recent years

- **Not all were accurate but had their impact**
- Resulted in sharply reduced sales
- Expensive product recalls
- Additional regulations
- In some cases bankruptcy of the producer



THE KEY OBLIGATIONS OF FOOD AND FEED BUSINESS OPERATORS

Safety

Operators shall not place on the market unsafe food or feed

Responsibility

Operators are responsible for the safety of the food and feed which they produce, transport, store or sell

Traceability

Operators shall be able to rapidly identify any supplier or consignee

Transparency

Operators shall immediately inform the competent authorities if they have a reason to believe that their food or feed is not safe

Emergency

Operators shall immediately withdraw food or feed from the market if they have a reason to believe that it is not safe

Prevention

Operators shall identify and regularly review the critical points in their processes and ensure that controls are applied at these points

Co-operation

Operators shall co-operate with the competent authorities in actions taken to reduce risks

These obligations derive from the EU food safety legislation. They are further detailed in the guidance document on the implementation of the main General Food Law requirements.

For more information, see

Website: http://europa.eu.int/comm/dgs/health_consumer/foodsafety.htm

Food grade lubricants. Where?



Where should these be used

- Food processing
- Pharmaceutical production
- Animal feed
- Appliances where risk of contact exists
- Agricultural equipment
- Packaging material production
- Secondary suppliers and equipment manufacturers



Conveyor Chain and Gearbox above the foodstuff



Leaking Gearbox above the food conveyor



Hydraulic hoses near foodstuff



Grease bearings and grease points above foodstuff

By the book – Selection of lubricants for the food industry



Determined by regulations originating in the USA

21CFR178.3570 lubricants with incidental food contact

21CFR172.878 food additives permitted for direct addition to food for human consumption

H1	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	Lubricants NOT for food contact. Does not fit in any HACCP plan
H3	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	Mould release fluids . Maximum levels of fluid present in the food defined by the FDA.



Later created additional categories

HX – 1,2,3 for ingredients for use in H1, H2, H3 formulations

HT – 1 : Heat transfer fluids (Incidental contact)

HT – 2 : Heat transfer fluids (no contact)

HTX – 1,2 for ingredients for use in HT1, HT2 formulations

Mineral oil Group 1, 2 and 3 (White oils)	10 ppm
PAO PolyAlphaOlefins	
AN AkyI Naftalene	
POE Polyol Ester	
PAG Polyalkalyn Glycols	
Dimethylpolysiloxane (Silicone)	1ppm

Food grade lubricants – Registration



Products are registered/approved as food grade, NOT certified

Currently two globally accepted organizations, (US-based and EU-based), which check for compliance of lubricant formulations against the FDA Regulation (product ingredients and labelling reviews) and provide registration services.

All lubricants for use in the **food** industry should be listed at one or both bodies

Lubricants with incidental food contact may be safely used on machinery used for producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding **food**. (H1 - 21CFR178.3570)

White mineral oil may be safely used in **food** (3H - 21CFR178.878)

White Book™ - Nonfood Compounds Listing Directory

NSF-Registered
Proprietary Substances and Nonfood Compounds

Visit this company's website

Product Name	Registration Number	Category Code
ELDON'S SA		
AMBRO AG HY 0	164527	H1
AMBRO AG HY 0 - 220	170426	H1
AMBRO AG HY 00 - 220	170425	H1
AMBRO AG HY 1	164528	H1
AMBRO AG HY 1 - 220	170427	H1
AMBRO AG HY 1.5 - 220	170428	H1
AMBRO AG HY 2	164529	H1
AMBRO AG HY 2 - 220	170429	H1
AMBRO AMG 0	164523	H1
AMBRO AMG 0 N	170435	H1
AMBRO AMG 00	164522	H1
AMBRO AMG 00 N	170434	H1
AMBRO AMG 1	164524	H1
AMBRO AMG 1 N	170436	H1
AMBRO AMG 2	164525	H1
AMBRO AMG 2 N	170437	H1
AMBRO AMG 3	164526	H1
AMBRO AMG 3 N	170438	H1
AMBRO AXG 1	164520	H1
AMBRO AXG 2	164521	H1
AMBRO AXG 3	168994	H1
AMBRO AXG 4	168995	H1
AMBRO AXG 5	168996	H1
AMBRO AXG 6	168997	H1
AMBRO AXG 7	168998	H1
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AMBRO AXG 12	169003	H1
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AMBRO AXG 15	169006	H1
AMBRO AXG 16	169007	H1
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AMBRO AXG 23	169014	H1
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AMBRO AXG 25	169016	H1
AMBRO AXG 26	169017	H1
AMBRO AXG 27	169018	H1
AMBRO AXG 28	169019	H1
AMBRO AXG 29	169020	H1
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AMBRO AXG 45	169036	H1
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AMBRO AXG 48	169039	H1
AMBRO AXG 49	169040	H1
AMBRO AXG 50	169041	H1
AMBRO AXG 51	169042	H1
AMBRO AXG 52	169043	H1
AMBRO AXG 53	169044	H1
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AMBRO AXG 55	169046	H1
AMBRO AXG 56	169047	H1
AMBRO AXG 57	169048	H1
AMBRO AXG 58	169049	H1
AMBRO AXG 59	169050	H1
AMBRO AXG 60	169051	H1
AMBRO AXG 61	169052	H1
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AMBRO AXG 67	169058	H1
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AMBRO AXG 69	169060	H1
AMBRO AXG 70	169061	H1
AMBRO AXG 71	169062	H1
AMBRO AXG 72	169063	H1
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AMBRO AXG 75	169066	H1
AMBRO AXG 76	169067	H1
AMBRO AXG 77	169068	H1
AMBRO AXG 78	169069	H1
AMBRO AXG 79	169070	H1
AMBRO AXG 80	169071	H1
AMBRO AXG 81	169072	H1
AMBRO AXG 82	169073	H1
AMBRO AXG 83	169074	H1
AMBRO AXG 84	169075	H1
AMBRO AXG 85	169076	H1
AMBRO AXG 86	169077	H1
AMBRO AXG 87	169078	H1
AMBRO AXG 88	169079	H1
AMBRO AXG 89	169080	H1
AMBRO AXG 90	169081	H1
AMBRO AXG 91	169082	H1
AMBRO AXG 92	169083	H1
AMBRO AXG 93	169084	H1
AMBRO AXG 94	169085	H1
AMBRO AXG 95	169086	H1
AMBRO AXG 96	169087	H1
AMBRO AXG 97	169088	H1
AMBRO AXG 98	169089	H1
AMBRO AXG 99	169090	H1
AMBRO AXG 100	169091	H1

Certificate of Registration
ELDON'S SA has achieved Registration status for CYCLORA SFG 100 to the NSF International Registration Guidelines for Proprietary Substances and Nonfood Compounds (2022).
Category Code: H1
NSF Registration No: 168990
October 31, 2023
Registration may be verified at nsfwhitebook.org

Certificate of Registration
ELDON'S SA has achieved Registration status for AMBRO TH ISO 32 to the NSF International Registration Guidelines for Proprietary Substances and Nonfood Compounds (2022).
Category Code: H1
NSF Registration No: 168994

Food grade lubricants – Certification



Lubricants manufacturers can be ISO 21469 certified (site relevant)

ISO 21469:2006

Safety of machinery — Lubricants with incidental product contact — Hygiene requirements

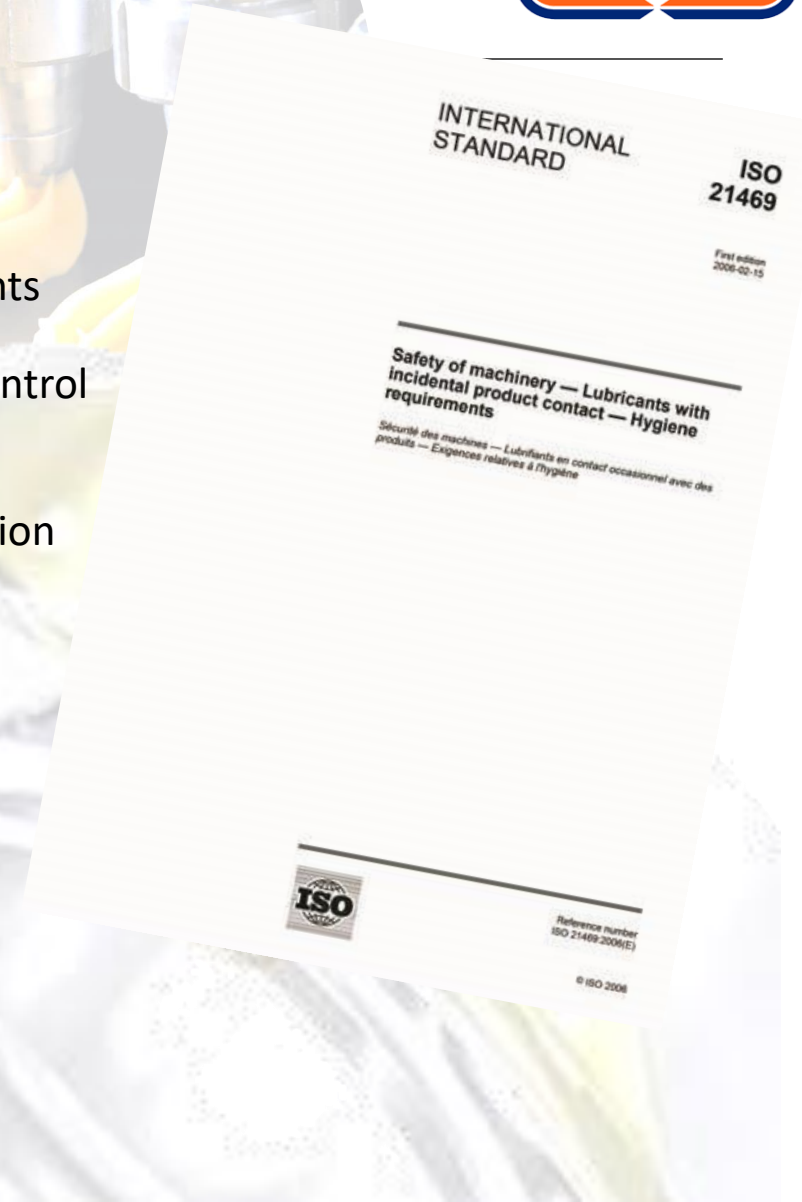
Equivalent to the HACCP plan for the lubricant producer to assure hygienic and quality control measures during manufacturing, storage and transport.

Covering lubricants not only for **food** and **beverage** processors (H1) , but also for application in the **pharmaceutical, cosmetics and animal feed** sections.

Certification consist of:

- Formulation Review
- Product Label Review
- Risk Assessment
- Facility Audit:
 - Raw material verification
 - Batch sheets agree with authorized formula
 - Certified product labelling complies with the ISO standard Marking requirements
 - Verify QC practices / procedures resulting from the risk assessment
 - GMP / GHP practices
 - ISO 9001 Registration

Product Testing



Food grade lubricants – Other certifications



Religious demands require similar control and verification processes. Critical cultural considerations

HALAL

an Arabic term which describes products as “**permissible**” for consumption according to the Islamic religious laws. Lubricants with incidental food contact must also be Halal to prevent contamination of the finished product by non-Halal substances.



KOSHER

A Hebrew term describing products which are “**fit or proper**” for consumption according to Jewish religious laws. The rules set forth in the religious texts are also applied to lubricants with potential food contact to ensure against contamination of the produced food products.



Marketing / Terminology Challenges



incidental product contact
contact with product that is not intended
but which is not preventable

Lubricants are NOT part of the food.

- **Food Grade vs Food Safe**

Foodgrade material: suitable to come into contact with food

Food Safe means that the food grade material and finished product is suitable for its intended use and will not create a food safety hazard as long as it is used according to the manufacturer's directions

- **FoodGrade materials aren't necessarily Food Safe under all circumstances.**

- **H1 is INCIDENTAL food contact**
- **H2 and H3 are NO food contact - should not be referred to as food grade lubricants.**
- **H2: should be regarded as normal industrial oils.**
- **3H is NOT a lubricant**

Religious laws specifically apply to food. Halal & Kosher do not mean a product is food safe.

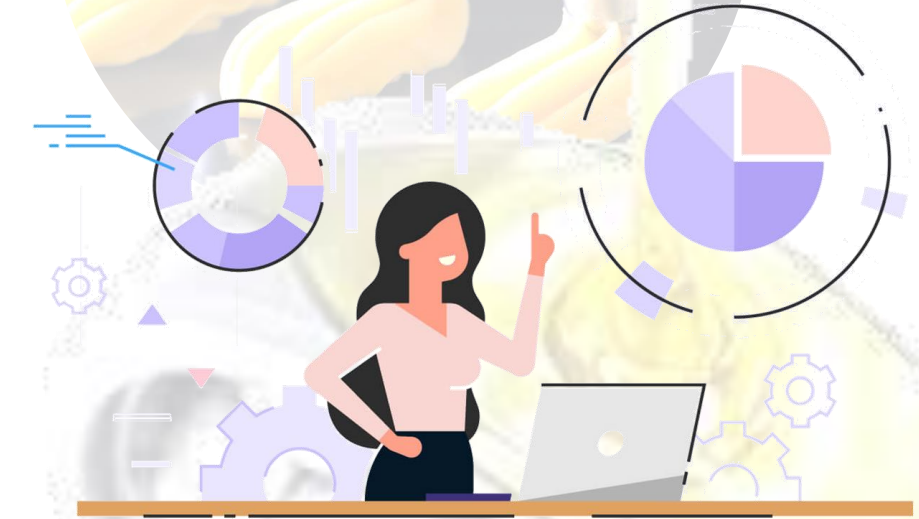
Food producers not be misled by food grade marketing ventures that tell only one side of the story.



Certification /Registration Challenges



- The H1 registration can and should be re-enforced
 - Prone for abuse by less ethical parties
 - Does not contain audit process
 - Limited to formulation review
- H2:
 - Old category
 - Unclear situation and no legislative basis.
- ISO 21469
 - Audit is part of the certification
 - H1 registration is compared with the actual formulation and component use.
- Halal and Kosher do not mean H1 and vice versa



Legislation Challenges



- There is NO global legislation for food production, food treatment, food handling, food ingredients and contact materials.
- Regional differences
- National laws (USA lubricant specific 21CFR)
- European directives (Non lubricant specific)
- Exceptions for traditional products
- Application specific rules
- Product specific rules



Food is global
Cross boarder and cross continent
Complex for producers due to different rulings

Legislation Challenges - EU



Has NO legislation related to lubricants.

Has legislation:

- for chemicals (REACH)
- on materials and articles intended to come into contact with food
- regulating mineral oils for pharmaceutical products (but not for food).

In the EU we have to deal with the **EFSA** (European Food Safety Authority) scientific opinion of 2013 and onward (+ BfR opinion)

- ✓ Resulted in the MOSH and MOAH discussion from 2015.
- ✓ Mineral Oils are described as contaminants in the food chain
- ✓ **ADI (ADI = acceptable daily intake)** have been established + upper levels of exposure
- ✓ **References such 'as little as technically feasible' make a quantification difficult.**



The non-straight forward nature of EU approach on legislation and authority level may create ambiguity and/or potential compliance challenges.

2021: update of safety assessment of the food additive titanium dioxide. What about its use as foodgrade lubricant additive

The USA system of the FDA and subsequent systems like H1 etc. have no legal basis in the EU ,yet companies will still use the USA system as a support for their quality control systems such as GMP and HACCP.

MOSH & MOAH



MOSH: Mineral Oil Saturate Hydrocarbon

MOAH Mineral Oil Aromatic Hydrocarbon

Mineral oil components can enter food in different ways

Outcome of EFSA's health risk assessment in 2023

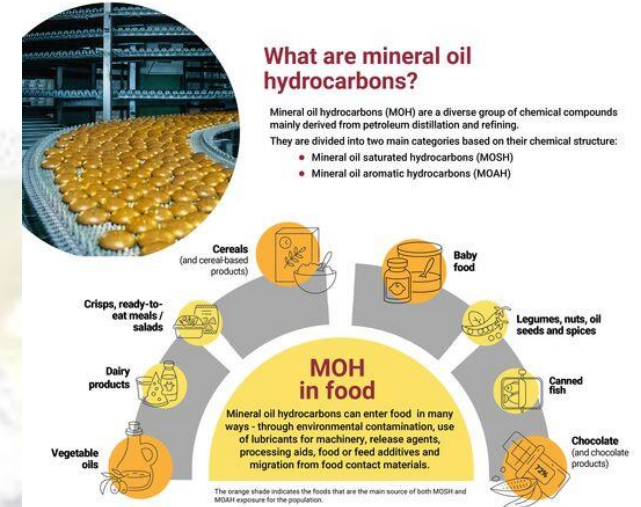
- For MOSH, EFSA concludes that the current intake levels in the EU population via food are not a cause for concern. However, further data on toxicological effects over a long period of time are needed.
- For the assessment of MOAH levels in food, the fraction with three or more aromatic rings is particularly relevant, as mutagenic and carcinogenic substances may be present in this fraction. Lack of data. IP346 determines if a mineral oil has potential to cause cancer

Foodstuffs are to be removed/ recalled if MOAH are found in them above the following maximum limits of determination.

- 0.5 mg/kg of dry food with low fat/oil content ($\leq 4\%$)
- 1 mg/kg of food with higher fat/oil content ($> 4\%$ and $\leq 50\%$)
- 2 mg/kg of fat/oil or food with a fat/oil content $> 50\%$



Mineral oil hydrocarbons in food



Health impact

The potential human health impact of MOH varies widely. MOSH, which are known to accumulate in the liver and lymphoid system, do not present a public health risk at current levels of dietary exposure. One type of MOAH may contain genotoxic substances that can damage DNA in cells and may cause cancer. For substances such as these, a safe level cannot be established.

EU in action

In the EU system, different actors work closely to protect public health by assessing and managing risks as well as monitoring the presence of MOH in our food.



MOSH & MOAH ++



Increasing demand for MOSH & MOAH free products.

MOSH and MOAH free mineral oils DO NOT EXIST.
MOSH and MOAH exist also in nature.

When receiving complaints from customers make sure you establish a baseline test with the food BEFORE it is mechanically manipulated. MOAH and or MOAH could well be in the food due to nature or its exposure to contaminants.

The MOSH and MOAH discussion has contributed to a better understanding of the safety of mineral base oils

+ has triggered discussion on the effect of other types of H/C:

Polyolefin oligomeric saturated hydrocarbons (POSH)
Poly-alpha-olefins (PAO)

- By definition, POSH and PAO are not mineral oil hydrocarbons.
- No available toxicological data on POSH and PAO.
- Based on the chemical similarity to MOSH, it can be assumed that POSH and PAO do not pose a health risk according to current data

Mineral oil hydrocarbons in food

What are mineral oil hydrocarbons?

Mineral oil hydrocarbons (MOH) are a diverse group of chemical compounds mainly derived from petroleum distillation and refining. They are divided into two main categories based on their chemical structure:

- Mineral oil saturated hydrocarbons (MOSH)
- Mineral oil aromatic hydrocarbons (MOAH)

MOH in food

Mineral oil hydrocarbons can enter food in many ways - through environmental contamination, use of lubricants for machinery, release agents, processing aids, food or feed additives and migration from food contact materials.

The major share includes the foods that are the main source of both MOSH and MOAH exposure for the population:

- Cereals (and cereal-based products)
- Baby food
- Legumes, nuts, oil seeds and spices
- Canned fish
- Chocolate (and chocolate products)
- Dairy products
- Vegetable oils
- Crisps, ready-to-eat meals/salads

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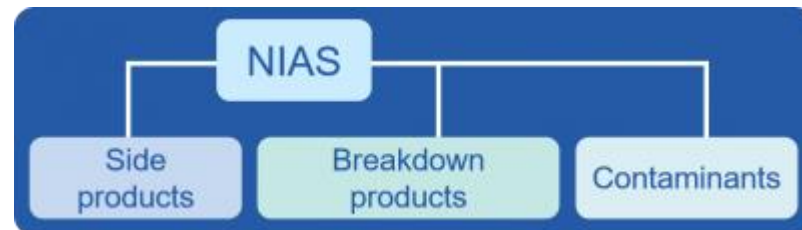
- EFSA assesses the risks for humans posed by MOH throughout the food chain. Data on their presence in food is gathered through continuous data collection.
- EU regulations require Member States to monitor MOH presence in food following the guidance provided by the European Commission's Joint Research Centre.
- The European Commission and Member States consider EFSA's work for risk management actions.

www.efsa.europa.eu

Non-intentionally added substances (NIAS)



- This could develop to a big concern for the food producers and subsequent the lubricant supplier.
- Lubricants, when found in food are NIAS.
- The food stuff produces has to show that NIAS are detected and to show at very low levels that these are toxicological safe. They will require this information from their supplier
- The eco-tox data will have to come from the single component suppliers of the ingredient in the lubricant.
- The cost for generating the required data will be huge and this is for a relative small market with relative small volumes.
- Could this lead to the withdrawal of additives? If so than it will lead to new formulations and registrations and increased cost or even abandoning from the market.



Lubricants manufacturer: Avoiding Contamination



The lubricant producer

- Uses safe and approved components to prepare the food grade lubricants.
- Takes several steps to safeguard the production of the lubricant from, among other things, contamination and to optimize and better control the overall process.

Critical factors:

- Dedicated blending vessels and filling lines to rule out contamination from other industrial oils produced in the same site.
- Equipment made of appropriate stainless steel grades.
- Dedicated utilization of components for foodgrade products – (even if identical for other products).
- Tampered packaging and inner coatings of metal drums, to avoid contact of lubricants with the possible formation of rust during transport and storage, are options



Food processing industry : Auditing Challenges



Incidental food contact in this respect means no more than 10 ppm of a lubricant is allowed to be present in food; (in otherwords, practically none).

The HACCP plan involves operators regularly checking for leakages and declining oil sump levels. In case of deviations, measures must be taken with the batches produced between the last two checks.

How much time is allocated for the lubricants during a HACCP external audit?

The implementation of mass balance approach is an effective tool.

What you consume versus what you purchase...



Legislation and classification: Opportunities and challenges

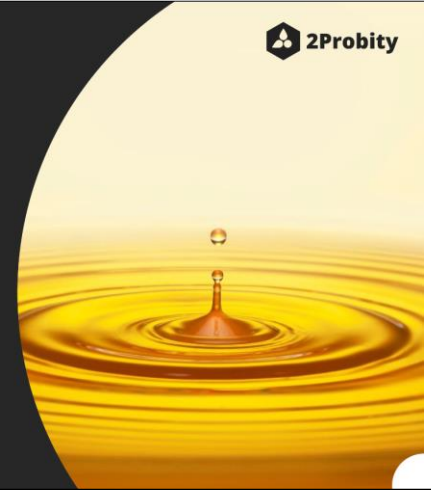


- REACH Revisions
- EU Green Deal
- EU Taxonomy
- EU Chemical Strategy for Sustainability



Is your Food Grade Lubricant Compliant with the Fast-paced Changes Happening in the European Regulatory Landscape?

Sofia Öberg
2022-05-03
ELGI Annual General Meeting in Hamburg



Supply chain challenges

Opportunities for novel more sustainable lubrication solutions



The more sustainable future for lubricants...and safe food

- Consumers and customers need to address not only safe food but also environmental and sustainable issues and the Do you work with this separately or integrated?
- The ECO label and making sustainable products the norm is in focus within the EU. How can the industry show your contribution in these areas
- The extended general risk assessment in REACH will look into the areas of verification that supports the control of the ingredients. How can the industry show the amount of controls conducted for example H1 approvals, ISO 21 469, HACCAP?
- Circular economy and waste management will need innovations for systems and effective reuse of the resources in the products. How can this industry support the transition?

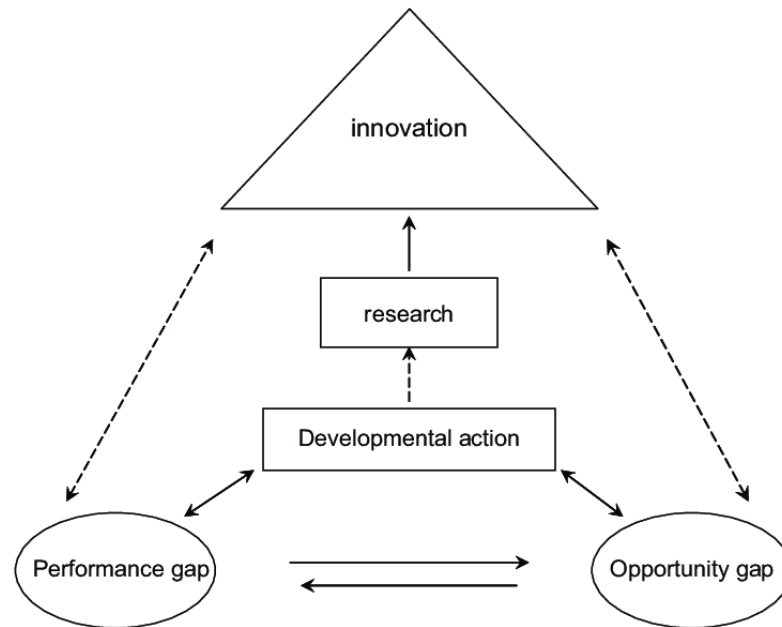


Performance Opportunities



More demanding applications and safety concerns are requiring the use of better performing lubricants.

One of the challenging aspects of formulating H1 lubricants is the concentration limits placed on FDA-approved HX-1 additives including those related to AW and EP properties (+ AO?)



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Use of more thermo-oxidatively stable base stocks.

Moving to upgraded thickener chemistries when it comes to greases (Calcium sulfonate, polyurea)

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CSFG HV 2

Food Grade Greases

Description

ELDON'S CSFG HV 2 is a synthetic advanced food grade, incidental contact calcium sulfonate complex grease, especially formulated to cope with the severest operating conditions, heavy loads, long re-lubrication intervals, low speeds etc. The synthetic oil used in the formulation (PAO) ensured extended service life and operating temperature range compared to mineral oil based products. Due to its special soap structure it offers excellent performance in wet and humid environments and a long service life. It offers protection and effective lubrication at high temperatures where other complex greases cannot perform. It is non-toxic product with no added pigments.

Applications

ELDON'S CSFG HV 2 is intended primarily as a multipurpose food grade incidental contact grease for the lubrication of rolling element bearings, chains and slides operating over a wide range of temperatures. It is especially recommended for use at low temperature and high speed applications. It's excellent resistance to hot and cold water makes it ideal for applications where the presence of water cannot be avoided.

Advantages

- Outstanding lubrication properties at temperatures up to + 260 °C for short intervals
- Maintains its characteristics for long storage periods
- Protects against wear and corrosion.
- Adheres to metallic surfaces.
- Effective protection against rust and corrosion.
- Resilient against cold and hot water and alkali based cleaners.
- Fine protection from wear.
- Superior low temperature performance.

Performance Level

- DIN 51502
- DIN 51825 KP2U-40
- ISO 6743-9 L- XBFHB2

Typical Characteristics

CSFG HV 2	METHOD	NLGI 2
Product Code		ELD10617
Soap Base		Calcium Sulfonate Complex
Colour		Tan
Texture		Smooth
NLGI Grade		2
Worked Penetration at 25 °C, 1/10 mm	ASTM D217	265 – 295
Dropping Point, °C	ASTM D2265	330
Four Ball Test		
Welding Point ((N) LWI	ASTM D2596	>4,900
Rust Preventive Properties	ASTM D1743	0.41
Water washout characteristics, % loss, wt at 79 °C	ASTM D1264	Pass
Viscosity of Base oil at 40°C, cSt	ASTM D445	0.4
Working Temperature, °C		460
		- 40 to + 260 <small>(up to + 260 °C for short intervals)</small>



Performance Opportunities



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Use of more thermo-oxidatively stable base stocks.

Moving to upgraded thickener chemistries when it comes to greases (Calcium sulfonate, polyurea)

Advanced performance level - Improved relubrication schedules

Contributes towards the approach of employing the H1 lubricant in all applications in the same plant, eliminating the risk and cost of inadvertently using a non-food-grade product in error.

TECHNICAL DATA SHEET

CSFG HV 2

Food Grade Greases

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Performance Level

- DIN 51502
- DIN 51825 KP20-40
- ISO 6743-9 L-XBFB2

Typical Characteristics

CSFG HV 2	METHOD	NLGI 2
Product Code		ELD10617
Soap Base		Calcium Sulfonate Complex
Colour		Tan
Texture		Smooth
NLGI Grade		2
Worked Penetration at 25 °C, 1/10 mm	ASTM D217	265 - 295
Dropping Point, °C	ASTM D2265	330
Four Ball Test		
Welding Point (IN)	ASTM D2596	≥4,900
LWl		0.41
Rust Preventive Properties	ASTM D1743	Pass
Water washout characteristics, % loss, wt at 79 °C	ASTM D1264	0.4
Viscosity of Base oil at 40°C, cSt	ASTM D445	460
Working Temperature, °C		-40 to +260 (80 to +260 °C for short intervals)

Due to continuous product development and improvement, the information in this data sheet may be altered without prior notice.

Friends or Foe?

ARE BIOBASED LUBRICANTS FOOD FOR MICROBES?

presence of water...er intentionally...n metalworking...s and in offshore...re, operating condi...monitoring during...d be optimized in...ems inhospitable to

ct could come from...ormulated lubricants...f performance...that depending on...n interfere with... . For example, in...it was shown that...ype antioxidants... suppress microbial

Community employed in the formation of biobased lubricants have the potential to support the proliferation of an active biomass.

Since the presence of water is a critical parameter for microbial growth, as long as it does not infiltrate the system and good house-keeping measures are employed, symptoms are unlikely to evolve. However, there are certain applica-

gential ester esters. In any case, the projected increase in biolubricant products should take into consideration the different chemistry and characteristics compared with conventional petroleum based mineral oils. Their biodeterioration potential and cost-effective control should be put in the equation whenever the conditions appear auspicious.

After 2 weeks of storage time

Value in Organic Phase (%)	CWM	DWM
FAPEE	69%	50%
GPI	19%	17%

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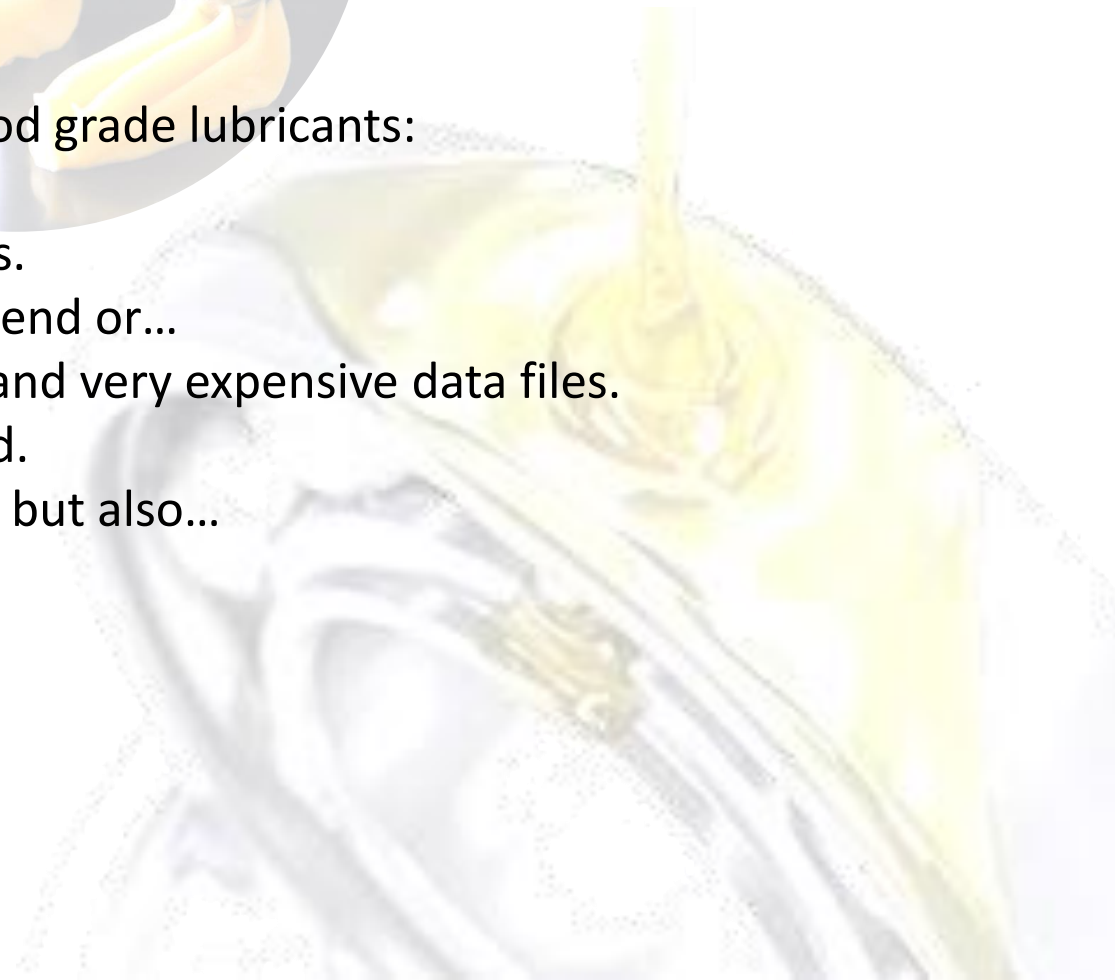


Summary



What will the future bring for producers and marketers of Food grade lubricants:

- Increased testing of the final food searching for chemicals.
- Increased burden of proof these are absent in the lube blend or...
- Increased burden of proof these are safe based on large and very expensive data files.
- Market restructuring due to costs (and liabilities) involved.
- Possibly bans by governments on categories of chemicals but also...
- more sustainable solutions



Education is vital



We need to educate all parties involved in the food production:

- Foodstuff producers and animal feed producers
- Pharmaceutical industry
- Secondary suppliers to the above industries
- Companies producing and selling H1 lubricants
- Auditors of food production plants
- Legislators
- Consumer organisations
- Technicians and operators
- Use the position papers made by the ELGI for FGL.



About the European Lubricating Grease Institute (ELGI) & NLGI

The main objective of both organisations is to promote the understanding of all matters concerning Lubricating Grease and its associate products, to disseminate information that can lead to the development of both better products for the consumer and also to provide improved lubrication services to the industry. In addition, the two organisations facilitate the exchange of information concerning design, manufacture and use, handling and sale of Lubricating Grease between all interested organisations and individuals.

Both organisations are not-for-profit technical institutes, funded by its members primarily composed of grease manufactures and marketers, raw material and equipment suppliers, end users and other technical and trade associated bodies.

One way that some of these objectives are met is through active working groups between both organisations. Both institutes work continuously to strengthen their association with the industry by rendering services to the end user as well as those on the manufacturing and supply side.

Food Grade Lubricants Working Group (FGLWG)

Food lubricants are among the most crucial products in the food chain; small volumes with high impact. As food safety is more and more in the centre of the news, we as an industry must continue to react and be proactive. It is in the industries interest to cooperate with decision makers to define and meet global standards. The Food Grade Lubricants Work Group is the platform where future developments on standards and legislation are reviewed.

In this paper, the reference to the food industry include, food, beverage preparation & filling, animal feed and foods, personal care products and the pharmaceutical industry. This can be extended to cover any production facility that wishes to operate in or supply to the food chain, for example a mineral preparation company supplying to the food supplement sector. For simplicity throughout, reference is made to the food industry.

The ELGI & NLGI supports the concerns of the FGLWG members and underwrites the attached position paper on the selection and usage of food safe lubricants.

Terry Dicken ELGI Chairman	David Como NLGI President	Andre Adam FGLWG Chairperson	Aslee Bretnner FGLWG Chairperson
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All interested parties are encouraged to distribute this document as a whole to any interested or affected party.



LUBRICANT
EXPO EUROPE

17th - 19th September 2024
Hall 9, Messe Düsseldorf, Germany

Overcoming Challenges of Food-Grade Lubrication Environments

Thank you for your attention!

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