

Nonfood compounds production registration 101

Ashlee Breitner, Business Unit Manager at NSF International, explains the prominent categories of nonfood compounds and their end use applications, how product registration works and why it is an important component of a food safety programme for food processors, manufacturers and food service businesses.



NONFOOD COMPOUND is an industry term used to describe lubricants, greases and other chemicals used in and around food processing areas. Proprietary Substances are pre-processing compounds also used within these same facilities. With the potential for contamination of the foodstuff, it is vital that these compounds adhere to strict standards of safety and quality.

History of product registration

The handling, preparation, processing and packaging of food products of all types inevitably involves the use of equipment and machinery with lubricated moving parts that come into contact with the foodstuffs. The use of other chemicals such as anti-rust products and cleaning agents are also required to maintain the equipment properly. The potential for nonfood materials to have incidental contact with food product is a hazardous cross contamination risk and must be controlled as part of the facilities overall HACCP approach. A pre-requisite approach to this is the use of registered nonfood compounds.

In the United States, the US Department of Agriculture (USDA) formerly reviewed and authorised nonfood compounds acceptable for use in food processing and handling facilities. These lubricants were evaluated against the requirements of 21 CFR, which establishes the requirements for food grade or incidental food contact lubricants. In 1999, NSF International, a not-for-profit public health organisation, took over the responsibility of evaluating food grade lubricants and other food processing substances. Working with the USDA, NSF captured all previous review requirements and launched a third-party registration and listing programme for these

nonfood compounds represented by category codes developed based on the particular intended end use of the product.

What is a product category?

Product registration categories have been developed to ensure that all products intended for specific applications are reviewed equally against the necessary criteria for that products end use application. The criteria are often based on the regulations in place for a particular product, ingredient or material type and also take into consideration key aspects of the process used to manufacture the product.

In the food grade lubricant industry, there are three main end product categories; the most well known is the H1 lubricant category. An H1 lubricant is intended for use in applications where there is only potential for incidental food contact, as in the case of anti-rust agents or as a release agent on

gaskets or seals of tank closures. Although this category implies the possibility of incidental food contact, the use of the minimum amount of lubricant in order for it to be effective for its purpose is recommended; overuse can make the transfer of the material on to food, or the build up of residual lubricant, a genuine risk.

H2 is another lubricant category that is often confused with H1. In fact, H2 categorised lubricants are not intended to be in contact with foodstuff at any time, not even incidentally. As such, they are not food grade products. H2 lubricants are intended to be used on equipment where there is no possibility of food contact or residual cross contamination and should not be applied in a production process at any point where there is a recognisable or incidental cross contamination control point. The control point here in terms of HACCP planning is the use of a recognised and registered H1 category product.



As you can see in the example above, these two product categories are very different and are approved for very different uses, so understanding product categories is critical in the use of these products in your production facilities. There are currently over 90 product categories used to identify an end use in which a particular product is registered to as safe.

How does product registration work?

In order to register a product, the formulation, including ingredients and percentage composition, must be submitted to the registration body. This formulation will then go through an independent review against the requirements of 21 CFR and/or other acceptable regulatory compliance processes. In addition to the formulary requirements, the finished product label must also be submitted for review. The labelling must be accurate with no misleading claims and include appropriate end-use instructions. Product labels must also be traceable to the registered company and bear the registration mark, including the category code and unique product registration number.

Why product registration?

As today's food manufacturers realise the importance of identifying contamination risks, the use of correctly registered products for different applications in facilities provides a reliable prerequisite approach to complement a HACCP plan. While HACCP plans tend to focus on the handling of the actual ingredients and products, manufacturers now also need to consider seemingly peripheral aspects such as the lubricant on a chain. What may seem to be a minor issue could have a massive impact on a product, a company's reputation and public health.

Properly administered HACCP plans that include the use of registered nonfood compounds in food processing provide a path toward compliance with Global Food Safety Initiative Standards (GFSI). The use of NSF registered nonfood compounds as part of a strong HACCP plan that looks at both the chemical and physical risks associated with food processing is an important and critical step towards completing certification to GFSI standards. In addition, the use of registered products is important, not just at the food manufacturer but even before that, at the manufacturer's ingredient suppliers. Using registered products and ingredients is a critical link in the supply chain and one that can influence the success of achieving certification to a GFSI benchmarked standard.

Over the past five to 10 years, product registrations for nonfood compounds used in food processing facilities have grown consistently, as food safety and risk mitigation

Category Code	Category
H: Lubricants	H1 General – incidental food contact H2 General – nonfood contact HT1 Heat transfer fluids with incidental contact
A: Cleaning Products	A1 General cleaners A2 Soak tank, steam/mechanical cleaners A3 Acid cleaners A4 Floor and wall cleaners A7 Metal polishes – nonfood contact A8 Degreasers/carbon removers
C: Non-processing Area Products	C1 General C2 Toilet/dressing room
G: Water Treatment Products	G1 General G2 Phosphate products G3 Silicate products G4 Chlorine products G5 Cooling and retort water treatment products – all food processing areas G6 Boiler treatment products – all food processing areas/food contact G7 Boiler treatment products – all food processing areas/nonfood contact

Table 1: Prominent product registration categories

have become increasingly important in the food industry. The number of H1 products produced and sold continues to grow at a rapid rate in all of the key global markets. Between 2008 and 2014 NSF has seen an increase of almost 3000 additional registered H1 products, to total over 8,700 H1 registered products. The EU is the largest market outside the US for registered nonfood compounds, generating over 2900 registered products between the UK, France and Germany alone.

In addition to a driving food grade lubricant industry, Latin America, in particular Mexico, appears to be an emerging market for the production and supply of D and A category products for use in food processing environments. 'D' category products consist of antimicrobial agents, many of which are EPA registered for distribution in the US in addition to countries across the world. 'A' category products are intended for use as cleaning products. These 'A' categories have a variety of applications, from acid cleaners for use in all departments of a production facility (A3) to compounds for use in soak tanks or with steam or mechanical cleaning devices (A2). These products are exported to food manufacturers around the world to mitigate the

risk of residual cross contamination during production.

China is a fast growing market for the manufacture and purchase of registered release agents (3H). These products are used on food contact surfaces, such as grills and chopping boards, to prevent food from adhering during processing. They often take the form of defoaming agents. Demand is being driven by the growing food safety awareness of the Chinese food industry, as well as the growing interest of the Chinese lubricant manufacturers in export and benchmarking themselves against the leading Western manufacturers.

The market for registered products is growing fast, both because of the proliferation of new product development and, more importantly, because of the rapidly increasing demand for third party registered products by food processors today. Understanding what product categories are and the value of registration is a critical element of a production facilities quality plan and should be considered very closely by those responsible. For any questions regarding the end use application or category of a particular registered product, you can visit <http://info.nsf.org/USDA/psnclists.asp> to search for a particular product.