

ICS 13.110
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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 23820-2009

**Safety of machinery -- Lubricants with incidental product
contact -- Hygiene requirements**

机械安全 偶然与产品接触的润滑剂 卫生要求

(English Translation)

Issued on: May 13, 2009

Implemented on: December 1, 2009

Issued by: Standardization Administration of China

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Foreword

This standard Chapter 5, Chapter 6 and Chapter 7 are mandatory, the rest are recommended.

This standard is equivalent to international standards ISO 21469:2006 "Safety of machinery - Lubricants hygiene requirements accidental contact with the product" (English Chinese version).

This standard is equivalent translation ISO 21469:2006. For ease of use, this standard the following editorial changes made.

--- instead of "this International Standard" by "this standard";

--- deleted the ISO foreword, preface rewritten;

--- The Normative references introductions according to GB/T 1.1-2000 been modified and ISO 21469:2006 international references Standard changed to the corresponding national standards;

--- deleted Chapter 4 final note.

This standard Annex A, Annex B are informative annex.

This standard is proposed and managed by the national security machinery

Standardization Technical Committee (SAC/TC208).

This standard was drafted. the machine Productivity Center, Changchun Institute of Testing Machine Co., Ltd.

Introduction

In the food, cosmetics, pharmaceuticals, tobacco and animal feed production process (including packaging process and product direct contact), to avoid from Machine element (e.g.. gears, bearings, hydraulic means, pneumatic means, a compressor, a chain slides and the like) contaminated lubricant is a basic requirement.

But not completely avoided when the product is in contact with the lubricant, the lubricant should permit the use of cross-contamination.

Until 1998, the United States Department of Agriculture (USDA) released a standard USDAH1 was authorized to meet the above requirements lubricant. use this enables users to have confidence that the lubricant is in the best interest of consumers they did. USDA at the end of the work plan that the need to develop an international standard in this area.

Machinery safety standard is structured as follows.

a) A Class standard (basic safety standards), gives the basic concepts apply to all mechanical design principles and general characteristics.

b) Class B (common safety standard), or relates to a safe feature a wide range of mechanical safety device for a Class.

--- class B1, certain security features (e.g., safety distances, surface temperature, noise) standard;

--- B2 type, the security device (e.g., hand controls, interlocking devices, pressure sensitive devices, guards).

c) C standards (machine safety standards), for a particular machine or group of machines of a standard safety requirements in detail.

Pursuant to GB/T 15706.1, and the present standard Class B standards.

For Class C according to standard design and construction machine, if the C standards in terms of the standard type A or B are inconsistent, the priority Class C standard.

GB 23820-2009/ISO 21469:2006 Safety of machinery lubricant accidental contact with the product Health requirements Range 1 this standard specifies the manufacturing and processing of accidental contact with the product, as well as in food, food processing, cosmetics, pharmaceuticals, tobacco Plant or animal feed used in packaging a contact (e.g.. by heat transfer, load transfer, mechanical lubrication or corrosion protection, etc.) Run Sanitary requirements when slip agent formulation, manufacture, use and disposal.

The provisions of this standard as contained in registration criteria used to evaluate the product and incidental Compliance lubricant in contact with this standard (see Appendix B). This standard is not used as a product additive material or direct contact with the product Contact lubricant (see Appendix A), but is not limited to the field of health concerns occupational health and safety. However, the basic principle is that the process Related occupational health and safety should be considered in conjunction with hygiene in order to take measures to satisfy both requirements.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated reference documents, all later Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to agreements based on this standard Whether the latest versions of these documents. For undated references, the latest version applies to this standard.

GB/T 15706.1-2007 Safety of machinery basic concepts general principles for design - Part 1. Basic terminology and methods (ISO 12100-1:2003, IDT) ISO 6743-99:2002 Lubricants, industrial oils and related products (L class) - Classification - Part 99. Overview ISO 6743 (all other portions) lubricants, industrial oils and related products (L class) - Classification

3 Terms and Definitions

The following terms and definitions apply to this standard.

When a thin film is formed between the entry surface of the solid may be reduced friction, adhesive, heat, and wear material.

Any human or animal material predetermined by ingestion, injection, topical application, insertion, etc. used.

Obtain lubricants and product development, production, preparation and processing.

Weighing the product, measuring, filling and re-filling, stamping, printing, packaging, into a container, the container sealed/closed, cooling, storage and Transport unit operation.

Lubricants and lubricant machine according to the manufacturer's instructions, and lifetime considerations include, chemical loads, thermal loads and mechanical load Anticipated operating conditions, including charges.

GB 23820-2009/ISO 21469:2006 3.6 with the product but not unexpected exposure prophylaxis.

4 Danger list

Lubricant accidental contact with the product may have the following health risks.

- a) biological factors such as pathogens, spoilage microorganisms or toxins;
- b) chemical factors, e.g., carcinogenic or mutagenic substances toxic;
- c) physical factors, such as metal wear.

5.1 Manufacturers to choose health measures basic strategy

Manufacturers and product design incidental contact lubricants should be selected according to the requirements of hygiene measures GB/T 15706.1-2007 in 5.1 Basic strategy, including.

- a) identifying a product which lubricant/processing associated;
- b) risks associated with the product (see Chapter 4);
- c) risk assessment associated with each hazard identified (see 5.2);
- d) the design method of eliminating or decreasing the risk of hazard risk associated with the identified (see 5.3);

Methods e) verify the effectiveness of risk reduction method (see Chapter 6);

f) description of residual risks and any additional precautions considered necessary (see Chapter 7).

Note: GB 19891 also schematically shows the health measures Guide selection process.

5.2 Elements of risk assessment manufacturers

The following is a lubricant manufacture, handling, storage, use and replenishment factors typical process, risk assessment should take into account the extent and type.

- a) due to contamination of the lubricant from the packaging material;
- b) lubricants contamination by biological factors;
- c) the product contamination by lubricants;
- d) due to water contamination of the lubricant;
- e) the service life of the lubricant;
- f) due to chemical exposure by placing temperature, mechanical activity, oxidative degradation and/physical change;
- g) foreseeable misuse.