NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 18569.2-2020

Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 2: Methodology leading to verification procedures

Issued on: June 2, 2020 **Implemented on: December 1, 2020**

Issued by: SAMR; SAC

Table of Contents

Foreword

GB/T 18569 " Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery" consists of the following two parts.

- Part 1.Principles and specifications for machinery manufacturers;

- Part 2.Methodology leading to verification procedures.

This Part is Part 2 of GB/T 18569.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part replaces GB/T 18569.2-2001 "Safety of machinery - Reduction of risks to health from hazardous substances emitted by machinery - Part 2.Methodology leading to verification procedures". Compared with GB/T 18569.2-2001, the main changes are.

- CHANGE the title of the standard into "Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 2. Methodology leading to verification procedures";

- ADD the "Introduction" (see Introduction);

- ADD the Chapter 3, the rest of the numbers are changed accordingly (see Chapter 3);

- ADD the "References" (see References).

This Part uses the translation method, to identically adopt ISO 14123-2.2015 "Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 2.Methodology leading to verification procedures".

For ease of use, this Part of ISO 14123-2.2015 has made the following editorial changes.

- MODIFY the editorial errors in 4.4.2, to be consistent with Table A.1, changing "Identify" into "Select";

- MODIFY an editorial error in the unit of stirring speed in Table C.1.changing "r/m-1" into "r/min".

This Part was proposed by AND shall be under the jurisdiction of the National Machinery Safety Standardization Technical Committee (SAC/TC 208).

Drafting organizations of this Part. China Testing and Certification Group Co., Ltd., Dongguan Huile Environmental Protection Co., Ltd., Maanshan Chenxu Machinery Manufacturing Co., Ltd., Henan Zhongzhike Standardization Research Institute Co., Ltd., Xiamen Rituo Electrical Technology Co., Ltd., Nanjing Forestry

Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 2. Methodology leading to verification procedures

1 Scope

This Part of GB/T 18569 specifies a method for selecting key factors, which are related to the discharge of hazardous substances, to determine the applicable verification process.

This Part is intended to be used in conjunction with GB/T 18569.1-2020, especially in relation to Chapter 8 of GB/T 18569.1-2020.

2 Normative references

The following documents are essential to the application of this document. For the dated

documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 15706-2012 Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100.2010, IDT)

GB/T 18569.1-2020 Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 1.Principles and specifications for machinery manufacturers (ISO 14123-1.2015, IDT)

3 Terms and definitions

The terms and definitions, which are defined in GB/T 15706-2012 and GB/T 18569.1-2020, apply to this document.

4.1 Overview

This chapter specifies the steps, which are used to generate the verification process. Appendix A summarizes these steps and examples.

4.2.1 Identify the substances, that the machine may emit, during the intended use period

(see Chapter 4 of GB/T 15706 and GB/T 18569.1-2020).

4.2.2 Determine which of the identified substances are harmful to health and the

characteristics of the hazards (see the example in 3.2 of GB/T 18569.1-2020).

4.2.3 If multiple hazardous substances are identified, the verification process should be

used for the key substances, which exhibit the worst-case characteristics. The key substances can be determined, according to toxicity, corrosiveness, solubility, dusting and so on.

4.3 Determining emission characteristics

For all major sources of hazardous material emissions, which are identified by 4.2.3, the following shall be determined.

- The probable amount or scale of emissions, under all foreseeable circumstances, at all stages of the life cycle of the machine;

Note. Emissions can be characterized by one of a variety of assessment techniques (see Appendix B).

- The location and direction of the emission, as relative to the machine and the possible location of the personnel;

- The time at which the emission is likely to occur (this should be related to the likelihood of the presence of personnel and the operating cycle of the machine);

- The physical properties of the emission, such as phase state, diffusion rate, temperature, pressure;

- Whether there is a possibility of airborne emissions or surface contamination.

4.4.1 Identify any relevant factors causing emissions, as well as the methods to reduce

emissions based on these factors.

Note. Relevant factors may be related to the design or performance of materials, energy or machines, examples of which are given in Appendix C.

4.5.1 Identify characterizing parameters, that are directly related to the identified key

factors.

Note. Examples are given in Appendix C.

4.5.2 Specify the values, ranges, conditions or states of the characterizing parameters,

which are required to reduce emissions.

5.1 Verification shall be carried out, by collecting data related to the characterizing

parameters.

5.2 Verification may include results from field tests, laboratory tests, measurements,