
Agricultural machinery — Safety —
Part 6:
Sprayers and liquid fertilizer
distributors

Matériel agricole — Sécurité —

Partie 6: Pulvérisateurs et distributeurs d'engrais liquides



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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html

This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 6, *Equipment for crop protection*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 144, *Tractors and machinery for agriculture and forestry*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 4254-6:2009), which has been technically revised and contains the following changes:

- some excluded hazards have been deleted from the scope as they are covered by ISO 4254-1 or this revised edition;
- the general (stability) requirements have been deleted as they are covered by ISO 4254-1;
- the protection of the operator against hazardous substances in case of front mounted booms has been removed as this risk is relevant to all types of sprayers but appropriate requirements (in form of an international reference standard) are not yet available;
- in [4.5.2](#), the requirements for chemical inductions bowls have been amended to cover foldable devices;
- in [4.7](#), requirements for protecting the operator in case of leakages have been added;
- a new subclause ([4.12](#)) to deal with the storage of personal protective equipment has been added;
- [Clause 6](#) has been aligned with ISO 4254-1.

A list of all parts in the ISO 4254 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The structure of safety standards in the field of machinery is as follows:

- a) type-A standards (basic standards) give basic concepts, principles for design, and general aspects that can be applied to machinery;
- b) type-B standards (generic safety standards) deal with one safety aspect or one type of safeguards that can be used across a wide range of machinery:
 - type-B1 standards on particular safety aspects (e.g. safety distances, surface temperature, noise),
 - type-B2 standards on safeguards (e.g. two-hand controls, interlocking devices, pressure sensitive devices, guards);
- c) type-C standards (machinery safety standards) deal with detailed safety requirements for a particular machine or group of machines.

This document is a type-C standard as stated in ISO 12100.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (e.g. regulators, accident prevention organizations, market surveillance)

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document. These hazards are specific to sprayers and liquid fertilizer distributors.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

Significant hazards that are common to all the agricultural machines (self-propelled, mounted, semi-mounted and trailed) are dealt with in ISO 4254-1.

Agricultural machinery — Safety —

Part 6: Sprayers and liquid fertilizer distributors

1 Scope

This document, to be used together with ISO 4254-1, specifies the safety requirements and their verification for the design and construction of mounted, semi-mounted, trailed and self-propelled agricultural sprayers for use with plant protection products (PPP) and liquid fertilizer application, as placed on the market by the manufacturer and designed for a single operator only. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer.

When requirements of this document are different from those which are stated in ISO 4254-1, the requirements of this document take precedence over the requirements of ISO 4254-1 for machines that have been designed and built according to the provisions of this document.

This document, taken together with ISO 4254-1, deals with significant hazards, hazardous situations and events relevant to sprayers and liquid fertilizer distributors when they are used as intended and under the conditions foreseeable by the manufacturer (see [Annex A](#)), excepting the hazards arising from:

- protection of the driver against spray when spraying (see Foreword);
- automatically actuated height adjustment systems;
- the environment, other than noise;
- moving parts for power transmission except strength requirements for guards and barriers.

This document is not applicable to sprayers and liquid fertilizer distributors which are manufactured before the date of publication of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4254-1:2013, *Agricultural machinery — Safety — Part 1: General requirements*

ISO 5681, *Equipment for crop protection — Vocabulary*

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13857:2019, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4254-1, ISO 5681 and ISO 12100 apply.