

---

---

**Information technology — Print cartridge  
characterization —**

**Part 3:  
Environment**

*Technologies de l'information — Caractérisation de cartouche  
d'impression*

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

*Partie 3: Environnement*

ISO/IEC 29142-3:2013

<https://standards.iteh.ai/catalog/standards/sist/4077be6e-95a6-4ac9-bd19-7fae14b33013/iso-iec-29142-3-2013>

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/IEC 29142-3:2013](https://standards.iteh.ai/catalog/standards/sist/4077be6e-95a6-4ac9-bd19-7fae14b33013/iso-iec-29142-3-2013)

<https://standards.iteh.ai/catalog/standards/sist/4077be6e-95a6-4ac9-bd19-7fae14b33013/iso-iec-29142-3-2013>



### **COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2013

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

**Contents**

Page

Foreword .....	iv
Introduction.....	v
1 Scope .....	1
2 Normative references.....	1
3 Terms and definitions .....	2
4 Abbreviated terms .....	5
5 Relationship with ISO 14020 Series.....	5
6 Company environmental responsibility .....	5
7 Environmental attributes throughout the cartridge life-cycle .....	5
8 Verification methods .....	9
9 Life-cycle assessment .....	10
10 Certification and compliance .....	10
11 Mutual recognition .....	10
Bibliography.....	11

iTeH STANDARD PREVIEW  
(standards.iteh.ai)

ISO/IEC 29142-3:2013  
<https://standards.iteh.ai/catalog/standards/sist/4077be6e-95a6-4ac9-bd19-7fae14b33013/iso-iec-29142-3-2013>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 29142-3 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

ISO/IEC 29142 consists of the following parts, under the general title *Information technology — Print cartridge characterization*:

— *Part 3: Environment* [ISO/IEC 29142-3:2013  
https://standards.iteh.ai/catalog/standards/sist/4077be6e-95a6-4ac9-bd19-7fae14b33013/iso-iec-29142-3-2013](https://standards.iteh.ai/catalog/standards/sist/4077be6e-95a6-4ac9-bd19-7fae14b33013/iso-iec-29142-3-2013)

The following parts are under preparation:

- Part 1: General: terms, symbols, notations and cartridge characterization framework
- Part 2: Cartridge Characterization Data Reporting

## Introduction

The purpose of this part of ISO/IEC 29142 is to establish principles and framework for environmental product standards, environmental labels, and green procurement criteria specific to ink and toner cartridges used in printing devices that have a digital input printing path, including multi-function devices. This standard includes terminology definitions for such cartridges and their environmental interactions, cartridge environmental attributes, and test methods for inclusion in cartridge environmental standards, environmental labels, and green procurement criteria.

Printing systems use consumables and because of this, environmental responsibility is important to be considered during the phases of design, manufacturing, printer operation and end-of-life.

The terms, definitions, attributes, and test methods established in this standard are generally applicable to all cartridges and are intended for use in the development of environmental standards, environmental labels, and green procurement guidelines. The defined attributes and methods form a framework to standardize the treatment and definition of cartridge environmental issues.

The foundation provided in this standard supports the following objectives:

1. Minimization of product environmental impact throughout the cartridge life-cycle
2. Minimization of product environmental impact associated with end-of-life

In an attempt to harmonize with existing environmental labels, standards, declarations, and green procurement criteria, environmental provisions and measurement methods already well established will be referenced wherever possible. This includes consideration of legal requirements and customer expectations associated with material use, manufacturing operations, and packaging, and/or management during end-of-life.

This part of ISO/IEC 29142 provides the following:

1. Terms and definitions related to cartridge environmental attributes.
2. Cartridge environmental attributes for inclusion in environmental labels, standards and green procurement criteria.
3. Test methods that manufacturers, test labs, etc., use to determine values for the defined cartridge environmental attributes.
4. Methods for determination of declared values from the test results.
5. Methods for declaration of conformance to provisions that don't require measurement.

This International Standard is intended for office equipment environments.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO/IEC 29142-3:2013

<https://standards.iteh.ai/catalog/standards/sist/4077be6e-95a6-4ac9-bd19-7fae14b33013/iso-iec-29142-3-2013>

# Information technology — Print cartridge characterization —

## Part 3: Environment

### 1 Scope

This part of ISO/IEC 29142 describes the principles and framework for environmental assessment of ink and toner cartridges used in printing devices that have a digital input printing path, including multi-function devices, including:

- a) the goals and definitions related to environmental responsibility;
- b) guidance to determine the relative benefits of reuse, recycling, recovery, and reduction techniques;
- c) identification and prioritization of environmental attributes according to each phase of the cartridge life-cycle;
- d) criteria for establishing environmentally sustainable practices.

This part of ISO/IEC 29142 establishes foundational terms, definitions, attributes, and test methods for cartridge environmental standards, environmental labels, and green procurement criteria.

This part of ISO/IEC 29142 standardizes treatment of environmental interactions and impacts throughout the cartridge life-cycle, and promotes harmonization of environmental standards, environmental labels, and green procurement criteria pertaining to ink and toner cartridges, thereby reducing impact on the environment and informing and benefiting the cartridge customer.

This part of ISO/IEC 29142 establishes environmental terms, definitions, attributes and test methods in accordance with the terms, symbols, notations and framework of ISO/IEC 29142-1 and ISO Guide 64.

### 2 Normative references

The following referenced documents are indispensable for the application 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 1043 (all parts), *Plastics — Symbols and abbreviated terms*

ISO 11014, *Safety data sheet for chemical products — Content and order of sections*

ISO 11469, *Plastics — Generic identification and marking of plastic products*

ISO 14020, *Environmental labels and declarations — General principles*

ISO 14021, *Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling)*

## ISO/IEC 29142-3:2013(E)

ISO 14024, *Environmental labels and declarations — Type I environmental labelling — Principles and procedures*

ISO 17025, *General requirements for the competence of testing and calibration laboratories*

ISO/IEC 28360, *Information Technology — Office Equipment — Determination of chemical emission rates from electronic equipment*

ISO/IEC 29142-1, *Information technology — Cartridge Characterization — Part 1: General: terms, symbols, notations and cartridge characterization framework*

ISO/IEC 29142-2, *Information technology — Cartridge Characterization — Part 2: Cartridge characterization data reporting*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 29142-1 and the following apply.

**3.1  
Ames test**  
internationally recognized test which uses a biological assay to assess the mutagenic potential of chemical compounds

**3.2  
cartridge collector**  
any party providing a cartridge take-back or collection program such as a business entity designated to collect cartridges

**3.3  
cartridge supplier**  
cartridge marketer, manufacturer, remanufacturer, refiller, or distributor, being the party or parties responsible for marketing the cartridge and providing customer support for the cartridge

**3.4  
cartridge end-of-life**  
point in a cartridge life-cycle from which the cartridge is no longer used for its intended purpose without additional non-customer interaction

**3.5  
end-of-life**  
phase in a cartridge life-cycle when the cartridge can no longer be used for its intended purpose without additional non-customer interaction

**3.6  
environment**  
surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interaction

[ISO Guide 64]

**3.7  
environmental provision**  
any requirement, recommendation or statement in a standard that addresses environmental issues

[ISO Guide 64]



**3.8****landfilled**

waste disposal in a landfill or other non-reuse, -recycle, -remanufacture, -waste to energy, or -incineration depository, excluding the residuals from waste to energy and incineration

**3.9****incineration**

disposal method that involves combustion of waste material converting it into heat, gas, steam and ash but not including smelting

**3.10****life-cycle**

consecutive and interlinked stages of a product system, from raw material to acquisition or generation from natural resources to final disposition

[ISO 14040:2006, definition 3.1]

**3.11****life-cycle assessment**

compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life-cycle

**3.12****material safety data sheet****MSDS**

form containing safety information about the ink or toner contained in cartridges designed for use in printing applications; and which includes physical, chemical, and toxicological properties, regulatory information, and recommendation to ensure safe handling

**3.13****safety data sheet****SDS**

form containing safety information about the ink or toner contained in cartridges designed for use in printing applications; and which includes physical, chemical, and toxicological properties, regulatory information, and recommendation to ensure safe handling

**3.14****non-original cartridge**

cartridge that is marketed by a company other than the company that markets the printing system for which the cartridge is intended

**3.15****original cartridge**

cartridge that is marketed by the company that markets the printing system for which the cartridge is intended

**3.16****prevent**

indicates a condition of zero allowance of an intentionally added substance

**3.17****product environmental aspect**

element of a product that, during its lifecycle, can interact with the environment

[ISO 14001]

**3.18****product environmental criteria**

environmental requirements that the product shall meet in order to be awarded an environmental label