PD ISO/TR 18159:2015

BSI Standards Publication

Document management — Environmental and work place safety regulations affecting microfilm processors

bsi.

...making excellence a habit.™

National foreword

This Published Document is the UK implementation of ISO/TR 18159:2015.

The UK participation in its preparation was entrusted to Technical Committee IDT/1, Document Management Applications.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

ISBN 978 0 580 90647 3

ICS 37.080

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 July 2015.

Amendments issued since publication

Date	Text affected

PD ISO/TR 18159:2015

TECHNICAL REPORT

ISO/TR 18159

First edition
2015-08-15

Document management — Environmental and work place safety regulations affecting microfilm processors

Gestion des documents — Réglementations relatives à la sécurité environnementale et du lieu de travail affectant les processeurs de microfilms

Reference number
ISO/TR 18159:2015(E)

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

Contents

Page

Foreword ..... **v**
Introduction ..... **vi**
1 Scope **1**
2 Terms and definitions **1**
3 International standard industrial classification **4**
4 Effluent pretreatment requirements **4**
5 Stream standards **5**
6 Disposal of photo processing effluents using septic tanks and leach fields **5**
7 Trade effluents consents **5**
8 Photographic processing effluent characteristics **6**
8.1 General 6
8.2 Temperature 9
8.3 Oxygen demand 9
8.3.1 General 9
8.3.2 BOD_5 9
8.3.3 COD 10
8.4 Suspended solids 10
8.5 Chlorine demand 10
8.6 pH 10
8.7 Heavy metals 10
8.7.1 General 10
8.7.2 Silver 11
8.7.3 Chromium compound 11
8.7.4 Iron complexes 11
8.7.5 Zinc 12
8.7.6 Cadmium 12
8.7.7 Other heavy metals 12
8.8 Phenols 12
8.9 Cyano complexes 12
8.10 Thiocyanate 13
8.11 Hydroquinone 13
8.12 Ammonium 13
8.13 Phosphates and nitrates 13
8.14 Detergents, oils, and tars 13
8.15 Colour and odour 13
8.16 Flammable and explosive materials 13
8.17 Volatile organic compounds (VOC) 14
9 Effluent sampling **14**
9.1 General 14
9.2 Sampling techniques 15
9.2.1 General 15
9.2.2 Grab sampling 15
9.2.3 Composite sampling 16
9.2.4 Continuous sampling 16
10 Handling samples for analysis **16**
11 Pollution prevention **16**
11.1 General 16
11.2 Squeegees 17
11.2.1 General 17
11.2.2 Types of squeegees 17

11.3 Replenishment rates 17
11.4 Good housekeeping 18

12 Dilution (equalization) 18
12.1 General 18
12.2 Holding tank 18

13 Silver recovery 19
13.1 General 19
13.2 Regulatory compliance 19
13.3 Silver recovery techniques 20

14 Commercial disposal services 20

15 Current issues in environmental and work place safety regulations affecting microfilm processing laboratories 20

16 Hazardous waste resulting from photo processing 21

17 Container storage requirements and labelling 22

18 Emergency contingency plans and procedures 22

19 Land disposal criteria 23

20 Storm water regulations 23

21 Air pollution considerations 23

22 General guidelines for ventilating photographic processing areas 24
22.1 General 24
22.2 Ventilation guidelines 24

23 Regulation of photographic processing air emissions 26

Annex A (informative) **Assistance from manufacturers 27**

Annex B (informative) **Sample written Hazard Communication Programme in the United States of America(Provided by U.S. Department of Labour/OSHA) 28**

Annex C (informative) **References, statutes, and regulations applicable to the United States of America 30**

Annex D (informative) **General guidelines for ventilating photographic processing areas 44**

Annex E (informative) **Environmental protection in France 46**

Annex F (informative) **Environmental protection in the United Kingdom 48**

Bibliography 50

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. 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. 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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

ISO/TR 18159 was prepared by Technical Committee ISO/TC 171, *Document Management Applications*, Subcommittee SC 1, *Quality*.

Introduction

This Technical Report was developed to help microfilm processing laboratories understand characteristics of effluent resulting from film processing, regulations, comply with regulations, and report on regulation compliance. The intended audience of this technical report includes those people responsible for maintaining an organization's awareness of environmental regulations and those people responsible for implementing procedures for compliance (such as training and record keeping) and reporting their implementations.

TECHNICAL REPORT **ISO/TR 18159:2015(E)**

Document management — Environmental and work place safety regulations affecting microfilm processors

1 Scope

This Technical Report provides information about environmental laws and regulations that can affect microfilm processing laboratories. These laws and regulations control the following microfilm processing activities:

— storage and disposal of effluents;

— storage and disposal of hazardous waste, employee safety training;

— notification of the public regarding hazardous waste incidents.

NOTE This Technical Report includes in an Annex, for information purposes, a discussion of The United States Environmental Protection Agency (EPA) Guidance Manual on the Development and Implementation of Local Discharge Limitations Under Pretreatment Programme and that guidance manual's relationship with state and local requirements in the United States. Also included in this Technical Report are examples of typical discharge limitations.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
bath
chemical solution in water used in wet processing

2.2
bleaching
converting the reduced silver of an image to soluble silver sulphate salts, in black-and-white reversal processing, that will be removed by clearing in colour processing (reversal or negative)

Note 1 to entry: This is the step that converts the reduced silver of an image to silver halide that will be removed by fixing and washing.

2.3
bleaching/fixing
combining, in a single bath, the bleaching and fixing steps

Note 1 to entry: This is a step in colour processing.

2.4
clearing
bath removing the soluble silver sulphate salts and the stains, in black-and-white reversal processing, resulting from bleaching action in colour processing (reversal or negative)

Note 1 to entry: This is the step that removes the stains resulting from bleaching action.

2.5
coupler
<coupling agent> chemical compound (e.g. phenols, naphthols, pyrazolones) that combines during colour development with the oxidation products of the developing agent to form a dye

