

TECHNICAL REPORT

IEC
TR 60825-9

First edition
1999-10

Safety of laser products –

Part 9: Compilation of maximum permissible exposure to incoherent optical radiation

Sécurité des appareils à laser –

*Partie 9:
Exposition maximale admissible au rayonnement
lumineux incohérent*

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* See web site address on title page.

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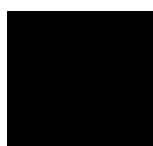
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY OF LASER PRODUCTS –
Part 9: Compilation of maximum permissible exposure
to incoherent optical radiation**

FOREWORD

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Technical reports do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful by the maintenance team.

IEC 60825-9, which is a technical report, has been prepared by IEC technical committee 76: Optical radiation safety and laser equipment.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
76/171/CDV	76/204/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

This document which is purely informative is not to be regarded as an International Standard.

SAFETY OF LASER PRODUCTS –

Part 9: Compilation of maximum permissible exposure to incoherent optical radiation

1 Scope and Object

This Technical Report reconciles current **Maximum Permissible Exposure (MPE)** values for the exposure of the human eye and skin to incoherent optical radiation from artificial sources in the wavelength range from 180 nm to 3000 nm with the ultimate goal of harmonisation. Exposure limits between 3000 nm and 1 mm wavelength are currently undefined.

These values are based on the best available information from experimental studies and should be used only as guides in the control of exposure to radiation from artificial sources and should not be regarded as a precise line between safe and dangerous levels.

NOTE The values of this report are applicable to most individuals, however, some individuals may be hypersusceptible or otherwise unusually responsive to optical radiation because of genetic factors, age, personal habits (smoking, alcohol, or other drugs), medication, or previous exposures. Such individuals may not be adequately protected from adverse health effects from exposure to optical radiation at or below the maximum permissible exposure values of this report. Medical advice should be sought to evaluate the extent to which additional protection is needed.

These values were mainly developed for exposure to artificial sources. They may also be used for the evaluation of exposure to sunlight.

The MPE values should not be applicable to exposure of patients to optical radiation for the purpose of medical treatment.

Maximum permissible exposure values for the exposure to radiation from laser sources are defined in IEC 60825-1.

NOTE 1 Basic documents of this report were IEC 60825-1 (addressing lasers) and the IRPA/ICNIRP Guidelines (addressing incoherent sources). ACGIH limits are slightly different in wavelength ranges and in limit values.

NOTE 2 In spite of the fact that LEDs emit mainly incoherent radiation they are currently dealt with in IEC 60825-1.