

DIN EN ISO 21243:2026-03 (E)

Radiation protection - Performance criteria for laboratories performing initial cytogenetic dose assessment of mass casualties in radiological or nuclear emergencies - General principles and application to dicentric assay (ISO 21243:2022)

Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Responsibility of the laboratory	3
4.1 Awareness of this document.....	3
4.2 Biological dosimetry request and confidentiality.....	3
4.3 Pre-planning.....	4
4.4 Responsibility during service.....	4
5 Biological dosimetry process in radiological or nuclear mass-casualty incidents	5
6 Emergency response of the lead laboratory	5
7 Design of a laboratory network	5
7.1 Overview.....	5
7.2 Preparedness of the laboratory network.....	6
7.3 Laboratory network operation.....	6
7.3.1 General.....	6
7.3.2 Lead laboratory responsibilities.....	7
7.3.3 Associate laboratory responsibilities.....	7
8 Expected results	8
8.1 General.....	8
8.2 Whole-body exposure.....	8
8.3 Inhomogeneous exposure.....	9
9 Quality assurance and quality control	9
9.1 Overview.....	9
9.2 Quality control.....	10
9.2.1 General.....	10
9.2.2 Quality control procedures.....	10
9.2.3 Performance checks of sample transport integrity.....	10
9.2.4 Performance checks of sample integrity by the laboratory.....	10
9.2.5 Performance checks of instrumentation.....	10
9.2.6 Performance checks of sample protocol.....	11
9.2.7 Performance checks of exposure categorization.....	11
9.2.8 Performance checks of sample scoring.....	11
9.2.9 Performance checks of dose and confidence intervals estimation.....	11
9.2.10 Performance checks of the generation of reports results.....	11
9.2.11 Performance checks of a data security plan.....	11
9.2.12 Performance of the network.....	12
Annex A (informative) Interactions between requestors and biological dosimetry laboratories	13
Annex B (informative) Guidance for threshold of detection when the dicentric assay is analysed using manual scoring procedures	15
Annex C (informative) Example group sample report	16
Bibliography	18