

ISO 16321-4:2025-10 (E)

Eye and face protection - Part 4: Protection against biological hazards

Contents

	Page
Foreword.....	v
Introduction.....	vi
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	2
4 General requirements for protectors.....	4
4.1 General.....	4
4.2 Temperature.....	5
4.2.1 Conventional ambient temperature.....	5
4.2.2 Extremes of temperature (optional).....	5
4.3 Robustness.....	5
4.3.1 Principle.....	5
4.3.2 Testing.....	5
4.3.3 Testing at extremes of temperature (optional).....	5
4.3.4 Failure criteria.....	6
4.4 Cleaning.....	6
4.5 Disinfection for re-usable protectors.....	6
4.5.1 Principle.....	6
4.5.2 Disinfection by other means.....	7
4.5.3 Testing.....	7
5 Physical optical properties for protectors.....	7
5.1 Transmittance.....	7
5.1.1 Lenses without deliberate filtering action.....	7
5.1.2 Luminous transmittance of lenses without deliberate filtering action.....	7
5.1.3 Assessment of colour.....	8
5.2 Sunglare filters.....	8
5.2.1 General.....	8
5.2.2 Luminous and spectral transmittance and scale numbers.....	8
5.2.3 Marking of sunglare filters.....	8
6 Physical and mechanical requirements for protectors.....	8
6.1 Area to be protected.....	8
6.1.1 General.....	8
6.1.2 Area to be protected: Type I.....	9
6.1.3 Area to be protected: Type II.....	10
6.1.4 Area to be protected - Type III.....	11
6.2 Protection against spurt and spray.....	12
6.3 Protection from aerosols (optional).....	14
6.3.1 General.....	14
6.3.2 Aerosol Protection for Type I Area to be protected.....	14
6.3.3 Aerosol protection for Type II or III Area to be protected.....	14
7 Spurt and spray test.....	14
7.1 Principle.....	14
7.2 Reagents, materials and apparatus.....	14
7.2.1 Headform.....	14
7.2.2 Graduated conical flask.....	14
7.2.3 Magnetic stirrer.....	15
7.2.4 Biofluid simulant.....	15
7.2.5 Spray and spurt generator.....	15

7.3	Procedure.....	16
7.3.1	Calibration of test apparatus.....	16
7.3.2	Checking during use.....	17
7.3.3	Cleaning.....	17
7.3.4	Test procedure.....	17
7.4	Test report.....	18
8	Marking of eye protectors and packaging.....	18
8.1	General.....	18
8.2	Mandatory markings on lenses	18
8.3	Mandatory markings on frames	19
9	Information to be supplied by the manufacturer.....	19
Annex A	(informative) Guidance for the selection, use, maintenance and disposal of eye protection for biological hazards	21
Bibliography	25