

ISO/TS 12901-2:2026-02 (E)

Nanotechnologies - Occupational risk management applied to engineered nanomaterials - Part 2: Use of the control banding approach

Contents

Page

Foreword.....	v
Introduction.....	vi
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Symbols and abbreviated terms.....	2
5 General framework for control banding.....	2
5.1 General.....	2
5.2 Information gathering and data recording.....	3
5.3 Hazard banding.....	3
5.4 Exposure banding.....	4
5.5 Control banding.....	4
5.5.1 Proactive implementation of control banding.....	4
5.5.2 Retroactive implementation approach: evaluation of control banding and risk banding.....	4
5.6 Review and data recording.....	4
6 Information gathering.....	5
6.1 Characterization.....	5
6.1.1 General.....	5
6.1.2 Information and identification.....	5
6.1.3 Physicochemical properties and characterization.....	5
6.1.4 Toxicological data.....	6
6.2 Exposure characterization.....	6
6.2.1 General exposure characterization elements.....	6
6.2.2 Physical form.....	7
6.2.3 Amount.....	7
6.2.4 Potential for dust generation.....	7
6.2.5 Quantitative exposure measurements.....	7
6.3 Characterization of control measures.....	7
6.3.1 General.....	7
6.3.2 Reduction of emission.....	7
6.3.3 Reduction of transmission.....	8
6.3.4 Reduction of immission.....	8
6.3.5 Workplace area and personal exposure monitoring data.....	8
7 Control banding implementation.....	8
7.1 Preliminary remarks.....	8
7.2 Hazard band setting.....	8
7.2.1 Hazard categorization of chemicals and general hazard banding process for bulk materials.....	8
7.2.2 Allocation to a hazard band.....	10
7.3 Exposure band setting.....	13
7.3.1 Preliminary remarks.....	13
7.3.2 Synthesis, production and manufacturing.....	14
7.3.3 Material dispersed in a solid matrix.....	15
7.3.4 Material in suspension in a liquid.....	16
7.3.5 Material in powder form.....	16

7.3.6	Option for modifying the process to reduce exposure levels.....	17
7.4	Control band setting and control strategies.....	17
7.5	Evaluation of controls.....	18
7.6	Retroactive approach — Risk banding.....	19
8	Performance, review and continual improvement.....	21
8.1	General.....	21
8.2	Objectives and performance.....	22
8.3	Data recording.....	22
8.4	Management review.....	22
Annex A	(informative) Health hazard class according to GHS.....	23
Annex B	(informative) Nanomaterial risk assessment (NaRA).....	24
Annex C	(informative) Modified occupational hazard band (OHB).....	26
Bibliography	29