

Analytical chemistry of engineered nanomaterials: Part 1. Scope, regulation, legislation, and metrology (IUPAC Technical Report)

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Analytical chemistry is crucial for understanding the complex behavior observed for engineered nanomaterials (ENMs). A variety of analytical chemistry techniques and methodological approaches are used for isolation/purification and determination of the composition of pristine nanomaterials and for the detection, identification, and quantification of nanomaterials in nano-enabled consumer products and the complex matrices found in cosmetics, food, and environmental and biological samples. Adequate characterization of ENMs also requires physicochemical characterization of number of other properties, including size, shape, and structure. The requirement for assessment of a number of ENM properties frequently requires interdisciplinary approaches and multi-modal analysis methods. This technical report starts with an overview of ENMs definitions and classification, their properties, and analytical scenarios encountered with the analysis of both pristine nanomaterials and complex matrices containing different nanomaterials. An evaluation of the current status regarding nanomaterial identification and characterization for regulatory purposes and legislation, including emerging regulations and related scientific

opinions, is provided. The technical report also presents a large and critical overview of the metrology of nanomaterials, including available reference materials and the development and validation of standardized methods that are currently available to address characterization and analysis challenges. The report focuses mainly on chemical analysis techniques and thus it is complementary to previous IUPAC technical reports focused on characterizing the physical parameters of ENMs and on nanotoxicology.

<https://iupac.org/project/2017-005-3-500>

Properties and units in the clinical laboratory sciences. Part XXVII: online dynamic NPU manual (IUPAC Technical Report)

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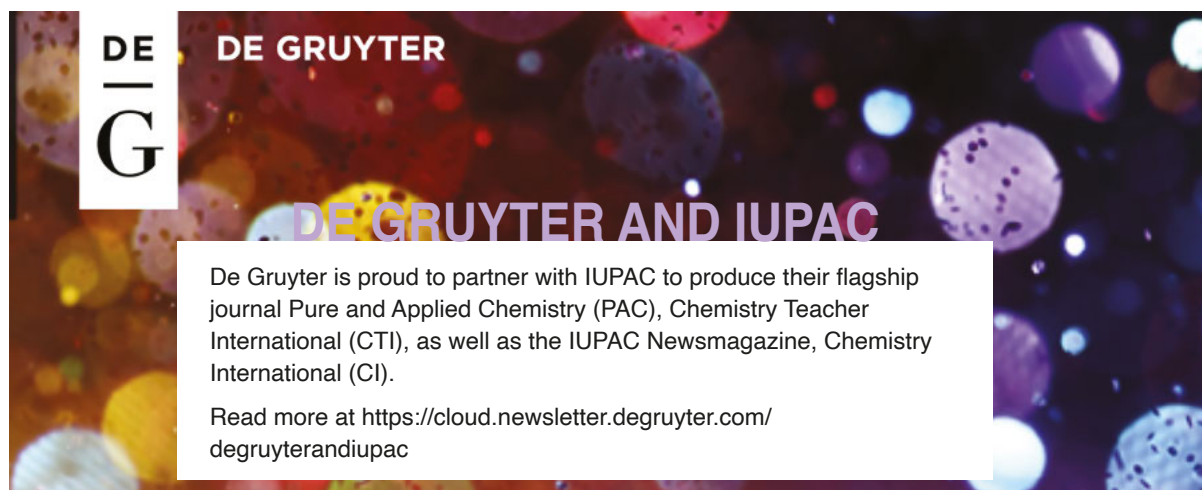
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The NPU terminology is an evolving international medical laboratory terminology that is used in health care systems. However, the literature of the terminology is assorted in at least 16 publications that are not updated. The objective is to establish an updated online manual of the NPU terminology, comprising the principles and special rules of the terminology. The manual is intended to provide easily searchable and updated information.

<https://iupac.org/project/2016-044-2-700>



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