

In a nutshell:

ECETOC publication presents concept for the grouping and safety assessment of nanomaterials

Brussels, April 2015

The safety of nanomaterials can be ensured by undertaking animal testing only as a very last resort. This is the premise and promise of the *Decision-making framework for the grouping and testing of nanomaterials - DF4nanoGrouping*. The ECETOC Nano Task Force has developed the DF4nanoGrouping based upon an earlier review of existing approaches for the grouping and testing of nanomaterials published in summer 2014.

Science-based grouping approaches allow the prediction of a substance's toxicity by comparing it to other similar substances. Thereby, the safety of substances may be determined while considerably saving time, money and animal experimentation. However, the grouping of nanomaterials is more complex than that of 'conventional' substances. It requires the joint consideration of physical, chemical and biological properties. Due to this complexity, to date, a unified, comprehensive grouping concept for nanomaterials has not been available. DF4nanoGrouping helps close this severe knowledge gap for hazard and risk assessment.

In three tiers, DF4nanoGrouping takes into consideration all relevant properties of nanomaterials. Step-by-step, potential hazards are ruled out. Safe nanomaterials are identified using non-animal testing, which may then be confirmed applying special animal tests. Further work of the ECETOC Nano Task Force is dedicated to corroborating the applicability of DF4nanoGrouping and promoting its regulatory acceptance.

The ECETOC Nano Task Force *Decision-making framework for the grouping and testing of nanomaterials - DF4nanoGrouping* is published as an Open Access article in *Regulatory Toxicology and Pharmacology*.

Arts J, Hadi M, Irfan MA, Keene AM, Kreiling R, Lyon D, Maier M, Michel K, Petry T, Sauer UG, Warheit D, Wiench K, Wohlleben W, Landsiedel R. 2015

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