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NIL History

- Established in 2004 by NIOSH and its national and international partners
- Is part of the NIOSH Nanotechnology Research Program (www.cdc.gov/niosh/topics/nanotech)
- Is a searchable database of nanoparticle properties and associated health and safety information
- Is designed to help occupational health professionals, industrial users, worker groups, and researchers organize and share information on nanomaterials
- Current hosting, administration, and maintenance of the NIL web resource is being conducted by Oregon State University (OSU) in conjunction with its program to characterize nanomaterials
NIL Content

- Nanomaterial composition
- Method of production
- Particle size, surface area, and morphology (included scanning, transmission, or other electron micrographic images)
- Demonstrated or intended applications of the nanomaterials
- Availability for research or commercial applications
- Associated or relevant publications and links to health and safety information
- Points of contact for additional details or partnering.
Nanoparticle Information Library (NIL)

Search the NIL

Welcome to the NIL. Use the search box above for quick searches, browse our featured nanoparticles displayed graphically below or select the top Search tab for our advanced search options. See OSU/NIOSH note below

Featured Contributors

Apparao Rao
Clemson University
Professor Rao’s laboratory at Clemson University focuses its research primarily on the synthesis and characterization of carbon nanotubes.

Featured Nanoparticles

(Displaying 10 records per page of 10 featured nanoparticles)

Abstract: Carbon nanotubes (CNTs) are synthesized utilizing novel, electrically-enhanced, oxy-fuel flame-based, catalytic chemical...
Structure: Nano Tubes
Origin: Chemical Vapor Deposition
Primary Element: Carbon
Contributor: Stephen D. Tse, Rutgers University-Mechanical & Aerospace Engineering
Added to NIL: 9/1/2005

View Report

Abstract: My research in the Krauss group investigates the charge properties of two-dimensionally quantum confined semiconductor...
Structure: Nano Rods
Origin: Chemical Synthesis
Primary Element: Cadmium
Contributor: Todd D. Krauss, University of Rochester
Added to NIL: 8/29/2005

View Report

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Hollow porous carbon nanospheres with large surface area and stability were self-assembled using gentle oxidization of fullerenes. The C60 framework, functional groups, composition, structure, surface area and stability of the nanospheres were investigated using scanning electron microscopy, X-ray photoelectron spectroscopy, FT-IR spectroscopy, solid state 13C NMR spectroscopy, high resolution transmission electron microscopy, adsorption and thermogravimetric analysis. The narrow distribution of the nanospheres was centred on 8 nm, the BET surface area was 222.63 m² g⁻¹, and the residue at 1000 °C was 75%. Thus, a novel nanomaterial with the highest surface area and highest stability in the family of fullerenes has been prepared.


3. Yulan Wang, Jianmin Mao, Mengshen Cai, Stereoselective Synthesis of a New Kind of natural Olupe, eulapiophenol synth...
Intended Value

• Meaningful examples of the differences in nanomaterials properties that can potentially influence toxicity or the efficacy of control;

• Practical examples of nanomaterials and nanomaterial-associated properties to illustrate and support proposed or internationally agreed upon terminology and nomenclature, in particular, the terminology and nomenclature development initiatives of the International Standards Organization Technical Committee 229 on Nanotechnologies (www.iso.org);

• Support for the development of technically defensible strategies for grouping nanomaterials into property-based categories for designing and applying controls;

• Catalogs of comprehensive and cost-effective measurement and assay methods for characterizing, classifying, and conducting exposure assessment for nanomaterials;
Intended Value (continued)

• Support for assembly of comprehensive suites of reference materials that span the range of nanomaterials actually being used, or likely to be used in commerce, or can respond to specific needs for calibration of instruments or methods or for the conduct of meaningful and intercomparable toxicology studies;

• Providing validated examples of effective control technologies for material-specific and process-specific applications; and

• Fostering of insights and effective strategies to anticipate, recognize, evaluate, control, and confirm the adequacy of existing and emerging nanomaterial environmental health and safety risk management.
We invite your participation

NIL is part of our community-driven effort

Nanomaterials, characterizations, and protocols

NCI caNanoLab

ONAMI NBI

NIBIB Nano-Registry

NIEHS NTP

NIOSH NIL

3D Nanomaterial Structures

Nanotechnology Toxicology Assays

Nanotechnology Safety Protocols

Your Organization Here

Nanotechnology Biological Interactions
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Questions ?