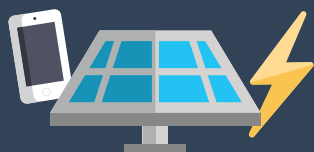


NANOTECHNOLOGY 101

WHAT ARE THE BENEFITS OF NANOTECHNOLOGY?

Using nanotechnology, scientists and engineers can create new materials and devices with enhanced properties.



Products for a more energy-efficient world, such as more efficient fuel cells, batteries and solar panels.



Highly sophisticated tools for detecting and treating cancer, bandages that help to prevent infection, better medical imaging technology and more.



Next generation materials that are stronger, lighter and more durable than many of the materials used today in buildings, bridges, airplanes, automobiles and other applications.



Solutions that help to create more drinkable water from groundwater sources and also for cleaning contaminated soil.

WHAT IS IT?

Nanotechnology is the study of matter at an incredibly small scale, generally between one and 100 nanometers. To put this in perspective, a piece of paper is about 100,000 nanometers thick.

Nanotechnology encompasses a broad range of materials, manufacturing processes and technologies that are used to create and enhance many products people use every day.

HOW DOES IT WORK?

Scientists in universities and companies around the world are exploring how nanotechnology can be used to develop innovative products in fields as diverse as medicine, transportation and computing.

HOW DO WE KNOW NANOTECHNOLOGY IS SAFE?

Health, safety and environmental professionals in industries that use nanotechnology work to achieve its responsible development. Managing nanotechnology and nano-enabled products responsibly requires an understanding of intended product uses, a science-based assessment of potential risks and communication of appropriate health and environmental safety information to promote safe handling, use and disposal practices.

Responsible development of nanotechnology is important to advance its acceptance by regulators and the public.

HOW IS NANOTECHNOLOGY REGULATED BY THE GOVERNMENT?

Nanomaterials and their applications are regulated by many federal agencies, including the U.S. Environmental Protection Agency (EPA), the U.S. Food and Drug Administration (FDA), and the Consumer Products Safety Commission (CPSC). Other federal agencies, such as the National Institute for Occupational Safety and Health (NIOSH), have robust nanotechnology research programs and provide guidance to nanomaterial manufacturers and users on best practices to reduce potential exposures in the work place. Under the Toxic Substances Control Act (TSCA), EPA has exercised its authority to require reporting, testing and use restrictions on chemical substances, including nanomaterials.

