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I. Occupational Hazards

A. Nanoparticles in liquids

1. Easy to restrain/do not spread easily

B. Nanoparticles in powders

1. Disseminated by slightest disturbance

2. Manufactured in closed environment

a. Transport from production site to application site

i. Handling cannot be avoided

ii. Distribution could cause hazard in working environment

iii. Face masks only offer limited protection

iv. Air-filtering systems are costly/many sites do not have

C. Measuring Risk

1. Measured w/respect to risk of related/larger form of particle

2. Material Safety Data Sheets (MSDS)

a. Describe potential risks and outline protective measures

3. Exposure limits are too high

4. Transportation regulations are not outlined

D. Nanoparticles to be handled w/same care given to bio-organisms and radioactive substances

E. Adequate protective measures will *probably* have to be developed to ward off possible dangers

II. Innovative Potential

A. Self-cleaning surfaces (*lotus effect*)

1. Rough surface area in nanometer range

a. Reduces surface tension

b. Waterdrops simply roll off (w/dirt and dust)

2. Impregnate porous materials

a. Protect against graffiti

B. Scratch-proof paints

1. Car manufacturers

C. Protection against corrosion

1. Thinner and lighter coats

2. Aircraft manufacturers

3. Rust proofing

D. Viable contribution to environmental protection