

Working Safely With Nanogel[®] Aerogel Beads



Purpose

This guide provides users information on the safe handling of NANOGEL[®] Aerogel Beads. Safety, health and environmental issues associated with the use of NANOGEL[®] Aerogel Beads can be easily managed by the application of standard occupational safety, health and environmental practices, as provided in this guide.

Please note that this guide is not a substitute for the information provided in NANOGEL[®] Aerogel Beads' material safety data sheet (MSDS) and users should refer to the MSDS prior to working with NANOGEL[®] Aerogel Beads.

General Information



NANOGEL[®] Aerogel Beads [CAS No.: Not Assigned] is a surface treated precipitated synthetic amorphous silica gel that is chemically very similar to other commercially available surface treated precipitated synthetic amorphous silica products. It consists of greater than 97% treated precipitated amorphous silica gel and less than 3% water. **NANOGEL[®] Aerogel Beads does not contain crystalline silica.** As shipped, its physical appearance is that of white, friable beads of approximately one millimeter (mm) diameter. During transportation, a small amount of smaller particles, capable of entering the respiratory tract, may be generated due to abrasion.

Fire and Explosion



NANOGEL[®] Aerogel Beads is not a readily combustible substance and presents a low risk of fire or explosion. Dust clouds of fine material generated from NANOGEL[®] Aerogel Beads have been shown to be explosive. Refer to the MSDS for the minimum ignition energy and the maximum explosion concentration of fine NANOGEL[®] Aerogel Beads.

If a fire involving NANOGEL[®] Aerogel Beads does occur, direct water spray or stream may spread the fire due to the burning powder floating on the water or due to the generation of dust clouds. A fog spray is recommended when water is used as an extinguishing agent. Foam is also a suitable extinguishing agent. Areas where hot work, such as welding, occurs should be free from the dust of settled and airborne NANOGEL[®] Aerogel Beads.

The product may build up static electrical charges when subjected to friction and may present an ignition source in the presence of flammable vapors or gases. All metal elements that come in contact with NANOGEL[®] Aerogel Beads must be grounded.

Occupational Hygiene



Avoid exposure of skin and eyes to the dust of NANOGEL[®] Aerogel Beads. Use personal protective equipment, including protective gloves and clothing, safety goggles or safety glasses with eyeshields. Have an emergency eyewash and safety shower in close proximity. An occupational exposure limit (OEL) has not been established for this product or for any other surface treated precipitated synthetic amorphous silica. It is recommended that dust levels be maintained below the current OEL for precipitated synthetic amorphous silica and silica gel. Where this is not practical using engineering controls, use appropriate respiratory protection. Refer to NANOGEL[®] Aerogel Beads' MSDS for OEL and additional personnel protection equipment information.

First Aid



Inhalation:

The dust of NANOGEL® Aerogel Beads, like many dusts, may initiate a bronchial response among individuals with pre-existing lung conditions. Exposures above the current OEL for precipitated synthetic amorphous silica may produce temporary discomfort to the upper respiratory tract that may result in coughing. Removal from dust exposure normally is sufficient to cause symptoms to subside with no lasting effects.

Skin:

Repeated exposure to the dust of NANOGEL® Aerogel Beads may cause drying of the skin. Wash dust from the skin with mild soap and water. Barrier cream application prior to skin exposure may assist in the removal of dust from the skin.

Ingestion:

No adverse effects are expected if NANOGEL® Aerogel Beads is ingested.

Eyes:

The dust of NANOGEL® Aerogel Beads may cause mechanical irritation. Flush gently with clean water to remove dust.

Environment



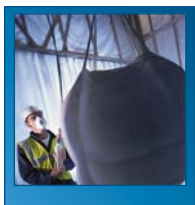
Avoid the release of NANOGEL® Aerogel Beads to the environment. Spills should be collected immediately, preferably by dry vacuuming and then placed in sealed containers. Waste product should be disposed of in accordance with local regulations

Storage



NANOGEL® Aerogel Beads should be stored in a clean, dry uncontaminated area away from volatile chemicals.

Housekeeping



Avoid the production of any dust. Dry vacuuming is the preferred method for removing surface dust and cleaning up spills of NANOGEL® Aerogel Beads. Dry sweeping should be avoided but may be performed when using dust suppression.

Health



Surface treated precipitated synthetic amorphous silica products are not carcinogenic or mutagenic. Chemically similar products have not been demonstrated to be skin sensitizers, skin or eye irritants, or toxic when ingested.