

Novec™ 1230 Fire Protection Fluid

Field Handling and Demonstrations

The safety of Novec 1230 fluid has been evaluated through both acute and repeat dose (chronic) toxicity testing. In addition, there is also now a significant amount of use experience supporting the safety of the material based on a broad spectrum of human exposure. Novec 1230 fluid has been demonstrated to be very low in toxicity and to have a large margin of safety in use as a fire protection agent.

That being said, 3M would like to remind all of our OEM customers and those throughout the distribution channel that care should be taken when demonstrating the use of or displaying any industrial chemical, including Novec 1230 fluid.

Precautions

Novec 1230 fluid should be demonstrated and used responsibly. Please read and follow the precautions and directions for use in the Material Safety Data Sheet (MSDS) and product label for Novec 1230 fluid. Remember to observe appropriately when demonstrating Novec 1230 fluid in any setting, particularly a non-industrial setting. Precautions should be taken to avoid contact with eyes and skin and to minimize volatilization to room air.

Under no circumstances should anyone ingest Novec 1230 fluid in a product demonstration. Neither people, nor animals, should be exposed to Novec 1230 fluid to demonstrate the low toxicity of the material. To do so would be contrary to the principles of responsible chemical management and product stewardship, including those principles expressed in the American Chemistry Council's Responsible Care™ program.

Considerations for demos

In addition to good industrial hygiene and responsible use practices, there are technical considerations that should be taken into account when demonstrating the product. Features of the product that are often demonstrated include fast evaporation, lack of residue, high dielectric strength, compatibility and fire extinguishing performance.

Novec 1230 fluid is safe for electronics in its intended use when used in accordance with its precautions and directions for use. However, devices that contain moving parts that are intended to operate in air may not perform well when submersed in a liquid. One example of this is a hard disk drive. Laptop computers and some hand-held devices contain a hard disk drive that is designed to operate at high rpm in air. These devices may not mechanically perform well when covered with liquid. In addition, most hard disks are coated with a fluorochemical lubricant. This thin layer of lubricant may be removed when contacted with any liquid fluorochemical, including Novec 1230 fluid. As a result, some of these devices may cease to operate if submersed in Novec 1230 fluid.

Demonstration guidelines

Things that you can do:

Safe and responsible handling practices for product demonstrations should comply with the following guidelines:

- Pour vapor from a container onto a dish to extinguish a small candle fire.
- Immerse books, Post-It™ Notes, computer monitors, etc. into the fluid to demonstrate compatibility.

Demonstration guidelines (Continued)

Things that you should **not** do:

- Immerse body parts or hair into the fluid.
- Immerse entire computers or any hard drive-containing device into 3M™ Novec™ 1230 Fire Protection Fluid.
- Pour onto laptop keyboard. This may cause fluid to enter the hard disk drive.

Things that you should **always** do:

- Keep Novec 1230 fluid containers closed and covered at all times when not in use.
- Filter Novec 1230 fluid when recovering.
- Keep all water or water containing products away from Novec 1230 fluid. Not doing so may contaminate the fluid and render it conductive.
- Keep all solvents (e.g., acetone, alcohols, etc.) away from Novec 1230 fluid. These solvents may cause dissolution of materials of construction and contaminate the fluid.
- If you must transport the fluid, check the sample with luggage and have the sample properly labeled with an MSDS (Materials Safety Data Sheet).
- Ship samples in advance of travel to avoid delay at airport check in.

In Summary

When using Novec 1230 fluid in presentation demonstrations, avoid any unnecessary human exposure to the product. Doing so will prevent an erosion of the respect necessary for the continued safe use and handling of this product and the image we all wish to maintain as responsible stewards of our products. Always read and follow the precautions and directions for use in the MSDS and product label for Novec 1230 fluid.

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