



Novec™

Brand

Demonstration Guidelines for 3M™ Novec™ 1230 Fire Protection Fluid

Product demonstrations are an essential step in the selling process to show how quickly and effectively 3M™ Novec™ 1230 Fire Protection Fluid can extinguish fires. They are also one of the best ways to clearly and visually illustrate other key properties, such as:

- Quick evaporation without residue
- Ability to extinguish fires without damaging energized electronics (high dielectric strength)
- Safe use on paper, textiles and other delicate or precious materials

When conducting product demonstrations, it is important to choose the most effective methods to show performance features to customers. This document outlines several recommended demonstrations, as well as required best practices for safe and effective handling of the fluid.

Safety

3M™ Novec™ 1230 Fire Protection Fluid has a very high margin of safety when used in total flooding applications: its No Observed Adverse Effect Level is set by the NFPA 2001 standard at 10%, providing a 69%-122% margin of safety for use in extinguishing Class A, B and C fires in occupied spaces.

3M™ Novec™ 1230 fluid has also been comprehensively tested for acute toxicity by inhalation, dermal, and oral routes of exposure, through repeated exposure studies that evaluated general, reproductive, and developmental toxicity as well as mutagenicity studies. Based on the results of these studies 3M™ Novec™ 1230 fluid has a large margin of safety in both manufacture and use.

However, as 3M™ Novec™ 1230 fluid is an industrial chemical, following proper safety and handling requirements when conducting demonstrations is important. Precautions should be taken to avoid contact with the eyes and to minimize evaporation to room air, and PPE should be worn consistent with the requirements listed in the product Safety Data Sheet. Review the [Safety Data Sheet](#), [Safety Assessment](#), and product label for more detailed information on these topics, or consult 3M technical service with any questions.

Recommended Demonstrations

All demonstrations of 3M™ Novec™ 1230 fluid should only be conducted by trained 3M, OEM or distributor personnel. Before conducting a demonstration, contact your 3M sales representative or your area or global application development engineer for training on approved demonstration practices.

Additional local regulations should always be followed; as these vary by country, please consult with the appropriate local legal or regulatory resources to ensure compliance.

Common demonstrations include:

1. Pour 3M™ Novec™ 1230 fluid vapor from a container to extinguish a small candle fire. Alternatively, a flame from a candle or long match can be lowered into the vapor space on the surface of a container of 3M™ Novec™ 1230 fluid to demonstrate its extinguishing capability.
 - a. Demos with flame must be limited to a single small candle or flame source. Do not conduct multi-level or multi-flame demonstrations.
2. Immerse paper products (books, artwork, etc.) into the fluid to demonstrate its quick drying and no residue properties and safe use on paper and textile products.
 - a. See Procedures for details on how best to immerse and remove these items, and how to show them to the audience.
3. Immerse small electronics (tablet device, cell phone, small digital clock, etc.) into a container of 3M™ Novec™ 1230 fluid to demonstrate its electrical non-conductivity
 - a. See Procedures for details on how best to immerse and remove these items
 - b. See Restricted Items for a list of electronics and electrical devices that should not be immersed
 - c. Note that electronics with parts that operate based on an interaction with air, like microphones or speakers that need to vibrate freely, will be wet when immersed and may not function properly until the fluid has evaporated.
4. Always wear the proper PPE when demonstrating 3M™ Novec™ Fire Protection Fluid according to the Safety Data Sheet, Safety Assessment, and local area/country requirements/regulations.

Demonstration Procedures

Before the demonstration:

- Evaluate the demonstration area to ensure that it is appropriate for a demonstration of industrial chemicals.
 - Demonstrations at industry trade shows and conferences or in academic settings may be acceptable but only with permission of the event organizers or facility managers. At a trade show or in a building, make sure you verify that open flames or chemicals are allowed in the venue. Some buildings do not allow open flames, even small flames such as a match or candle.
 - Demonstrations in consumer locations (malls, shopping areas, etc.) or residential locations are not appropriate. Many public areas require permits prior to use of industrial or professional chemicals or fully prohibit them.
- Evaluate the demonstration area to ensure that ventilation and air exchange are adequate to maintain safe conditions.
- All containers of 3M™ Novec™ 1230 fluid should remain sealed prior to the demonstration, to prevent evaporation. Containers with twist on caps may require durable tape to properly seal the cap to prevent evaporation.
- Remind the audience that 3M™ Novec™ 1230 fluid is always stored in closed containers and is discharged as a vapor in total flooding applications. Demonstrations of the product in its fluid form are for informational purposes only.

During the demonstration:

- All demonstrations of Novec 1230 fluid should be conducted by trained 3M personnel or OEM or distributor professionals that have been trained by 3M personnel. The general public and members of the media should not conduct or participate in the actual demonstration.
 - Do not immerse audience member property in the fluid; only use presenter demonstration materials.

- Items used in a demonstration should not be handed to audience members.
- Keep audience members at a proper distance from the demonstration. A distance of six feet is recommended.
- The presenter shall select and wear gloves according to the Safety Data Sheet when conducting a demonstration.
- To immerse an object, hold it by the corner (keeping hands out of the fluid) or use a hook or tongs. Do not use hands to retrieve fully immersed objects. The recommended practice is to not fully immerse the object so you can maintain contact with the object.

After the demonstration:

- To prevent evaporation, all containers of 3M™ Novec™ 1230 fluid should be resealed immediately after the demonstration.

Restricted Items

This is not an exhaustive list of restricted items; consult the Safety Data Sheet or 3M technical service with questions before conducting any demonstrations involving unusual items.

Electrical Devices:

- Do not immerse components that generate significant heat and are sensitive to thermal gradients.

Electronics:

- Do not immerse audience member electronics in 3M™ Novec™ 1230 fluid; only use presenter demonstration materials. While 3M™ Novec™ 1230 fluid evaporates quickly, modern personal electronics like smartphones are very compact and tightly sealed, which may delay evaporation after the demonstration.
- Do not immerse devices containing moving parts designed to operate in air; for example, spinning hard disk drives may not perform well mechanically when submersed in liquid. Be aware that pouring fluid on an electronic device (e.g. a laptop keyboard) might cause it to interact with hard disk drives within the computer. Similarly, devices with microphones or speakers may see a detrimental mechanical impact from the immersion of the audio components in a liquid.

Food:

- Do not immerse food in 3M™ Novec™ 1230 fluid. Do not use drinking cups, utensils or any other implements in a demonstration that might imply food safety or cause confusion,

Humans and Animals:

- Do not immerse any human or animal body parts, including hair, in 3M™ Novec™ 1230 fluid.

Solvents:

- Keep all solvents (e.g., acetone, alcohols, etc.) away from 3M™ Novec™ 1230 fluid. These solvents have the potential to contaminate the fluid.

Water:

- Keep all water or water-containing products away from 3M™ Novec™ 1230 fluid. Not doing so may contaminate the fluid and render it conductive and potentially corrosive if exposed to water in an inappropriate manner.

Cleanup, Shipping and Handling

- Ship samples in advance of travel to avoid possible airport delays. Be sure to include an SDS (Safety Data Sheet) in the shipping package.
- 3M™ Novec™ 1230 fluid should be returned in a sealed bottle after the demonstration is complete. The recommended demonstrations should not result in any particulates or sediment, but if any particulates are present, they can be filtered out by pouring the fluid through a coffee

filter placed in a funnel when the fluid is transferred to the bottle for shipping. Contact 3M technical service for more detailed guidance on filtering.

- If fluid is not recoverable, it may be returned to 3M for recycling or disposed of following best practices for industrial chemicals. Contact 3M technical service for additional information.

Safety Data Sheet: Consult Safety Data Sheet before use.

Regulatory: For regulatory information about this product, contact your 3M representative.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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**Electronic Materials Solutions
Division**

3M Center, Building 224-3N-11
St. Paul, MN 55144-1000 USA
Phone 1-800-810-8513
Web 3M.com/Novec1230

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