



# Novec™ 1230

## Fire Protection Fluid

### Storage & Handling Information

#### Introduction

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Provided below are recommendations and guidelines for the effective handling of 3M™ Novec™ 1230 Fire Protection Fluid. This document is intended to supplement other technical information such as the Material Safety Data Sheet and should be used in conjunction with these documents.

Any questions about this or any other items relating to the handling, use or disposal of Novec 1230 fluid should be addressed to:

3M Specialty Materials  
Building 223-6S  
Attn: Novec 1230 Fluid  
St. Paul, MN 55144-1000

**800 810 8513**

**[www.3m.com/novec1230fluid](http://www.3m.com/novec1230fluid)**

#### Storage and Handling Recommendations

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Novec 1230 fluid has been developed by 3M as a halon replacement alternative to HFCs, HCFCs and PFCs in special hazard, high value applications. It has unique qualities that provide the right balance of fire extinguishing performance, end use safety and low environmental impact. It is a liquid at room temperature with a low vapor pressure which allows for ease in handling, storage and shipping when compared to conventional in-kind and not-in-kind clean extinguishing agents.

The unique properties of Novec 1230 fluid necessitate the user to follow certain handling and storage guidelines provided below. Failure to follow these recommendations may result in contamination of the agent and potential failure of the system in which it is used. Contact with water or solvents, either polar or hydrocarbon, could render Novec 1230 fluid ineffective. Novec 1230 fluid should not be mixed with other extinguishing agents (liquid, powder or foam) without consulting 3M to determine compatibility.

## 3M™ Novec™ 1230 Fire Protection Fluid Storage

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Novec 1230 fluid can be stored in its original container or other approved containers. All containers must be opaque or not allow the transmission of ultraviolet light to the product. Containers made from steel, amber glass, opaque plastic or aluminum may be acceptable. All containers must be tightly sealed and not allowed to vent to the atmosphere. Containers must be clean and dry.

Novec 1230 fluid should be stored indoors, out of direct sunlight at temperatures below 40°C (104°F). During transit, confirm that all openings/bungs are fully closed (including placement of the valve cover on the 220 gal IBC), protect containers from direct sunlight and precipitation to every extent possible, and fully dry the exterior of the container prior to opening.

Based on the results of accelerated aging studies, Novec 1230 fluid is expected to be shelf stable and perform as a clean extinguishing agent for at least 30 years in a properly designed, maintained and operating fire extinguishing system, provided the Novec 1230 fluid has been stored and handled in accordance with 3M's Storage and Handling Information for Novec 1230 fluid.

## Handling

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Novec 1230 fluid is a liquid at room temperature allowing it to be transferred using conventional pumping or pouring methods. Novec 1230 fluid has a viscosity similar to water. Consequently, it can be transferred using any pump that would be used to transport a low viscosity, nonflammable liquid. A gravity feed method may be employed to fill containers such as pressure vessels (fire extinguishers) in lieu of pumping. It is recommended that an inline filter ( $\leq 20$  microns) be used when filling containers.

Standards used by the fire protection industry typically specify that clean extinguishing agents meet certain standards of quality. In order to maintain the low water content of the original Novec 1230 fluid, procedures must be used to prevent the entry of moist, ambient air into the storage containers.

When transferring Novec 1230 fluid, the receiving containers should be free of water and purged with dry nitrogen prior to filling with Novec 1230 fluid to remove moisture-laden air. The dispensing containers should be fitted with a vent drier or nitrogen purge to prevent the influx of moist air into the container as Novec 1230 fluid is withdrawn. Vent driers employing disposable or refillable desiccant cartridges are commercially available. Alternatively, a nitrogen purge can be set up by installing a "tee" onto the vent bung of the storage container and establishing flow of dry nitrogen at a volumetric flow rate that is in excess of the rate of withdrawal of Novec 1230 fluid from the container.

Fully reclose Novec 1230 fluid product containers after use.

## **3M™ Novec™ 1230 Fire Protection Fluid Personal Protection**

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As required with all industrial chemicals, good workplace safety and industrial hygiene practices should be followed when handling Novec 1230 fluid. Novec 1230 fluid must be used in a well-ventilated area. Provide local exhaust ventilation at transfer points. If adequate ventilation cannot be accomplished to maintain air concentrations below the recommended exposure guideline, use respiratory protection. The use of vented goggles for eye protection is required when handling Novec 1230 fluid. Always wear gloves when handling Novec 1230 fluid. Gloves made from butyl rubber are recommended. For additional information regarding the use of Novec 1230 fluid refer to the Material Safety Data Sheet.

## **Disposal Recommendations**

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If it becomes necessary to return Novec 1230 fluid, the product can be returned to 3M. Please contact your 3M representative for specific information on the return. Novec 1230 fluid may also be disposed using an approved industrial or commercial incinerator. Since Novec 1230 fluid is nonflammable, it must be burned in the presence of a combustible material. Refer to the Material Safety Data Sheet for additional information about disposal.

## **Transportation**

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The original product containers in which Novec 1230 fluid is delivered meet all applicable shipping regulations for the pure, unpressurized agent. Therefore, shipment may be by ground, air or waterborne transportation.

The unpressurized Novec 1230 fluid is an unregulated material since it is not hazardous (nonflammable, low in toxicity and is not a compressed or liquefied gas) and as such has no UN designation. However, a container super-pressurized with nitrogen above the inherent vapor pressure of the Novec 1230 fluid will require a UN classification. This classification could depend upon the specifications of the container and its fill pressure. Since the organization shipping the material is ultimately responsible for its classification contact the U.S. Department of Transportation Hazardous Materials Information Center at 1-800-467-4922 for the appropriate classification of a pressurized container.

## **Laboratory Analysis**

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If chemical analysis of Novec 1230 fluid is required, the procedure should not utilize water which may produce inaccurate results. Spectroscopic (FTIR, NMR) or chromatographic (GC) methods are recommended for analysis of Novec 1230 fluid. Contact 3M for consultation on the appropriate tests methods for use with this product.

## 3M™ Novec™ 1230 Fire Protection Resources

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3M™ Novec™ 1230 Fire Protection Fluid is supported by global sales, technical and customer service resources, with technical service laboratories in the U.S., Europe, Japan, Latin America and Southeast Asia. Users benefit from 3M's broad technology base and continuing attention to product development, performance, safety and environmental issues.

A variety of O.E.M. policies and equipment design guidelines have been prepared for system retrofit, installers and equipment manufacturers in support of Novec 1230 fluid.

For additional technical information on Novec 1230 fluid in the United States, or for the name of a local distributor, call 3M Specialty Materials, **800 810 8513**, or visit our web site at **[www.3m.com/novec1230fluid](http://www.3m.com/novec1230fluid)**

### United States

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3M Center, Building 223-6S-04  
St. Paul, MN 55144-1000  
**800 810 8513**  
**800 810 8514** (Fax)

### Europe

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3M Belgium N. V.  
Haven 1005, Canadastraat 11  
B-2070 Zwijndrecht  
**32 3 250 7874**

### Canada

3M Canada Company  
Specialty Materials  
P.O. Box 5757  
London, Ontario  
N6A 4T1  
**800 364 3577**

### Japan

Sumitomo 3M Limited  
33-1, Tamagawadai 2-chome  
Setagaya-ku, Tokyo  
158-8583 Japan  
**813 3709 8250**

### Asia Pacific and Latin America

Call (U.S.) **651 736 7123**

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**Important Notice to Purchaser:** The information in this publication is based on tests that we believe are reliable. Your results may vary due to differences in test types and conditions. You must evaluate and determine whether the product is suitable for your intended application. Since conditions of product use are outside of our control and vary widely, the following is made in lieu of all express or implied warranties (including the implied warranties of merchantability or fitness for a particular purpose): Except where prohibited by law, 3M's only obligation and your only remedy, is replacement or, at 3M's option, refund of the original purchase price of product that is shown to have been defective when you received it. In no case will 3M be liable for any direct, indirect, special, incidental, or consequential damages (including, without limitation, lost profits, goodwill, and business opportunity) based on breach of warranty, condition or contract, negligence, strict tort, or any other legal or equitable theory.



### 3M Specialty Materials

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[www.3m.com/novec1230fluid](http://www.3m.com/novec1230fluid)

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