

3M™ Novec™ 1230 Fire Protection Fluid
For flightline applications

All Secure



**Enhanced fire safety.
Reduced environmental impact.
Simplified operations.**

3M™ Novec™ 1230 Fire Protection Fluid, when discharged from the Amerex Model 775 Wheeled Fire Extinguisher, helps protect people and equipment from fire and sets a new standard in environmental sustainability for wheeled unit fire extinguishers.



3M™ Novec™ 1230 Fire Protection Fluid

For flightline applications

Designed to replace halons and Halotron® – without compromising performance

3M™ Novec™ 1230 Fire Protection Fluid is a highly-effective clean extinguishing agent, designed to replace non-sustainable halons, HFCs and HCFCs. With zero ozone-depletion potential, a global warming potential of less than one and an atmospheric lifetime of only five days, Novec 1230 fluid has an environmental profile that does not compromise its future availability. The product is non-corrosive, non-conductive and evaporates cleanly without leaving a residue – designed to reduce cleanup costs and return aircraft back to service faster. This means Novec 1230 fluid is also an ideal alternative to water, foams and dry chemicals such as potassium bicarbonate Purple K.



The new Amerex Model 775 is UL-listed with a 3A:80B:C rating. Shown here is a test unit used to obtain UL approval. The actual unit is similar to conventional Halon 1211 units, making the transition to the Novec 1230 fluid based Model 775 easier.

Easy to transport and store

Unlike other clean extinguishing agents, Novec 1230 fluid is a liquid with a low vapor pressure at room temperature, which optimizes agent delivery to the seat of the fire, even in difficult conditions. Additionally, its liquid nature allows Novec 1230 fluid to be easily transported in bulk, even by air.

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.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer: Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



Electronics Materials Solutions Division

3M Center, Building 224-3N-11
St. Paul, MN 55144-1000
www.3M.com/novec
1-800-810-8513

Please recycle. Printed in USA.
© 3M 2015. All rights reserved.
Issued: 02/15. 10426HB
60-5002-0801-6

Halotron is a registered trademark of American Pacific Corporation.
3M and Novec are trademarks of 3M Company.
Used under license by 3M subsidiaries and affiliates.

	Non-conductive Fluid	Compressed Gases	
Trade Name (ASHRAE) Agent Formula	Novec 1230 Fluid (FK-5-1-12) $CF_3CF_2C(O)CF(CF_3)_2$	Halon 1211	Halotron® (HCFC Blend B) ² >96% HCFC 123, <4% CF_4 , <4% Ar
ODP - Ozone depletion potential (WMO - 1998)	0	3	0.019
GWP - Global Warming Potential ¹	<1	1750	341
			79 HCFC 123 6630 CF_4 0 Ar
Atmospheric Lifetime - Years ¹	0.019	16	1.3 HCFC 123 50,000 CF_4 0 Ar
Phased out under Montreal Protocol	No	Yes	Yes, HCFC-123 is a Class II ODS
U.S. Clean Air Act production phase out date	N/A	Phased Out	HCFC 123 Jan. 1, 2020
Toxicity Cardiac Sensitization NOAEL/LOAEL % v/v	10.0/>10.0 ³	0.5/1.0 ⁴	1.0/2.0 ⁴
Agent Transportation DOT Regulated?	No - Unpressurized Factory Filled Drums or Totes (refilling)	Yes - OEM Pressurized Cylinders	Yes - OEM Pressurized Cylinders
	Yes - OEM Pressurized Cylinders	Yes - OEM Pressurized Cylinders	Yes - OEM Pressurized Cylinders
Global Environmental Agent Warranty	Yes	None	None

¹ IPCC 5th Assessment Report, 100 yr interated time horizon, $CO_2=1$

² UNEP 2010 Report of the Halons Technical Options Committee; 2010 Assessment Table 2-10, p26.

³ 2012 edition of NFPA 2001, Table 1.5.1.2.1(a)

⁴ Metchis, Karen, USEPA, "Regulation of Halon and Halon Substitutes", p21, Proceedings of Halon Options Technical Working Conference, Albuquerque, NM, 3-5 May, 1994

Designed with the future in mind

3M offers its unique Blue SkySM Warranty, stating that 3M warrants, for a period of 20 years after original installation and subject to noted requirements, that Novec 1230 fluid, installed in an approved fire suppression or extinguisher system, will not be restricted for use in fire protection due to its Ozone Depletion

Potential (ODP) or Global Warming Potential (GWP) and is not targeted for phase-down by the Montreal Protocol, nor subject to the European F-Gas Regulations targeting the phase-down of production and import of HFCs into Europe; and will not be affected by U.S. EPA SNAP regulations which would render it either unacceptable or acceptable subject to narrow use limits.

