GLOBAL LEADER PROVIDING
PERFORMANCE FLUIDS & LUBRICANTS

TECHNICAL DATA SHEET

TMC-1230 FIRE PROTECTION FLUID

TMC-1230 Fire Protection Fluid is a direct replacement for 3M™ Novec™ 1230.

PRODUCT INFORMATION

TMC-1230 vaporizes quickly when released, is non-corrosive, and not electrically conductive, so that sensitive electronic systems, such as data centers, server rooms, telecommunications, or other equipment, are not damaged. It does not leave any damaging residues, so the systems do not have to be cleaned and remain up and running.

Because TMC-1230 is stored as a liquid and discharged as a gas, it can be transported by air to help enable quick refills. Each shipment includes a TMC Certificate of Analysis verifying the product has been tested to meet both TMC internal and NFPA 2001 (2022 edition, section A.5.1.2.3) standards for quality.

FEATURES

- Waterless fire extinguishing clean agent
- Leaves no residue
- Electrically non-conductive, helping protect energized electronics
- Global Warming Potential (GWP) ≤1
- Ozone Depletion Potential (ODP) = 0

APPLICATIONS

TMC-1230 is a chemically identical replacement for Novec™ 1230 with specific properties suitable for fire suppression where non-flammability and environmental concerns are important.

Clean Agent Fire Protection

TMC-1230 is touted as a clean agent fire protection system. Clean agents are designed to extinguish fires without leaving behind harmful residues, making them suitable for protecting sensitive environments like data centers, museums, or places with valuable electronic equipment and documents.

Rapid Fire Suppression

TMC-1230 can extinguish fires in seconds, which is significantly faster than traditional water-based fire suppression systems. Rapid fire suppression can help minimize damage and prevent the spread of fires more effectively.

Waterless Solution

TMC-1230 is categorized as a waterless fire suppression solution. This means it doesn't rely on water to extinguish fires, avoiding potential water damage to sensitive equipment or materials.

Residue-Free

One of the advantages of clean agent fire suppression systems is that they leave no residue after extinguishing a fire. This is crucial for protecting irreplaceable items like paper documents and electronics, as there is no cleanup or damage caused by residues.

MATERIALS COMPATIBILITY

Experiments show that TMC-1230 has good compatibility with other materials, such as rubber and metal, and little impact on a variety of materials used.

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TMC-1230 Continued

PHYSICAL & ENVIRONMENTAL PROPERTIES COMPARISON

PROPERTY	UNITS	3M™ NOVEC™ 1230	TMC-1230
Boiling Point @ 1 atm	°C (°F)	49 (120)	49 (120)
Freeze/Pour Point	°C (°F)	-108 (-162.4)	-108 (-162.4)
Average Molecular Weight	g/mol	316.04	316.04
Critical Temperature	°C (°F)	168.7 (335.6)	168.7 (335.6)
Vapor Pressure	bar (psia)	0.404 (5.85)	0.404 (5.85)
Heat of Vaporization @ Boiling Point	kJ/kg	88	88
Liquid Density	g/mL	1.60	1.60
Kinematic Viscosity	cPs	0.64	0.64
Specific Heat, Liquid	J/kg-K	1103	1103
Critical Pressure	bar (psia)	18.65 (270.44)	18.65 (270.44)
Dielectric Strength @ 0.1" gap	kV	48	48
Dielectric Constant	1kHz	1.8	1.8
Ozone Depletion Potential	ODP	0.0	0.0
Global Warming Potential	GWP	1	1
Flashpoint	—	None	None

Not for specification purposes. All values @ 25°C unless otherwise specified.

PROPERTY	TMC-1230	HALON 1211	HALON 1301	HFC-125	HFC-227ea
Atmospheric Lifetime (years)	0.019	16	65	28.2	38.9
GWP	1	1750	6290	3170	3350
ODP	0	4	12	0	0

COMPLIANCE

- FM Global — Category: Fixed Extinguishing Systems, Clean Extinguishing Agents
- UL Certification — Standard: ANSI/UL 2166, Halocarbon Clean Agent Extinguishing Systems

TMC-1230 Continued

FIRE EXTINGUISHING CONCENTRATION

TMC-1230 has excellent fire performance. Its fire extinguishing concentration for class A is only 3.5%; its fire extinguishing concentration for class B is only 4.5%, which is the closest to the halon; and it is far less than other fluoroalkane halon substitutes. It can save A, B, C fires, non-conductive, immediate gasification after the injection, and no residue.

	TMC-1230	HALON 1301	HFC-227ea	CO2
Extinguishing Concentration (%)	4–6	5	7.5–8.7	30–75

PACKAGING

TMC-1230 is available in the following sizes and weights:

- **1 Gallon Jug** — 12 lb / 5.4 kg
- **5 Gallon Pail** — 44 lb / 20 kg
- **55 Gallon Drum** — 550 lb / 250 kg
- **Sample** — 2.2 lb / 1 kg
- **275 Gallon Tote** — Available Upon Request

SHELF LIFE & STORAGE

Shelf life is 5 years from the date of manufacture when stored in the original packaging materials and stored under normal conditions. TMC will re-certify material every 5 years up to 20 years.

DISPOSAL & RECYCLING

This fluid can be recycled and reused. Help protect the environment and don't pay for expensive disposal services.

TMC Industries can reclaim your used fluorinated fluids, restoring them to like-new condition, and save you up to 50% in replacement fluids while protecting the environment.

TMC Reclaimed Fluids are tested to meet new product specifications. It will be clear and odorless, and a Certificate of Analysis is issued with every order.

TMC Industries offers a **100% satisfaction guarantee** on all our reclaimed fluids. We back this up with a no-questions-asked refund policy. To learn more, click here.

EXTERNAL DOCUMENTS

- TMC Used Fluid Reclamation Service Brochure

Safety and Handling: Before using this product, please thoroughly read the current product SDS and label, following all applicable safety precautions described therein (e.g., recommended storage and safe handling, appropriate exposure controls and personal protective equipment (PPE), addressing accidental spills, disposal considerations, etc.).

Safety Data Sheet: Consult Safety Data Sheet before use.

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

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

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

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