



Safety Data Sheet

This safety data sheet complies with the requirements of: 2012 OSHA Hazard Communication Standard (29CFR 1910.1200)

Product name 3M™ Novec™ 1230 Fire Protection Fluid [FK-5-1-12]

1. Identification

1.1. Product Identifier

Product name 3M™ Novec™ 1230 Fire Protection Fluid [FK-5-1-12]

1.2. Other means of identification

Product code 17737
UN/ID no UN1956
Synonyms None
Chemical Family No information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use No information available.
Uses advised against Consumer use.

1.4. Details of the Supplier of the Safety Data Sheet

Company Name Macron Safety Systems (UK) Ltd.
Burlingham House, Hewett Road
Gapton Hall Industrial Estate, Great Yarmouth
United Kingdom NR31 0NN
Telephone: +44 (0) 1493 417600
Contact point Product Stewardship at 1-715-735-7411
E-mail address psra@tycofp.com

1.5. Emergency Telephone Number

Emergency telephone CHEMTREC 001-800-424-9300 or 001-703-527-3887

2. Hazards Identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Gases Under Pressure - Compressed Gas

2.2. Label Elements

Signal Word

WARNING

Hazard Statements

Contains gas under pressure; may explode if heated



Precautionary Statements



Product code 17737

/ Product name 3M™ Novac™ /
1230 Fire Protection Fluid
[FK-5-1-12]

PAGE 2 / 8

Storage

Protect from sunlight. Store in a well-ventilated place.

2.3. Hazards Not Otherwise Classified (HNOC)

Contact with product may cause frostbite.

2.4. Other Information

3. Composition/information on Ingredients

3.1. Substance

The following component(s) in this product are considered hazardous under applicable OSHA(USA)

Chemical name	CAS No.	weight-%
1,1,1,2,2,4,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentane	756-13-8	60 - 100

4. First aid measures

4.1. Description of first aid measures

General Advice	Call 911 or emergency medical service. Remove and isolate contaminated clothing and shoes.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. Get medical attention if irritation develops and persists.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.)
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control center or physician immediately.
Self-Protection of the First Aider	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms Unconsciousness.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

5.1. Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Unsuitable Extinguishing Media

None.



5.3. Specific Hazards Arising from the Chemical

None known.

Hazardous Combustion Products	Carbon oxides, Fluorinated oxides, Nitrogen oxides (NOx)
--------------------------------------	--

5.4. Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

5.5. Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions	Ensure adequate ventilation, especially in confined areas.
-----------------------------	--

OTHER INFORMATION	Ventilate the area.
--------------------------	---------------------

For emergency responders	Use personal protection recommended in Section 8.
---------------------------------	---

6.2. Environmental Precautions

Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.
----------------------------------	--

6.3. Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
--------------------------------	---

Methods for Cleaning Up	Pick up and transfer to properly labeled containers.
--------------------------------	--

7. Handling and Storage

7.1. Precautions for Safe Handling

Advice on safe handling	Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice.
--------------------------------	--

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
---------------------------	--

Incompatible Materials	Strong oxidizing agents. Strong acids. Strong bases.
-------------------------------	--

8. Exposure Controls/Personal Protection

8.1. Control Parameters

**Exposure guidelines****8.2. Appropriate Engineering Controls**

Engineering controls Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection Avoid contact with eyes. Tight sealing safety goggles.

Skin and Body Protection Wear protective gloves and protective clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Ventilation Use local exhaust or general dilution ventilation to control exposure with applicable limits

8.4. General hygiene considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

Physical State	Liquid	Color	Colorless
Odor	Characteristic		
Odor Threshold	No data available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	
Melting point/freezing point	No data available	
Boiling point / boiling range	49 °C / 120 °F	
Flash Point	No data available	
Evaporation Rate	No data available	
Flammability (solid, gas)	No data available	
Flammability limit in air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	
Specific gravity	No data available	
Water Solubility	No data available	
Solubility in Other Solvents	No data available	
Partition coefficient	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Kinematic viscosity	No data available	

10. Stability and Reactivity**10.1. Chemical Stability**

Stable under recommended storage conditions.



10.2. Reactivity

No data available

10.3. Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

10.4. Conditions to Avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx). Fluorinated oxides.

11. Toxicological Information

11.1. Information on Likely Routes of Exposure

Product information

Inhalation	In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation. In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death.
Eye Contact	Contact with product may cause frostbite.
Skin contact	Contact with product may cause frostbite.
Ingestion	Not an expected route of exposure.

Acute Toxicity

11.2. Information on Toxicological Effects

Symptoms No information available.

11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity	No information available.
Reproductive Toxicity	Lack of oxygen during pregnancy has produced developmental abnormalities in humans and experimental animals.
STOT - Single Exposure	No information available.
STOT - Repeated Exposure	No information available.
Target organ effects	Respiratory System.
Aspiration Hazard	No information available.

11.4. Numerical Measures of Toxicity - No information available



12. Ecological Information

12.1. Ecotoxicity

Not classified.

12.2. Persistence and Degradability

No information available.

12.3. Bioaccumulation

No information available.

12.4. Other Adverse Effects

No information available

13. Disposal Considerations

13.1. Waste Treatment Methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Do not reuse container.

14. Transport Information

DOT

UN/ID no	UN1956
Proper Shipping Name	Compressed gas, n.o.s. (Nitrogen Mixture)
Description	UN1956, Compressed gas, n.o.s. (Nitrogen Mixture), 2.2
Hazard class	2.2
Emergency Response Guide Number	126

TDG

UN/ID no	UN1956
Description	UN1956, Compressed gas, n.o.s., 2.2
Proper Shipping Name	Compressed gas, n.o.s.
Hazard class	2.2

MEX

UN/ID no	UN1956
Description	UN1956, Compressed gas, n.o.s. (Nitrogen Mixture), 2.2
Proper Shipping Name	Compressed gas, n.o.s. (Nitrogen Mixture)
Hazard class	2.2

ICAO (air)

UN/ID no	UN1956
Description	UN1956, Compressed gas, n.o.s. (Nitrogen Mixture), 2.2
Proper Shipping Name	Compressed gas, n.o.s. (Nitrogen Mixture)



Product code 17737

/ Product name 3M™ Novac™ /
1230 Fire Protection Fluid
[FK-5-1-12]

PAGE 7 / 8

Hazard class 2.2

IATA

UN/ID no UN1956
Description UN1956, Compressed gas, n.o.s. (Nitrogen Mixture), 2.2
Proper Shipping Name Compressed gas, n.o.s.
Proper Shipping Name Compressed gas, n.o.s. (Nitrogen Mixture)
Hazard class 2.2
ERG Code 2L

IMDG

UN/ID no UN1956
Description UN1956, Compressed gas, n.o.s., 2.2
Proper Shipping Name Compressed gas, n.o.s.
Proper Shipping Name Compressed gas, n.o.s.
Hazard class 2.2
EmS-No F-C, S-V
Special Provisions 274

15. Regulatory Information

15.1. International Inventories

TSCA Does not comply
DSL/NDSL Does not comply
ENCS Does not comply
IECSC Does not comply
KECL Does not comply
PICCS Does not comply
AICS Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic health hazard No
Fire Hazard No
Sudden Release of Pressure Hazard Yes
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)



Product code 17737

/ Product name 3M™ Novec™ /
1230 Fire Protection Fluid
[FK-5-1-12]

PAGE 8 / 8

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.3. US State Regulations

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Nitrogen 7727-37-9	X	X	X
Helium 7440-59-7	X	X	X

16. Other information, including date of preparation of the last revision

NFPA	Health Hazards 0	Flammability 0	Instability 0	Physical and chemical properties -
HMIS	Health Hazards 0	Flammability 0	Physical Hazards 3	Personal Protection X

Revision date 04-Apr-2018

Revision note No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet