



## SDS (Safety Data Sheet)

This SDS has been prepared in accordance with the REACH Regulation 2020/878.

### SECTION 1. IDENTIFICATION

Product identifier: FK-5-1-12 (Fire Extinguishing Agent)  
Trade Name/Synonym: 3M™ Novec™ 1230 Fire Protection Fluid  
Product identification numbers: 98-0212-3203-2, 98-0212-3217-2, 98-0212-3414-5  
Intended Use: Streaming and flooding fire extinguishing agent  
Manufacturer/Supplier: Fireboy-Xintex Fireboy-Xintex UK Operations Limited  
O-379 Lake Michigan Dr. Unit 10 Holton, Holton Heath Trading Park  
Grand Rapids, MI 49534 Poole Dorset BH16 6LT UK  
1-616-735-9380 44 (0) 845 389 9462

### SECTION 2. HAZARDS IDENTIFICATION

OSHA/HCS status: This material is considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200)  
Classification of substance or mixture: Gases under Pressure  
GHS label elements:  
Hazard Pictograms:



Signal word: Warning  
Hazard statements: H280: Contains gas under pressure; may explode if heated  
P210: Keep away from heat/spark/open flame. – No smoking  
P233: Keep container tightly closed in a cool/well-ventilated place  
P260: Do not breathe dust/fumes/gas/vapors/spray  
P273: Avoid release to the environment  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P403: Use and store only in a well-ventilated area  
Other Hazards: May cause frostbite  
May displace oxygen and cause rapid suffocation.  
Overheating and over pressurizing may cause gas release or violent cylinder bursting.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	REACH-No.	Concentration
1,1,1,2,2,4,5,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentanone	756-13-8	01-2120426966-44	99.5%

### SECTION 4: FIRST AID MEASURES

Inhalation: Remove person to fresh air. If you are concerned, get medical advice.  
Skin Contact: Wash with soap and water. If signs/symptoms develop, get medical attention.  
Eye Contact: Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing.  
If Swallowed: Rinse mouth. If you feel unwell, get medical attention.

## SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Product is a fire-extinguishing agent. Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

Special hazards arising from the substance or mixture: Exposure to extreme heat can give rise to thermal decomposition.

Hazardous Decomposition or By-Products:

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Fluoride	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

Special protective actions for fire-fighters: When firefighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

Environmental precautions: Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

Methods and material for containment and cleaning up: Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7. HANDLING AND STORAGE

Handling: For industrial or professional use only. Contents may be under pressure, open carefully. Do not breathe thermal decomposition products. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

Storage: Protect from sunlight. Do not store in temperature above 130°F (54°C). Store away from strong bases. Store away from amines.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Provide appropriate local exhaust when product is heated. For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

Eye/face protection: Eye protection not required.

Skin/hand protection: No protective gloves required

Respiratory protection: Use a positive pressure supplied-air respirator if there is a potential for over exposure from an uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection. If thermal degradation products are expected, use a full face piece supplied-air respirator.

Exposure limits: Not established.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Liquid
Odor, Color, Grade:	Clear, colorless, low odor.
General Physical Form:	Liquid
Auto ignition temperature:	<i>Not Applicable</i>
Flash Point:	No flash point
Flammable Limits (LEL):	None detected
Flammable Limits (UEL):	None detected
Boiling Point:	49 °C [@ 760 mmHg]
Vapor Density:	11.6 [Ref Std: AIR=1]
Vapor Pressure:	40.4 kPa [@ 25 °C]
Specific Gravity:	1.6 [Ref Std: WATER=1]
pH:	<i>Not Applicable</i>
Melting point:	-108 °C
Solubility in Water:	Nil
Evaporation rate:	> 1 [Ref Std: BUOAC=1]
Volatile Organic Compounds:	1600 g/l [Test Method: calculated SCAQMD rule 443.1]
Kow - Oct/Water partition coef:	<i>Not Applicable</i>
Percent volatile:	100 %
VOC less H2O & Exempt Solvents:	1600 g/l [Test Method: calculated SCAQMD rule 443.1]
Viscosity:	0.6 centipoise [@ 25 °C]

## SECTION 10. STABILITY AND REACTIVITY

Chemical stability:	Stable
Conditions to avoid:	Light
Materials to avoid:	Strong bases, Amines, Alcohols
Hazardous Polymerization:	Hazardous polymerization will not occur.
Hazardous Decomposition or By-Products:	
<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Fluoride	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Ingredient name	LD50 Oral (rat)	LD50 Dermal (rat)	LC50 Inhalation (rat)
1,1,1,2,2,4,5,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentanone	> 2,000 mg/kg	> 2,000 mg/kg	>1,227 mg/l/4h (>10% by volume)

Skin Corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
STOT-single or multiple exposure	No information available
NOAEL & LOAEL (V/V)	10% & >10%
Aspiration hazard	No information available
Carcinogenicity	Not listed as a carcinogen by NTP, IARC, or OSHA

## SECTION 12. ECOLOGICAL INFORMATION

Toxicity (Ecotoxicity Fish, LC 50)	>1200 mg/l (Zebra Fish, 96h)
Degradability	Atmospheric lifetime is approximately 0.014 years (5 days)
Bioaccumulation/ Accumulation	No data available
Mobility in Environmental Media	Not available
Other adverse effects	Ozone Depletion Potential (CFC 11 = 1.0): 0.00 Global Warming Potential (CO2 = 1.0): 1.00

### SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with the local/regional/national/international regulations.  
Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include HF. Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.  
EPA Hazardous Waste Number (RCRA): Not regulated

### SECTION 14. TRANSPORT INFORMATION

ID Number(s): 98-0212-3031-7, 98-0212-3201-6, 98-0212-3203-2, 98-0212-3217-2, 98-0212-3371-7, 98-0212-3414-5, 98-0212-3588-6

FK-5-1-12 Extinguishing Agent by itself is not regulated by DOT

Or – If packaged as a charged Fire Extinguisher...

DOT	UN number:	1044
	Proper shipping name:	Fire Extinguishers
	Class:	2.2 (Non-Flammable Gas)
	Labelling No. :	2.2
IATA_C	UN number:	1044
	Proper shipping name:	Fire Extinguishers
	Hazard Class:	2.2 (Non-Flammable Gas)
	Packaging Group :	N/A
IMDG	UN number:	1044
	Proper shipping name:	Fire Extinguishers
	Hazard Class:	2.2 (Non-Flammable Gas)
	Packaging Group :	N/A
ADR	UN number:	1044
	Proper shipping name:	Fire Extinguishers
	Hazard Class:	2.2 (Non-Flammable Gas)
	Packaging Group :	N/A

### SECTION 15. REGULATORY INFORMATION

US federal regulations: Contact Fireboy-Xintex for more information.

311/312 Hazard Categories: Fire Hazard – No      Pressure Hazard – No,  
Reactivity Hazard – No      Immediate Hazard – No      Delayed Hazard - No

State regulations: Contact Fireboy-Xintex for more information.

Chemical inventories:

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact Fireboy-Xintex for more information.

International regulations: Contact Fireboy-Xintex for more information.

Additional information: U.S. EPA. Significant New Alternatives Policy Program (SNAP) approved for uses is streaming and flooding fire protection application. This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## SECTION 16. OTHER INFORMATION

### NFPA Hazard Classification:

Health: 3      Flammability: 0      Reactivity: 1      Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

### HMIS Hazard Classification:

Health: 0      Flammability: 0      Reactivity: 1      Protection: X - See PPE section

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.

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