

A UTC Fire & Security Company

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

**Product Name** 3M™ Novec™ 1230

**Other Trade Names**

**Product Description** Fire Extinguishing Agent

**Manufacturer/Supplier** Chemetron Fire Systems

**Address** 4801 Southwick Drive, 3<sup>rd</sup> Floor  
Matteson, IL 60443  
USA

**Phone Number** (708) 748-1503

**Chemtrec Number** (800) 424-9300

**(for emergencies only)** (703) 527-3887 (International)

**Revision Date:**

**MSDS Date:** February 9, 2009

*Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)*

### 2. HAZARDS IDENTIFICATION

**EU Main Hazards**  
R36 Irritating to eyes.

**Routes of Entry**

Eye contact - Inhalation - Skin contact - Ingestion

**Carcinogenic Status**

Not considered carcinogenic by NTP, IARC, and OSHA.

**Target Organs**

Eyes - Respiratory system

**Health Effects - Eyes**

Contact may cause slight irritation.

**Health Effects - Skin**

Not expected to cause irritation.

**Health Effects - Ingestion**

Not a likely route of exposure. No adverse effects are expected.

**Health Effects - Inhalation**

If thermal decomposition occurs, may be harmful if inhaled.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS#/Codes	Concentration	R Phrases	EU Classification
1,1,1,2,2,4,5,5,5,-Nonafluoro-4-(trifluoromethyl)-3-pentanone	756-13-8	>99.9%	R36	Xi

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#### 4. FIRST AID MEASURES

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##### **Eyes**

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

##### **Skin**

Flush with water. Obtain medical attention if symptoms persist.

##### **Ingestion**

Ingestion is not considered a potential route of exposure.

##### **Inhalation**

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

##### **Advice to Physicians**

Treat symptomatically.

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#### 5. FIRE - FIGHTING MEASURES

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##### **Extinguishing Media**

3M™ Novec™ 1230 is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may rupture or burst in the heat of a fire.

##### **Unusual Fire and Explosion Hazards**

Containers may explode in heat of fire. Predominant decomposition product is hydrogen fluoride in fire situations. By-products are irritating and potentially toxic.

##### **Protective Equipment for Fire-Fighting**

Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

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#### 6. ACCIDENTAL RELEASE MEASURES

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Wear full protective clothing. Remove leaking cylinder to a well ventilated area. Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal.

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#### 7. HANDLING AND STORAGE

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Containers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll containers. Do not drop containers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the container. Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - under cover - out of direct sunlight - away from incompatible materials (see Section 10)

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#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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##### **Occupational Exposure Standards**

##### **3M™ Novec™ 1230**

Manufacturer's recommended exposure limit: 150 ppm, 8 hr TWA

##### **Engineering Control Measures**

Use with adequate ventilation. Use local exhaust ventilation for open containers. There should be local procedures for the selection, training, inspection and maintenance of this equipment.

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#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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##### Respiratory Protection

Not normally required. If thermal decomposition occurs, use a self contained breathing apparatus.

##### Hand Protection

Protective Gloves

##### Eye Protection

Chemical goggles or safety glasses with side shields.

##### Body Protection

Normal work wear.

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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical State	Liquid
Color	Colorless
Odor	Slight
Specific Gravity	1.6
Boiling Range/Point (°C/F)	49.2 °C/120.6 °F
Melting Range/Point (°C/F)	-108 °C/-162.4 °F
Flash Point (PMCC) (°C/F)	Not Flammable
Solubility in Water	Nil
Vapor Density (Air = 1)	11.6
Vapor Pressure	0.404 bar (5.87 psig) @ 25 °C
VOC	1600 g/l
Evaporation Rate (Butyl Acetate =1 )	>1

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#### 10. STABILITY AND REACTIVITY

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##### Stability

Stable under normal conditions.

##### Conditions to Avoid

Exposure to direct sunlight - ultraviolet light

##### Materials to Avoid

Strong bases – amines - alcohols

##### Hazardous Polymerization

Will not occur.

##### Hazardous Decomposition Products

Oxides of carbon - hydrogen fluoride

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#### 11. TOXICOLOGICAL INFORMATION

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##### Acute Toxicity

NOAEL for cardiac sensitization: 10% v/v

Inhalation Study: No signs of acute toxicity were observed during a 4-hr acute inhalation study (rat) at 10%, a 2-hr. acute inhalation study (rat) at 10% and a 28 day acute inhalation study (rat) at 2.0%.

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### 11. TOXICOLOGICAL INFORMATION

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**Chronic Toxicity/Carcinogenicity**

This product is not expected to cause long term adverse health effects.

**Genotoxicity**

Not mutagenic in Ames assay.

**Reproductive/Developmental Toxicity**

This product is not expected to cause adverse reproductive effects.

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### 12. ECOLOGICAL INFORMATION

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**Mobility**

Product is highly insoluble in water and volatile.

**Persistence/Degradability**

Photolytic half-life: 3 - 5 days

Persistent Photolytic degradation product: trifluoroacetic acid.

**Bio-accumulation**

No data available.

**Ecotoxicity**

No data available.

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### 13. DISPOSAL CONSIDERATIONS

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Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near the container. If spilled, contents will vaporize to the atmosphere.

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### 14. TRANSPORT INFORMATION

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<b>DOT CFR 172.101 Data</b>	Compressed Gases, n.o.s. (C-6 Perfluoroketone), 2.2, UN1956
<b>UN Proper Shipping Name</b>	Compressed Gases, n.o.s. (C-6 Perfluoroketone)
<b>UN Class</b>	(2.2) Non-Flammable Gas
<b>UN Number</b>	UN1956
<b>UN Packaging Group</b>	Not applicable

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### 15. REGULATORY INFORMATION

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**EU Label Information**

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)

**EU Hazard Symbol and Indication of Danger.**

Xi - Irritant

**R phrases**

R36 Irritating to eyes.

**S phrases**

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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### 15. REGULATORY INFORMATION

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<b>US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS</b>
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**TSCA Listing**

This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

**ELINCS Listing**

All ingredients in this product have been verified for listing on the European List of Notified Chemical Substances (ELINCS).

**DSL/NDSL (Canadian) Listing**

All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

**WHMIS Classification**

D2B

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

**MA Right To Know Law**

All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimis concentration include: None

**PA Right To Know Law**

This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: None

**NJ Right To Know Law**

This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: None

**California Proposition 65**

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

**SARA Title III Sect. 302 (EHS)**

This product does not contain any chemicals subject to SARA Title III Section 302.

**SARA Title III Sect. 304**

This product does not contain any chemicals subject to SARA Title III Section 304.

**SARA Title III Sect. 311/312 Categorization**

- Immediate (Acute) Health Hazard - Pressure Hazard

**SARA Title III Sect. 313**

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

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### 16. OTHER INFORMATION

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**NFPA Ratings**

NFPA Code for Health - 3

NFPA Code for Flammability - 0

NFPA Code for Reactivity - 1

NFPA Code for Special Hazards – None

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**16. OTHER INFORMATION**

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**HMIS Ratings**

HMIS Code for Health - 0

HMIS Code for Flammability - 0

HMIS Code for Reactivity - 1

HMIS Code for Personal Protection - See Section 8

**Abbreviations**

N/A: Denotes no applicable information found or available

CAS#: Chemical Abstracts Service Number

ACGIH: American Conference of Governmental Industrial Hygienists

OSHA: Occupational Safety and Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

R: Risk

S: Safety

NOAEL: No Observed Adverse Effect Level

**Prepared By:** EnviroNet LLC.

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