



**PROTENG® PRODUCTS MATERIAL SAFETY DATA SHEET, WARNINGS & GUARANTEE**

**PROTENG® Product description: Automatic Fire Detection and Suppression Device**

**WARNING:**

This Product may become extremely hazardous and dangerous even if used improperly. Please read Product Warnings in their entirety contained on the Product Packaging and Product Instructions Manual and visit [www.PROTENG.com](http://www.PROTENG.com). Use product only for its intended use. Do not use if Product or packaging appears damaged.

**THIS PRODUCT CAN ONLY BE INSTALLED OR UN-INSTALLED OR REMOVED BY A PROTENG® DISTRIBUTION INC. DULY CERTIFIED INSTALLER. DO NOT INSTALL OR UN-INSTALL OR REMOVE THIS PRODUCT YOURSELF. AFTER FIRST HEAT CYCLES PRODUCT LOSES FLEXIBILITY AND CANNOT BE INSTALLED TO NEW AREAS.**

**OWNER/USER OF PROTENG® PRODUCTS IS RESPONSIBLE FOR PROPER HANDLING, USE AND DISPOSAL OF PROTENG® PRODUCTS.**

**PROHIBITED USES: Do not throw into open fire.  
Once installed, PROTENG® tube cannot be used for a different installation—Product is not transferable.  
This Product is not a toy—keep out of reach of children.**

**HAZARDS IDENTIFICATION:**

**CAUTION-** Handle with extreme care contents are under pressure; may explode if heated; may displace oxygen and cause rapid suffocation. This product is not a toy.  
**Gas under pressure – *liquified non-flammable gas -- Simple Asphyxiant***



**PROTENG® IS AN AUXILIARY AUTOMATIC FIRE SUPPRESSION AND DETECTION DEVICE TO SUPPLEMENT BUT NOT REPLACE ANY FIRE EXTINGUISHING SYSTEMS OR PRODUCTS. THIS PRODUCT IS NOT A FIRE EXTINGUISHING DEVICE AND CUSTOMER SHOULD NOT USE PRODUCT TO REPLACE ITS FIRE EXTINGUISHING SYSTEMS OR TO OTHERWISE MEET FIRE EXTINGUISHING REQUIREMENTS OF LAW. IF YOU SUSPECT OR BECOME AWARE OF A THREAT OF FIRE IN PROTENG® PROTECTED AREAS, CEASE THE SOURCE OF POWER TO RELEVANT AREAS; SEEK SAFETY AND CALL 911.**



**Emergency Information Number: 561 – PROTENG (776-8364)**

**Revision Date: April 24th, 2018**

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**Product Name(s) :** PROTENG® 300, 450, 1.100, 2.100 4.100  
PROTENG® HD 0.6, HD I, HD 1.25, HD II, HD 2.45, HD III

**Contains Fire Extinguishing Agent Heptafluoropropane (FM-200®)**

**Recommended Use:** For automatic fire detection and protection in enclosed areas up to 2m<sup>3</sup> (76 cubic ft). Enclosures must be calculated based on PROTENG® recommendations mentioned in installation manual. Heptafluoropropane is noncorrosive, electrically nonconductive, free of residue, and characterized by low toxicity. It is ideally suited for protection of high-value assets such as those found in computer rooms, data control centers, telecommunication facilities, and museums.

PROTENG® products contain fire extinguishing agent heptafluoropropane (FM-200®) which allow it to be used as a total flooding agent in normally occupied spaces for the protection of Class A (solid), Class B (liquid and gas), and Class C (electrically energized) hazards—**not CLASS D and not CLASS K.**

- CLASS A – common combustibles (wood, paper, cloth, etc.)
- CLASS B – flammable liquids and gases (gasoline, propane, solvents, etc.)
- CLASS C – live electrical equipment (computers, fuse boxes, data centers, etc.)
  - **PROTENG® TUBES AND EXTINGUISHING AGENT DO NOT PROTECT AGAINST FIRE CLASSES D AND K**
- CLASS D – combustible metals (magnesium, lithium, titanium, etc.)
- CLASS K – cooking media (fats, cooking oils, etc.)

PROTENG® products are not built to protect against outside fires, only areas installed by a PROTENG® DISTRIBUTION INC. DULY CERTIFIED INSTALLER. Heptafluoropropane (FM-200®) is also suitable for use as an inertion agent in explosion suppression applications.

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**Product guarantee:** PROTENG® products are designed to rupture from exposure to heat or open fire, thereby distributing the extinguishing agent instantly to the protected area. PROTENG® products are a single-use only product which cannot be reactivated. It is imperative that the product is routinely inspected for pressure. PROTENG® guarantees activation and delivery of the fire extinguishing agent to the protected area only.

**PROTENG® PRODUCTS AND/OR SYSTEM INSTALLATIONS CARRY A MANUFACTURER'S LIMITED WARRANTY, HOWEVER ALL SALES ARE FINAL AND NO REFUNDS WILL BE GIVEN.**

**Restrictions on Use:** PROTENG® is an auxiliary automatic fire suppression device to supplement, but not replace, any fire extinguishing systems or products.

**WARNINGS:**

- May cause asphyxiation.
- Use Product only for its intended use.
- Store and install this Product out of the reach of children.
- Product is toxic if swallowed.
- Product is toxic to aquatic life with long lasting effects.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Do not bend tube.
- Do not scratch or physically damage plastic tube.
- Do not open ends.
- Do not hold while exposed to heat and do not hold and simultaneously heat.
- Do not breach the capsule.
- Do not inhale.
- Do not replace your fire extinguisher systems.
- Do not touch with bare hands.

**Composition/information on Ingredients:**

- **LSED Heptafluoropropane (FM-200®)**
- **Pressure Tube standard or heavy duty "HD" in variable length in mm 300, 450, 1100, 2100, 4100**
- **Tube diameter 18mm**
- **Extinguishing media Heptafluoropropane (FM-200®)**
- **Pressure closure**
- **Ending closure**



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**Manufacturer/Contact Information:** PROTENG s.r.o., Vyšehradská 27, BRATISLAVA 85106  
Tel.: (+421) 948 13 00 13, proteng@protenggroup.eu, www.protenggroup.eu

**Distributor/Contact Information:** Proteng Distribution, Inc., 15074 Park of Commerce  
Boulevard, Suite 20, Jupiter, Florida 33478, Tel.: (561) 776-8364; Website: www.proteng.com  
Proteng Distribution Inc. not affiliated with the Manufacturer but is an independent contractor.

**General Description of Fire Extinguishing Agent Heptafluoropropane (FM-200®):**

A nonflammable compressed gas. Heavier than air. May cause asphyxiation by the displacement of air, especially in a confined space. Ensure adequate ventilation. Under prolonged exposure to fire or heat, the containers may rupture. Avoid exposure to direct sunlight.

Containers may explode, fracture or splinter when heated.

If the Product is breached or damaged, vapors may be released and cause dizziness or asphyxiation without warning. Vapors from liquefied gas are initially heavier than air and spread along ground. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. Fire may produce irritating, corrosive and/or toxic gases.

Isolation and Evacuation. As an immediate precautionary measure, isolate any spill or leak area.

Firefighting. Use an extinguishing agent suitable for type of surrounding fire.

Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area.

First Aid. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim calm and warm



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**SAFETY:**

Users of heptafluoropropane (FM-200®) should read and understand the DuPont Material Safety Data Sheet (MSDS). Copies of the FM-200® MSDS can be obtained from DuPont Customer Service or International Offices (see last page of this document for locations, telephone numbers, and Web site).

**Inhalation Toxicity**

Heptafluoropropane FM-200® poses no acute or chronic hazard when it is handled in accordance with DuPont recommendations and when the exposure is maintained below the recommended exposure limits. DuPont has established the Allowable Exposure Limit (AEL) for FM-200® at 1000 ppm, 8-hr and 12-hr TWA.

However, inhaling high concentrations of heptafluoropropane (FM-200®) vapor may cause temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, loss of coordination, and even loss of consciousness. Higher exposures to the vapors may cause temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation. Intentional misuse or deliberate inhalation may cause death without warning.

If a person is experiencing any of the initial symptoms, they should be moved to fresh air and kept calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention. Call 911.

**Cardiac Sensitization**

If vapors are inhaled at a concentration of 105,000 ppm and higher, the heart may become sensitized to adrenaline, leading to cardiac irregularities and, possibly, cardiac arrest. Similar effects are observed with many hydrocarbons and halocarbons at high concentrations. The likelihood of these cardiac problems increases if the person is under physical or emotional stress.

Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be considered only as a last resort in life-threatening emergencies.



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The threshold cardiac sensitization, lowest observed adverse effect level (LOAEL) for FM-200® is 105,000 ppm (10.5%) and the no observed adverse effect level (NOAEL) is 90,000 ppm (9%) as determined in epinephrine-challenged dogs.

**Skin and Eye Contact**

At room temperature, FM-200® vapors have little or no effect on the skin or eyes. However, in the liquid form, FM-200® can freeze the skin or eyes on contact, causing frostbite. If contact with liquid does occur, soak the exposed area in lukewarm water, not cold or hot. In all cases, seek medical attention as soon as possible.

Always wear protective clothing when there is a risk of exposure to liquid FM-200®. Where splashing of FM-200® may occur, always wear eye protection and a face shield.

**Spills or Leaks**

If a large release of vapors occurs, such as from a large leak or spill, the vapors may concentrate near the floor or in subfloor areas and displace the oxygen available for breathing, causing suffocation.

Evacuate everyone until the area has been well ventilated. Use blowers or fans to circulate the air at floor level. Do not re-enter the affected area without self-contained breathing apparatus or unless the area has been monitored to indicate that the concentration of heptafluoropropane (FM-200®) vapors in the area is below the AEL of 1000 ppm.

**First Aid Measures:**

**Eyes** - Immediately flush eyes with plenty of warm water for at least 15 minutes, holding the eye open. Immediately call a physician and obtain medical attention.

**Skin** - Gently warm the affected area. Flush with warm water. Obtain medical attention if frostbite or blistering occurs or redness persists.

**Inhalation** - Remove from exposure. If inhaled, immediately remove to fresh air. If not breathing administer CPR. Call 911 or EMS. If breathing is difficult, administer oxygen. Obtain medical attention immediately.

**Advice to Physicians** - In case of frostbite, place the frostbitten part in warm water. If warm water is not available or impractical to use, wrap the affected parts gently in blankets. DO NOT USE HOT WATER. The use of epinephrine or similar compounds can increase susceptibility to heart irregularities caused by excessive exposure to these types of compounds.



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**Fire Fighting Instructions:**

Although non-flammable, if fire surrounds Product, use self-contained breathing apparatus if cylinders rupture or release under fire conditions. Keep cylinders cool with water spray applied from a safe distance.

**Accidental Release Measures:**

Evacuate people and animals, thoroughly ventilate area, use self-contained breathing apparatus. Keep upwind of the leak.

**Carcinogenic Status**

Not considered carcinogenic by National Toxicology Program, International Agency for Research on Cancer and Occupational Safety and Health Administration

**Accidental Release Measures**

Wear full protective clothing and self-contained breathing apparatus. Remove leaking cylinder to a safe place. Ventilate the area. Leaks inside confined spaces may cause suffocation as vapors may displace air, and should not be entered without a self-contained breathing apparatus.

**Handling and Storage**

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 containers. Store away from sources of heat or ignition. Storage area should be cool, dry, well ventilated, under cover and out of direct sunlight.

**Disposal Considerations**

Treatment, storage, transportation and disposal of Product in accordance with all applicable local, state, federal, provincial and national regulations. Do not cut, puncture or weld on or near the container. If spilled, contents will vaporize to the atmosphere.

**Regulatory Information on Contents of the Product heptafluoropropane (FM-200®)**

**US Regulations (Federal, State) and International Chemical Registration Laws**

**TSCA Listing**

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



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**EINECS Listing**

All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (“EINECS”) or the European List of New Chemical Substances (“ELINCS”) or are exempt from listing.

**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 - A**

This product was classified in accordance with the hazard criteria of the Canadian Workplace Hazardous Materials Information System (“WHMIS”) 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.

**Superfund Amendments and Reauthorization Act (“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.

**OTHER INFORMATION**

**National Fire Protection Association (“NFPA”) Ratings**

NFPA Code for Health - 1

NFPA Code for Flammability - 0

NFPA Code for Reactivity - 0

NFPA Code for Special Hazards – None



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**OTHER INFORMATION**

**Hazardous Materials Identification System (“HMIS”) Ratings**

HMIS Code for Health - 1

HMIS Code for Flammability - 0

HMIS Code for Reactivity - 0

HMIS Code for Personal Protection – to be supplied by user depending upon use conditions

**Physical and Chemical Properties**

Boiling Point: -16.3°C (2.7° F)

Melting Point: -131°C (-204°F)

Vapor Pressure: 4.547 hPa @ 25°C (77°F)

Liquid Density: 1.388 g/cm3 @ 25°C (77°F)

Critical Temperature: 101.6°C (214.9°F)

Critical Pressure: 424.7 psi (2930 kPa)

Odor: Slight Ethereal

Form: Liquified Gas

The information contained herein is based on data believed to be accurate. It is subject to revision as additional knowledge and experience is gained. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. PROTENG® Distribution, Inc. assumes no responsibility for death, personal injury or property damage resulting from use, handling or from contact with this Product.



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**OWNER INFORMATION AND AGREEMENT:** By signing this document the Owner acknowledges receipt of this **PROTENG® PRODUCTS MATERIAL SAFETY DATA SHEET, WARNINGS & GUARANTEE**; Product Packaging and Product Instructions Manual; and Warranty. Owner also acknowledges a full understanding of the statements made herein.

**PROTENG® PRODUCTS AND/OR SYSTEM INSTALLATIONS CARRY A MANUFACTURER’S WARRANTY, HOWEVER ALL SALES ARE FINAL AND NO REFUNDS WILL BE GIVEN.**

**OWNER NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**PHONE NUMBER:** \_\_\_\_\_

**EMAIL:** \_\_\_\_\_

**SIGNATURES:** \_\_\_\_\_

**OWNER**

\_\_\_\_\_

**PROTENG® REPRESENTATIVE**

\*\*\*THE SECTION BELOW TO BE COMPLETED BY AUTHORIZED PESONNEL\*\*\*



**INVOICE NUMBER:** \_\_\_\_\_

**ADDITIONAL COMMENTS:** \_\_\_\_\_

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