SAFETY DATA SHEET

North American Version

HYFLON(R) PFA P7000X

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Identification of the substance or preparation

Product name	:	HYFLON(R) PFA P7000X
Molecular formula	:	(C2F4)n(C5F10O)m
Structural formula		-(CF2-CF2)n-[CF2-CF(OCF2-CF2-CF3)]m-

1.2. Use of the Substance/Preparation

Recommended use	:	- For industrial use only.

1.3. Company/Undertaking Identification

Address	:	SOLVAY SOLEXIS, INC. 10 LEONARD LANE WEST DEPTFORD NJ 08086 United States

1.4. Emergency and contact telephone numbers

Emergency telephone	:	**1 (800) 424-9300 CHEMTREC ® (USA & Canada)**
Contact telephone number (product information):	:	**(856) 853-8119 (Product information)**

2. HAZARDS IDENTIFICATION

2.1. Emergency Overview:

NFPA : H= 1 F= 0 I= 0

General Information

Appearance	:	powder
Colour	:	white
Odour	:	odourless

Main effects

- The product is biologically inert.
- Not hazardous in normal conditions of handling and use
- Ecological injuries are not known or expected under normal use.
- Thermal decomposition can lead to release of toxic and corrosive gases.

2.2. Potential Health Effects:

Inhalation

- Mechanical irritation from the particulates generated by the product.
- The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.
- Symptoms: Headache, Shortness of breath, Cough.

Eye contact

- Mechanical irritation from the particulates generated by the product.

SOLVAY

- Exposure to decomposition products:
- Symptoms: Irritation, Redness, Burn.

Skin contact
- Mechanical irritation from the particulates generated by the product.
- Exposure to decomposition products:
- Symptoms: Irritation, Redness, Burn.

Ingestion
- Low ingestion hazard.

Other toxicity effects
- See section 11: Toxicological Information

2.3. Environmental Effects:
- See section 12: Ecological Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Copolymer of Tetrafluoroethene and Perfluoropropylvinylether

CAS-No.	:	26655-00-5
Concentration	:	**> 99.9 %**

4. FIRST AID MEASURES

4.1. Inhalation
- Remove the subject from dusty environment and let him blow his nose.

Exposure to decomposition products :
- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Symptoms of poisoning may develop many hours after exposure.
- Keep under medical supervision for at least 48 hours.

4.2. Eye contact
- In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Exposure to decomposition products :
- Rinse immediately with plenty of water, also under the eyelids.
- Remove contact lenses.

4.3. Skin contact
- Wash off with soap and water.

Exposure to decomposition products :
- Wash off with soap and water.
- If fingers/finger nails are touched, even if there is no pain, dip them in a bath of 5% calcium gluconate for 15 to 20 minutes.
- Consult a physician.

4.4. Ingestion
- If large quantities of this material are swallowed, call a physician immediately.
- Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

5.1. Suitable extinguishing media
- Water

- powder
- Foam
- Dry chemical
- Carbon dioxide (CO2)

5.2. Extinguishing media which shall not be used for safety reasons

- None.

5.3. Special exposure hazards in a fire

- The product is not flammable.
- Not explosive
- In case of fire hazardous decomposition products may be produced such as: Gaseous hydrogen fluoride (HF), Fluorophosgene

5.4. Hazardous decomposition products

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene

5.5. Special protective equipment for fire-fighters

- Wear self-contained breathing apparatus and protective suit.
- When intervention in close proximity wear acid resistant over suit.

5.6. Other information

- Evacuate personnel to safe areas.
- Approach from upwind.
- Protect intervention team with a water spray as they approach the fire.
- Keep containers and surroundings cool with water spray.
- Keep product and empty container away from heat and sources of ignition.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions

- Ensure adequate ventilation.
- Avoid dust formation.
- Material can create slippery conditions.
- Sweep up to prevent slipping hazard.
- Prevent further leakage or spillage if safe to do so.
- Keep away from open flames, hot surfaces and sources of ignition.
- Refer to protective measures listed in sections 7 and 8.

6.2. Environmental precautions

- Should not be released into the environment.
- The product should not be allowed to enter drains, water courses or the soil.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.

6.3. Methods for cleaning up

- Sweep up or vacuum up spillage and collect in suitable container for disposal.

7. HANDLING AND STORAGE

7.1. Handling

- No special handling advice required.
- Ensure adequate ventilation.
- Avoid dust formation.
- Use personal protective equipment.

- Do not contaminate tobacco products.
- Keep away from heat and sources of ignition.
- To avoid thermal decomposition, do not overheat.
- Take measures to prevent the build up of electrostatic charge.
- Clean and dry piping circuits and equipment before any operations.
- Ensure all equipment is electrically grounded before beginning transfer operations.

7.2. Storage

- No special storage conditions required.
- Keep in properly labelled containers.
- Keep away from heat and sources of ignition.
- Keep away from combustible material.
- Keep away from Incompatible products.

7.3. Packaging material

- Metals
- Plastic material
- glass
- in cardboard box

7.4. Other information

- Provide tight electrical equipment well protected against corrosion.
- Refer to protective measures listed in sections 7 and 8.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure Limit Values

Particles not otherwise specified (PNOS)

- US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) 02 2006
  Permissible exposure limit = 5 mg/m3
  Remarks: respirable dust fraction, All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
- US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) 02 2006
  Permissible exposure limit = 15 mg/m3
  Remarks: Total dust, All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 15 millions of particles per cubic foot of air
  Remarks: respirable dust fraction
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 50 millions of particles per cubic foot of air
  Remarks: Total dust
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 5 mg/m3
  Remarks: respirable dust fraction
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 15 mg/m3
  Remarks: Total dust
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989
  time weighted average = 5 mg/m3
  Remarks: respirable dust fraction
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989

time weighted average = 15 mg/m3
Remarks: Total dust
- US. ACGIH Threshold Limit Values 2008
time weighted average = 10 mg/m3
Remarks: Inhalable particles.

Remarks:
- Threshold limit values of by-products from thermal decomposition

Hydrogen fluoride anhydrous
- US. ACGIH Threshold Limit Values 2007
time weighted average = 0.5 ppm
Remarks: as F
- US. ACGIH Threshold Limit Values 2007
Ceiling Limit Value = 2 ppm
Remarks: as F
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989
time weighted average = 3 ppm
Remarks: as F
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989
Short term exposure limit = 6 ppm
Remarks: as F

Carbonyl difluoride
- US. ACGIH Threshold Limit Values 01 2006
time weighted average = 2 ppm
- US. ACGIH Threshold Limit Values 01 2006
Short term exposure limit = 5 ppm
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989
time weighted average = 2 ppm
time weighted average = 5 mg/m3
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989
Short term exposure limit = 5 ppm
Short term exposure limit = 15 mg/m3

ACGIH® and TLV® are registered trademarks of the American Conference of Governmental Industrial Hygienists.
SAEL = Solvay Acceptable Exposure Limit, Time Weighted Average for 8 hour workdays. No Specific TLV STEL (Short Term Exposure Level) has been set. Excursions in exposure level may exceed 3 times the TLV TWA for no more than a total of 30 minutes during a workday and under no circumstances should they exceed 5 times the TLV TWA.

8.2. Engineering controls

- Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.
- In case of high-temperature processing
- Provide local ventilation appropriate to the product decomposition risk (see section 10).
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.
- For additional information, consult the current edition of The Guide to the Safe Handling of Fluoropolymers published by the Society of Plastics Industry, Inc. (SPI) Fluoropolymer Division.

8.3. Personal protective equipment

8.3.1. Respiratory protection

- In case of decomposition (see Section 10), wear a suitable respirator with a combination filter for organic vapor and particulate.
- Use NIOSH approved respiratory protection.
- Comply with OSHA respiratory protection requirements.
- For additional information, consult the current edition of The Guide to the Safe Handling of Fluoropolymers published by the Society of Plastics Industry, Inc. (SPI) Fluoropolymer Division.

8.3.2. Hand protection

- Rubber gloves
- When handling hot material, use heat resistant gloves.
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

8.3.3. Eye protection

- Safety glasses with side-shields
- In case of high-temperature processing
- Tightly fitting safety goggles

8.3.4. Skin and body protection

- long sleeved clothing
- Rubber apron

8.3.5. Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General Information

Appearance	:	powder
Colour	:	white
Odour	:	odourless

9.2. Important health safety and environmental information

Boiling point/boiling range	:	*Remarks*: not applicable
Flash point	:	*Remarks*: The product is not flammable.
Flammability	:	*Remarks*: The product is not flammable.
Explosive properties	:	*Explosion danger*: *Remarks*: Not explosive
Oxidizing properties	:	*Remarks*: Non oxidizer
Relative density / Density	:	2.1 - 2.2 g/cm3 *Temperature*: 23 °C (73 °F)
Solubility	:	Water *Remarks*: insoluble

9.3. Other data

Melting point/range	:	300 - 310 °C (572 - 590 °F)
Decomposition temperature	:	> 330 °C (626 °F)

10. STABILITY AND REACTIVITY

10.1. Stability
- Stable under recommended storage conditions.

10.2. Conditions to avoid
- To avoid thermal decomposition, do not overheat.
- Keep away from flames and sparks.
- Keep at temperature not exceeding: 330 °C (626 °F)

10.3. Materials to avoid
- Combustible material, Flammable materials, Alkali metals (molten form)

10.4. Hazardous decomposition products
- Gaseous hydrogen fluoride (HF)., Fluorophosgene

11. TOXICOLOGICAL INFORMATION

Toxicological data

Remarks
- Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.
- The product is biologically inert.
- Product dust may be irritating to eyes, skin and respiratory system.
- The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity effects

Acute toxicity
- Remarks: no data available

12.2. Mobility
- Remarks: no data available

12.3. Persistence and degradability

Abiotic degradation
- Result: no data available

Biodegradation
- Remarks: no data available

12.4. Bioaccumulative potential
- Result: no data available

12.5. Other adverse effects
- no data available

12.6. Remarks
- Ecological injuries are not known or expected under normal use.

13. DISPOSAL CONSIDERATIONS

13.1. Waste from residues / unused products
- Can be incinerated, when in compliance with local regulations.
- The incinerator must be equipped with a system for the neutralisation or recovery of HF.

- In accordance with local and national regulations.

13.2. Packaging treatment

- Empty containers can be landfilled, when in accordance with the local regulations.

13.3. RCRA Hazardous Waste

- Listed RCRA Hazardous Waste (40 CFR 302) - No

14. TRANSPORT INFORMATION

- Sea (IMO/IMDG)
- not regulated
- Air (ICAO/IATA)
- not regulated
- U.S. Dept of Transportation
- not regulated
- It is recommended that ERG Guide number 111 be used for all non-regulated material.
- Canadian Transportation of Dangerous Goods
- not regulated

15. REGULATORY INFORMATION

15.1. Inventory Information

Toxic Substance Control Act list (TSCA)	: -	In compliance with inventory.
Australian Inventory of Chemical Substances (AICS)	: -	In compliance with inventory.
Canadian Domestic Substances List (DSL)	: -	In compliance with inventory.
Inventory of Existing Chemical Substances (China) (IECS)	: -	In compliance with inventory.
Korea Existing Chemicals Inv. (KECI) (KECI (KR))	: -	In compliance with inventory.
Japanese Existing and New Chemical Substances (MITI List) (ENCS)	: -	In compliance with inventory.
New Zealand Inventory (in preparation) (NZ)	: -	In compliance with inventory.
Philippine Inventory of Chemicals and Chemical Substances (PICCS)	: -	In compliance with inventory.
EU list of existing chemical substances (EINECS)	: -	not applicable, Product falls under the EU-polymer definition..

15.2. Other regulations

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

- not regulated.

SARA Hazard Designation (SARA 311/312)

- Acute Health Hazard: No.
- Chronic Health Hazard: No.
- Fire Hazard: No.
- Reactivity Hazard: No.
- Sudden Release of Pressure Hazard: No.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

- not regulated.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

- not regulated.

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

- not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

- not regulated.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

- This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects..

OSHA Hazard communication standard

- This material is non-hazardous as defined by the American OSHA Hazard Communication Standard.

15.3. Classification and labelling

Canada. Canadian Environmental Protection Act (CEPA). WHMIS Ingredient Disclosure List (Can. Gaz., Part II, Vol. 122, No. 2)

- Does not contain a controlled product

16. OTHER INFORMATION

Ratings :

NFPA (National Fire Protection Association)
Health = 1 Flammability = 0 Instability = 0

Further information

- New (MSDS)
- Distribute new edition to clients

Material Safety Data Sheets contain country specific regulatory information; therefore, the MSDS's provided are for use only by customers of the company mentioned in section 1 in North America. If you are located in a country other than Canada, Mexico or the United States, please contact the Solvay Group company in your country for MSDS information applicable to your location. The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product). To our actual knowledge, the information contained herein is accurate as of the date of this document. However, neither the company

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