



## Material Safety Data Sheet – Chemically Modified – PTFE Products



### SECTION 1 – MANUFACTURERS INFORMATION

MANUFACTURER'S NAME : HINDUSTAN NYLONS  
PHYSICAL ADDRESS : PLOT NO.C-23, MIDC Industrial Area,  
Miraj Block, Miraj – 416 410 (Maharashtra)  
PHONE NUMBER : 0091-233-2644468, 2644868, 2645772  
FASCIMILE NUMBER : 0091-233-2644772  
E-MAIL ID : contact@h-n.co.in; ceo@h-n.co.in  
EMERGENCY PHONE NUMBER : 0091-9373054560, 9373056560

### SECTION 2 - PRODUCT IDENTIFICATION

PRODUCT NAME : Chemically Modified PTFE Products  
SYNONYMS : Teflon NXT Products, TFM Products  
CHEMICAL FAMILY : Fluorocarbon Polymer  
MAJOR APPLICATIONS : Sealing

### SECTION 3 - INGREDIENTS INFORMATION

COMPONENTS	CAS NUMBER	%AGE BY WEIGHT	CHEMICAL FORMULA
Polytetrafluoroethylene	9002-84-0	100%	~C <sub>2</sub> F <sub>4</sub> ~

### SECTION 4 - HAZARDOUS INGREDIENTS

COMPONENTS	CAS NUMBER	%AGE BY WEIGHT	CHEMICAL FORMULA
Polytetrafluoroethylene	9002-84-0	100%	~C <sub>2</sub> F <sub>4</sub> ~

### SECTION 5 - PHYSICAL DATA

GENERAL PHYSICAL FORM : Solid  
BOILING POINT : Not applicable  
MELTING POINT : 320-340 deg C  
SPECIFIC GRAVITY (H<sub>2</sub>O=1) : 2.1 – 2.3 at 25 deg C  
EVAPORATION RATE (Butyl acetate=1) : Not applicable  
SOLUBILITY IN WATER : Nil  
APPEARANCE / COLOUR : Translucent to milky-white  
ODOR : no odor

### SECTION 6 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, METHOD : 530-550 deg C, ASTM D1929  
SELF IGNITION TEMPERATURE, METHOD : 520-560 deg C, ASTM D1929  
LIMITING OXYGEN INDEX/ METHOD : >95, ASTM D 2863  
EXTINGUISHING MEDIA : Water, foam, dry chemical, CO<sub>2</sub>, as appropriate for surrounding fire  
SPECIAL FIRE FIGHTING PROCEDURES : Wear self-contained breathing apparatus.  
Wear full protective equipment.  
UNUSUAL FIRE AND EXPLOSION HAZARDS : Products will emit toxic fumes at high temperature  
Does not burn without an external flame.  
Protect from hydrogen fluoride fumes which react with water to form hydrofluoric acid.  
Wear neoprene gloves when handling refuse from a fire involving PTFE (Polytetrafluoroethylene).  
Difficult to ignite, and flame goes out when initiating source is removed. Limited flame spread and low smoke generation.  
Complies with definition of "limited combustible" material. High self-ignition and auto-ignition temperatures (ASTM D1929).  
Hazardous gases/vapors produced in a fire are hydrogen fluoride (HF), carbon monoxide, and potentially toxic fluorinated compounds.

## **SECTION 7 - HEALTH HAZARD DATA**

### **ACUTE EFFECTS OF EXPOSURE**

INGESTION	:	Harmless
EYE CONTACT	:	May cause eye irritation.
SKIN CONTACT	:	Does not irritate human skin.
INHALATION	:	Inhalation of fumes from overheating (above 300 deg C) PTFE (Polytetrafluoroethylene) may cause polymer fume fever, a temporary flu like illness with fever, chills, and sometimes cough, of approximately 24 hours duration. Trace amounts of carbonyl fluoride and hydrogen fluoride may also be evolved when PTFE is overheated or burned above 400 deg C. Inhalation of low concentrations of HYDROGEN FLUORIDE can initially include symptoms of choking, coughing, and severe eye, nose, and throat irritation. This is possibly followed after a symptomless period of one to two days by fever, chills, difficulty in breathing, cyanosis, and pulmonary edema. Acute or chronic overexposure to HF can injure the liver and kidneys. Inhalation, ingestion, or skin or eye contact with CARBONYL FLUORIDE may initially include: skin irritation with discomfort or rash; eye corrosion with corneal or conjunctival ulceration; irritation of the upper respiratory passages; or temporary lung irritation effect with cough, discomfort, difficulty in breathing, or shortness of breath. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures from thermal decomposition products.
CARCINOGENICITY:		<b>Not listed</b>
TOXICITY	:	Physiologically inert & no toxicological effects

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## **SECTION 7 - EMERGENCY AND FIRST AID PROCEDURES**

INHALATION	:	No specific intervention is indicated as the PTFE Product is not likely to be hazardous by inhalation. Consult a physician if necessary. If exposed from fumes from overheating or combustion, move to fresh air. Consult a physician if symptoms persist.
SKIN CONTACT	:	The PTFE Product is not likely to be hazardous by skin contact.
EYE CONTACT	:	In case of contact, immediately flush eyes with plenty of water and get medical attention if irritation occurs.
INGESTION	:	No specific intervention is indicated as the PTFE Product is not likely to be hazardous by ingestion. If gastrointestinal symptoms develop, get medical attention.

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## **SECTION 8 - PERSONAL PROTECTION / PREVENTIVE MEASURES**

RESPIRATORY	:	Where the material temperature is above 300 deg C, use a positive pressure supplied air respirator.
EYE PROTECTION	:	Not normally required.
PROTECTIVE CLOTHING	:	Not normally required.
OTHER PROTECTIVE EQUIPMENT	:	Not applicable.
VENTILATION	:	Provide local exhaust if PTFE Product is heated above 300 deg C.

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## **SECTION 9 - REACTIVITY DATA**

STABILITY	:	Stable
INCOMPATIBILITY (MATERIALS TO AVOID)	:	Molten alkali metals and interhalogen compounds.
HAZARDOUS DECOMPOSITION PRODUCTS	:	When heated above 300 deg C, may cause evolution of particulate matter, which can cause polymer fume fever. When heated above 400 deg, small amounts of hydrogen fluoride and perfluorohydrocarbons such as tetrafluoroethylene, hexafluoropropylene, perfluoroisobutylene, and carbonyl fluoride may be evolved.
HAZARDOUS POLYMERIZATION	:	Will not occur

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**SECTION 10 – SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED : Recover undamaged material, clean as needed, and reuse

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**SECTION 11 – DISPOSAL PROCEDURES**

WASTE DISPOSAL METHODS RECYCLING : Yes  
SANITARY LANDFILL : Yes for quantities less than 50 Kgs  
INCINERATION : Yes, with Incineration capable of scrubbing with hydrogen fluoride & other acidic combustion products.  
HAZARDOUS WASTE NUMBER : Not Regulated

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**SECTION 12 – STORAGE & HANDLING PROCEDURES**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE : Upto 250°C – No Special Procedures  
Above 275 deg C, PTFE Product can Evolve toxic gaseous products. Provide good ventilation or respirator if there exists a probability of exceeding 260 deg C.  
SPECIAL PRECAUTIONS : None

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**SECTION 13 – TRANSPORTATION**

TRANSPORT HAZARDS CLASS : N.A.  
ENVIRONMENT HAZARDS : None  
SPECIAL PRECAUTIONS FOR TRANSPORTERS : None

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**SECTION 14 – SUITABILITY FOR SPECIAL APPLICATIONS**

FOOD CONTACT : Stable & Inert  
PHARMACEUTICAL : Stable & Inert  
HUMAN BODY INPLANTS : Specific Grades are suitable  
NUCLEAR : Stable  
SPACE : Stable

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**SECTION 15 – INFORMATION ON ECOLOGY**

This product is considered harmless to the environment and causes no ecological damage. This material is biologically inert, non biodegradable and does not interfere with the operation of biological waste treatment plants.

CLASSIFICATION : Not Regulated

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**SECTION 16 – SUPPLIERS STATEMENT**

DISCLAIMER : To the best of our knowledge the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy or completeness of such information. We strongly recommend that users seek and adhere to the manufacturers' or supplier's current instructions for handling each material they use and they satisfy themselves that they can meet all applicable safety and health standards.

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