

## SAFETY DATA SHEET

ACCORDING TO EC-REGULATION 1272/2008 (CLP/GHS).

### 1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<b>1.1</b>	<b>Product identifier</b>	
	Product Name	Polytetrafluoroethylene.
	Chemical Name	Polytetrafluoroethylene.
	Trade name	Fluoroplast-4 of "PN", "T", "O", "PN <sub>20</sub> ", "PN <sub>40</sub> ", "PN <sub>90</sub> ", "N", "K" grades. Fluoroplast-4RB, Fluoroplast-4RBM1, Fluoroplast-4RBM2 Fluoroplast-4 modified of F-4M, F-4MA, F-4ML, F-4MT, F-4MO, F-4MN and F-4MK grades Fluoroplast-4PN-M of 1 2 grades Fluoroplast-4A of 1,2,3 grades Fluoroplast-4A-M of 1 and 2 grades Fluoroplast-4TG of 1 and 2 grades Fluoroplast-4TG grade TM Fluoroplast-4 FCM-20, Fluoroplast-4 FCM-25 Fluoroplast-4D of "Sh", "L", "E", "T", "U" grades Fluoroplast-4DM of "E", "T", "O", grades
	Alternative names	Teflon, fluoroplast, ftorlon, polytetrafluoroethylene.
	Formula	[C <sub>2</sub> F <sub>4</sub> ] <sub>n</sub>
	№ EC	618-337-2
	REACH Registration No.	None assigned.
	REACH Registration No. for monomer	01-2119487991-21-0002
	TETRAFLUOROETHYLENE (TFE)	02-2119699472-25-0000
	REACH C&L bulk notification No	9002-84-0
	CAS No.	
<b>1.2</b>	<b>Relevant identified uses of the substance or mixture and uses advised against</b>	
	Identified use(s)	Used for producing articles or films with good dielectric properties, resistance to highly corrosive media and service temperature up to +260 °C (500 °F).
	Uses advised against	None assigned.
<b>1.3</b>	<b>Details of the supplier of the Safety Data Sheet</b>	
<b>1.3.1</b>	Manufacturer	«HaloPolymer Kirovo-Chepetsk», LLC per. Pozharny, 2, 613040, Kirovo-Chepetsk, Kirov Region, The Russian Federation.
	Telephone	+7-83361-9-4281
	Fax	+7-83361-9-3594
	Website	www.halopolymer.com
<b>1.3.2</b>	Only representative of a non-Community manufacturer	URALCHEM Assist GmbH Johannsenstrasse 10 30159, Hannover, Germany +49-511/45 99 444 +49-511/45 99 446 <a href="mailto:info@uralchem-assist.de">info@uralchem-assist.de</a>
<b>1.4</b>	<b>Emergency telephone number</b>	
	Manufacturer/supplier:	+7-83361-9-4250 [24 hours.]
	<b>Emergency number</b>	
	Europe	112
	Great Britain	+44 (0) 203 394 9870 (24/7)
	The USA	+1-877 271 7077
		Consult the relevant national official advisory body if necessary

### 2. SECTION 2: HAZARDS IDENTIFICATION

Classification and labeling have been performed according to Regulation (EC) No. 1272/2008 (CLP/GHP)

<b>2.1</b>	<b>Classification of the substance or mixture</b>	
<b>2.1.1</b>	<b>Regulation (EC) No. 1272/2008</b>	Not classified as dangerous for supply/use.
<b>2.2</b>	<b>Other hazards</b>	Combustion or thermal decomposition will evolve toxic and irritant

vapours. IF INHALED: Decomposition products (see Section 5.2) can cause the symptoms of so called "polymer fume fever". High concentrations: Dust may have slight irritant effect on skin, eyes and air passages.

See Also Section: 15.1.1.

## 2.3 Additional Information

## 3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Product as supplied: Polymer.

### 3.1 Substances

Product identifier type in accordance with Article 18(2) of Regulation (EC) No 1272/2008	Identifier number	Identification name	Weight % content (or range)	EC Number
CAS number	9002-84-0	Polytetrafluoroethylene	100	618-337-2

3.2 Mixtures  
Not applicable.

3.3 Additional Information  
None.

## 4. SECTION 4: FIRST AID MEASURES



### 4.1 Description of first aid measures

Inhalation

IF INHALED: Decomposition products: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms develop, obtain medical attention.

Skin Contact

Remove contaminated clothing immediately and wash skin with plenty of water or soap and water. In the event of contact with molten polymer: Molten material can cause severe burns. Do NOT try to peel molten polymer from the skin. Cool rapidly with water. If symptoms persist, obtain medical attention.

Eye Contact

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. If symptoms persist, obtain medical attention.

Ingestion

Unlikely route of exposure. IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.

### 4.2 Most important symptoms and effects, both acute and delayed

Polymer fume fever: Fever. Excessive sweating. Cough. Chest discomfort. Headache, nausea and vomiting. Generally, polymer fume fever lasts for 24 to 48 hours.

### 4.3 Indication of immediate medical attention and special treatment needed

No special requirements

## 5. SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 Extinguishing Media

Suitable Extinguishing Media

Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable Extinguishing Media

None.

### 5.2 Special hazards arising from the substance or mixture

Can decompose in a fire evolving toxic fumes. The product can decompose if heated to temperatures above (°C): 260.

Hazardous Decomposition Product(s): low-molecular-weight fluoropolymer particles, Hydrogen fluoride, tetrafluoroethylene, hexafluoropropylene or perfluoroisobutylene, Carbonyl fluoride, Carbon monoxide, Carbon dioxide.

### 5.3 Advice for fire-fighters

Evacuate the area. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Chemical protection suit.

### 5.4 Additional Information

To cool closed containers at seat of fire, use water spray.

## 6. SECTION 6: ACCIDENTAL RELEASE MEASURES

- |     |  |   |
|-----|--|---|
| 6.1 | <b>Personal precautions, protective equipment and emergency procedures</b> | Ensure adequate ventilation. Shut off leaks if without risk. Ensure suitable personal protection during substance removal.  |
| 6.2 | <b>Environmental precautions</b>   | Do not allow to enter drains, sewers or watercourses.   |
| 6.3 | <b>Methods and material for containment and cleaning up</b>                | Use vacuum equipment for collecting spilt material, where practicable. Sweep up spilt substance, avoid dusting. Dampening with water can reduce dusting. Transfer to a lidded container for disposal or recycle. Caution - spillages can be slippery. |
| 6.4 | <b>Reference to other sections</b>   | See Also Section: 8 and 13.   |
| 6.5 | <b>Additional Information</b>  | None.   |

## 7. SECTION 7: HANDLING AND STORAGE

- |     |   |  |
|-----|---|--|
| 7.1 | <b>Precautions for safe handling</b>                                | Provide adequate ventilation. Avoid accumulation of dust. Avoid inhalation of high concentrations of dust. Do not breathe fumes/vapor from heated product. Store containers in a clean, cool and dry room away from heat sources. Do not eat, drink or smoke when using this product. Wash hands and exposed skin after use. |
| 7.2 | <b>Conditions for safe storage, including any incompatibilities</b> |  |
|     | Storage Temperature   | Tightly closed containers shall be stored in clean and dry places, at minimal distance of 1 m from heating systems. Avoid contamination.   |
|     | Storage Life  | Stable under normal conditions. Properties deteriorate in course of time.  |
|     | Incompatible materials  | Metal powder (Aluminium and magnesium), oxidizers (fluorine, chlorine trifluoride).  |
| 7.3 | <b>Specific end use(s)</b>  | Used for producing articles or films with good dielectric properties, resistance to highly corrosive media and service temperature up to +260°C (500°F).   |

## 8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 **Control parameters**  
8.1.1 **Occupational Exposure Limits**

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note:
Polytetrafluoroethylene	9002-84-0	-	-	-	-	None

- |       |   |  |
|-------|---|--|
| 8.1.2 | <b>Biological limit value</b>   | No information available.  |
| 8.1.3 | <b>PNECs and DNELs</b>  | No information available.  |
| 8.2   | <b>Exposure controls</b>  |  |
| 8.2.1 | <b>Appropriate engineering controls</b>   | Provide adequate ventilation, including appropriate local extraction.  |
| 8.2.2 | <b>Personal protection equipment</b>  |  |
|       | Eye/face protection   | Use eye protection (face shield or goggles).   |
|       |  |  |
|       | Skin protection   | Hand protection: Protective gloves.<br>Body protection: Wear suitable protective clothing.   |
|       |  |  |
|       | Respiratory protection  | Where engineering controls are not fitted or inadequate wear suitable respiratory protective equipment. During thermal processing: A suitable mask with filter of A-type (EN141 or EN405) may be needed. |
|       |  |  |
|       | Thermal hazards   | Use gloves with thermal insulation, when needed. Wear insulating gloves EN407 (heat).  |

## 8.2.3 Environmental Exposure Controls

Avoid release to the environment.

## 9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Powder.
Colour	White.
Odour	Odourless.
Odour Threshold (ppm)	Not established.
pH (Value)	Not applicable.
Melting Point (°C) / Freezing Point (°C)	320°C - 346 °C [ASTM D 4894].
Boiling point/boiling range	Not applicable.
Flash Point (°C)	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Non-flammable.
Explosive limit ranges.	Not applicable.
Vapour Pressure (mm Hg)	Not applicable.
Vapour Density (Air=1)	Not applicable.
Density (g/ml) @ 23°C	2.19 – 2.21 g/ml.
Solubility (Water)	Insoluble.
Solubility (Other)	Not established.
Partition Coefficient (n-Octanol/water)	Not available.
Auto Ignition Temperature (°C)	Not applicable.
Decomposition Temperature (°C)	>260 °C.
Viscosity (mPa.s)	Not applicable.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

### 9.2 Other information

No information available.

## 10. SECTION 10: STABILITY AND REACTIVITY

10.1	<b>Reactivity</b>	Stable under normal conditions. Decomposes at temperatures above (°C): 260.
10.2	<b>Chemical stability</b>	Stable under normal conditions.
10.3	<b>Possibility of hazardous reactions</b>	Polytetrafluoroethylene may ignited in fluorine-oxygen mixture, or ignited at 704.4°C (1300°F) in a pure oxygen atmosphere when used as a 20 AWG wire insulation. Sealing tape made of polytetrafluoroethylene burned vigorously in contact with sodium-potassium alloy in a helium atmosphere.
10.4	<b>Conditions to avoid</b>	Heat.
10.5	<b>Incompatible materials</b>	Metal powder (Aluminium and magnesium), oxidizers (fluorine, chlorine trifluoride).
10.6	<b>Hazardous Decomposition Product(s)</b>	>260°C - low-molecular-weight fluoropolymer particles. >398.9°C – Highly toxic fumes of fluoride. >400°C - Hydrogen fluoride. >450°C – Tetrafluoroethylene. >460°C – Hexafluoropropylene. >475°C – Perfluoroisobutylene >500°C - Carbonyl fluoride. >650°C – Carbon monoxide, Carbon dioxide.

## 11. SECTION 11: TOXICOLOGICAL INFORMATION

This material is unlikely to present a significant health hazard under normal conditions of handling and use

### 11.1 Information on toxicological effects

#### 11.1.1 Polymer.

##### Acute toxicity

Ingestion

Low oral toxicity, but ingestion can cause gastrointestinal tract irritation.

Inhalation

Dust and vapors or fumes evolved during thermal processing can cause irritation of the respiratory system. IF INHALED:  
Decomposition products: Fever. Excessive sweating. Cough. Chest

	Skin Contact	discomfort. Headache, nausea and vomiting. (Polymer fume fever). Low acute toxicity. Decomposition products: Can cause skin irritation.
	Eye Contact	Low acute toxicity. Decomposition products: Can cause eyes irritation.
	<b>Skin corrosion/irritation</b>	Not classified. No evidence of irritant effects from normal handling and use.
	<b>Serious eye damage/irritation</b>	Not classified.
	<b>Respiratory or skin sensitization</b>	Not classified.
	<b>Mutagenicity</b>	No evidence of genotoxicity.
	<b>Carcinogenicity</b>	IARC Classification: Group 3. No evidence of carcinogenicity in man.
	<b>Reproductive toxicity</b>	Not classified.
	<b>STOT - single exposure</b>	IF INHALED: Decomposition products: Fever. Excessive sweating. Cough. Chest discomfort. Headache, nausea and vomiting. (Polymer fume fever).
	<b>STOT - repeated exposure</b>	Long Term Exposure: Pulmonary Fibrosis.
	<b>Aspiration hazard</b>	Not classified.
11.2	<b>Other information</b>	None.

## 12. SECTION 12: ECOLOGICAL INFORMATION

12.1	<b>Toxicity</b>	Low toxicity to aquatic organisms.
12.2	<b>Persistence and degradability</b>	According to experiences this product is inert and not degradable.
12.3	<b>Bioaccumulative potential</b>	The product has no potential for bioaccumulation.
12.4	<b>Mobility in soil</b>	The product is estimated to have low mobility in soil.
12.5	<b>Results of PBT and VPVB assessment</b>	Not classified as PBT or vPvB.
12.6	<b>Other adverse effects</b>	None anticipated.

## 13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1	<b>Waste treatment methods</b>	Disposal shall be accomplished in accordance with local, state or national legislation. Do not allow to enter drains, sewers or watercourses. Recover or recycle if possible.
13.2	<b>Additional Information</b>	WGK 0 (Official classification).
13.2.1	Regulatory information	References: Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste, Decision 2000/532/EC.
13.2.2	Waste code	Waste Product Code No. for uncontaminated product (European Waste Catalogue): 20 01 06, other plastic.

## 14. SECTION 14: TRANSPORT INFORMATION

Not classified as dangerous for transport.  
Not Restricted as IATA DGR 56 Edition.

14.1	<b>UN number</b>	Not applicable.
14.2	<b>Proper Shipping Name</b>	Not applicable.
14.3	<b>Transport hazard class(es)</b>	Not applicable.
14.4	<b>Packing Group</b>	Not applicable.
14.5	<b>Environmental hazards</b>	Not applicable.
14.6	<b>Special precautions for user</b>	Not applicable.
14.7	<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

## 15. SECTION 15: REGULATORY INFORMATION

15.1	<b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
15.1.1	<b>National regulations</b>	Hazard classification - In accordance with: State Standard of Russian Federation (GOST 12.1.007). Label elements - In accordance with: State Standard of Russian Federation (GOST 31340-07).
15.1.2	<b>EU regulations</b> Authorisations and/or restrictions on use	None known.
15.1.3	<b>U.S. legislation</b>	

TSCA	All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.
<b>15.2 Chemical Safety Assessment</b>	No data available.

## 16. SECTION 16: OTHER INFORMATION

<b>16.1 Classification of the substance or mixture</b>	Regulation (EC) No. 1272/2008 (CLP/GHP): Not classified as dangerous for supply/use.
<b>16.1.1 Label elements</b>	According to Regulation (EC) No. 1272/2008 (CLP/GHP). Polytetrafluoroethylene.
Product Name	None.
Hazard Pictogram	None.
Signal word(s)	None.
Hazard statement(s)	None.
Precautionary statement(s)	None.

The following sections contain revisions or new statements: 1-16.

### LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity
DNEL	Derived No Effect Level
PNEL	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic

### Additional Information

Occupational sanitary-hygienic standards of Russian Federation:  
 PDK = 10 mg/m<sup>3</sup>, 4<sup>th</sup> dangerous class (low - hazardous substance).  
 (PDK – Highest non-recurrent concentration in the air of working area).

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The Buyer of the product intended for a third party's usage is obliged to take all reasonable steps to afford access to all information contained in this SDS for any person making use of this product.

An Employer must inform employees and other persons of the dangers they can be incurred and precautionary measures they should apply.

**Annex to the extended Safety Data Sheet (eSDS)**

No information available.