

MATERIAL SAFETY DATA SHEET

Added to the registry	
RPB No 5 5 5 8 8 6 7 0 . 2 2 . 3 7 0 5 4	Effective date "23" January 2015 Expiry date "23" January 2020
Rosstandart	
Safety of Substances and Materials Information and Analytical Center FGUP «VNII SMT»	Head _____ [Signature]____ /A.A. Toporkov/ L.S.

PRODUCT NAME:

technical (according to ND)	Polyethylene terephthalate (pellets)
chemical (according IUPAC)	Poly (oxy-1,2-ethane diyl oxycarbonyl -1,4- phenylene carbonyl)
commercial name	Polyethylene terephthalate (pellets) Trade mark- ТБЕПІІТ (TVERPET)
synonyms	PETF, lavsan, polyoxyethylene terephthaloyl, polyester of 1,2- ethanediol and terephthalic acid, polyethylene glycol terephthalate

OKP Code:

2	2	2	6	5	9
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TN VED Code:

3	9	0	7	6	0	2	0	0	0
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Reference and title of the basic regulatory, technical or information document relating to the product (GOST State Standard, Specifications, Industry Standard, Corporate Standard, MSDS etc.)

TU 2226-001-55588670-2007, amendment # 1 Polyethylene terephthalate (pellets)

HAZARD IDENTIFICATION:

Signal word: None
Brief (verbal): The product is moderately hazardous in impact on organisms in accordance with GOST 12.1.007. The products of combustion and thermal destruction cause irritation of the upper respiratory tract and eyes. The product is a combustible substance. The product may cause environmental pollution in case of improper handling.
Detailed: It is laid down in 16 sections of the Material Safety Data Sheet below.

BASIC HAZARDOUS INGREDIENTS	MAC w.a., mg/m ³	Hazard Class	CAS No	EC No
Polyethylene terephthalate (pellets)	5 (aerosol)	3	25038-59-9	None

APPLICANT: JSC Sibur-PETF, Tver _____
(name of organization) (city)

Applicant characterization: manufacturer, supplier, vendor, exporter, importer
(delete as appropriate)

OKPO Code: 5 5 5 8 8 6 7 0

Emergency telephone: (3456) 398-7-42, 398-9-51

Chief Engineer-Production Site Manager: _____
(signature) Emergency telephone number: (4822) 33-67-00
 / A.L. Moroz/
print name
 L.S.

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The Material Safety Data Sheet (MSDS) is compliant with GHS ST/SG/AC 10/30 UNO recommendations

IUPAC is International Union of Pure and Applied Chemistry

GHS ST/SG/AC 10/30 UNO recommendations. Globally Harmonized System of Classification and Labelling of Chemicals.

OKP is Russian Classifier of Products

OKPO is Russian Classifier of enterprises and businesses

TN VED is nomenclature of goods for international trade operations

CAS No is a substance number in the registry of Chemical Abstracts Service

EC No is a substance number in the registry of the European Chemical Agency

MAC w.a. is maximum allowable concentration of a chemical in workplace ambient air in mg/m³

A Safety Data Sheet is originated for chemical products (substances, mixtures, materials, and industrial waste).

Signal word is the word, used with the purpose of calling attention to the degree of hazard of chemical products and is chosen in accordance with GOST 31340-2013.

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1 Chemical Product Identification and Information of Manufacturer and/ or Supplier

1.1. Identification of chemical product

1.1.1. Technical name	Polyethylene terephthalate (pellets). [9]
1.1.2. Brief recommendations on application (including usage limitations)	To be used for making packages (containers for foodstuff, cosmetic, pharmaceutical products) and other items produced by extrusion and injection molding. [9]

1.2. Information of manufacturer and/ or supplier

1.2.1. Full official company name	Joint Stock Company «SIBUR-PETF»
1.2.2. Address (postal and legal)	170100, Tver, 1 Gagarin sq., building 77, office 1
1.2.3. Phone number including for emergency consultations and time limitations:	(4822) 33-67-00 (from 08.15 till 17.15)
1.2.4. Fax	(4822) 33-67-57
1.2.5. E-mail	info@tverpet.ru

2 Hazard (hazards) identification

2.1. General chemical product hazard degree (information of hazard classification in accordance with the RF legislation (GOST 12.1.007-76) and GHS)	Moderately hazard product – Hazard class 3 [3, 5, 19, 39]
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2.2 Information of warning marking according to GOST 31340-2013

2.2.1 Signal word	There is no warning marking as polyethylene terephthalate is not covered by criteria of GOST 31340-2013. [2, 5, 10]
2.2.2 Hazard sign	
2.2.3 Brief hazard characteristic	

3 Composition (information of components)

3.1. General Information of the product

3.1.1. Chemical name (according to IUPAC)	Poly (oxy-1,2-ethane diyl oxycarbonyl -1,4-phenylene carbonyl). [5]
3.1.2. Chemical formula:	[C ₁₀ H ₈ O ₄] _n . [5]
3.1.3. General composition characteristic (including grade range, production method)	Polyethylene terephthalate (pellets) – copolymer produced by polycondensation of terephthalic acid with ethylene glycol and co-monomers. As co-monomers there are used isophthalic acid and diethylene glycol. [4, 9]

3.2. Components

(name, CAS and EC numbers, mass fraction (in total there shall be 100%), MAC (one time) or SRLI (one time), hazard classes, references to data sources)

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Table 1 [5, 19, 38]

Components	Mass fraction, %	Hygienic standards		№ CAS	№ EC
		MAC, one time., mg/m ³	Hazard class		
Polyethylene terephthalate	100	5 (aerosol)	3	25038-59-9	Absent

4. First aid measures

4.1. Observed symptoms

At normal conditions polyethylene terephthalate and does not produce harmful effect on human body. [4]

4.1.1. At intoxication via inhalation (breathing-in)

Acute toxic exposure cases in production conditions are not described. [5]

4.1.2. At skin contact

In production and processing conditions the product aerosol might cause throat irritation, and coughing [5, 27]

4.1.3. At eye contact

In production and processing conditions the product aerosol might cause skin irritation (redness) [5, 27]

4.1.4. At peroral intoxication (in case of swallowing)

In production and processing conditions the product aerosol might cause mechanical eye irritation (lacrimation, slight irritation of eye mucous membrane). [5, 27]

In production and processing conditions the accidental product aerosol ingestion might cause mechanical irritation – nausea, vomiting, diarrhea [5, 27]

4.2. First aid measures for the victims

4.2.1. At intoxication via inhalation

In case of product (aerosol) dust inhalation one shall take a victim away from the polluted area and remove its contaminated cloths. Provide victim with fresh air, warmth and rest. In case of need it is required to seek medical attention. [27, 40]

4.2.2. At skin contact

Washing with running water and soap. In case of need it is required to seek medical attention. [27, 40]

4.2.3. At eye contact

Washing with considerable amount of running water at widely open eye. In case of need it is required to seek medical attention. [27, 40]

4.2.4. At peroral intoxication

In case of ingestion one shall rinse mouth with

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water and drink considerable amount of water.
In case of need it is required to seek medical
attention.

[27, 40]

4.2.5. Counterindications

No information available.

5. Fire and explosion safety measures and facilities

5.1. General fire safety characteristic (according to GOST 12.1.044-89)

Combustible substance [12, 28]

5.2. Fire and explosion hazard indices: (set of parameters according to GOST 12.1.044-89 and GOST 30852.0-2002)

Combustibility group: Combustible

Melting temperature, °C 255-257

Self-ignition temperature of airborne dust, °C 500

Lowest flammable level, g/m³: 40

Maximal explosion pressure, kPa: 675

Maximal pressure rise rate, MPa/s: 37,9

Minimal ignition energy, mJ: 35

Minimal explosive oxygen concentration at air-and-coal mixture dilution with carbon dioxide, % (vol.): 13

[12,

28]

5.3. Combustion and / or thermal degradation products and their hazard

Acetaldehyde Causes irritation of eye and respiratory tract mucous membranes.

Carbon oxide Causes giddiness, tympanophonia, hyposthenia

Terephthalic acid Irritates central nervous system and eye and respiratory tract mucous membranes

Organic acids (as acetic acid) Causes irritation of upper respiratory tract

Dimethyl terephthalate Causes irritation of eye and respiratory tract mucous membranes.

[4]

5.4. Recommended fire-fighting means

Sprayed water with wetting agents, CO₂, foam, dry powder. [5, 28]

5.5. Prohibited fire-fighting means

Compact water jet. [28]

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5.6. Individual protection means at fire-fighting

(individual protection means for firemen)

Protective overall KZA-1 (K3A-1).

Heat reflecting overall (ТОК).

Insulating heat protective overall ИК-ТГЗ (ИК-ТГЗ).

Special overall ТЗК-3КН (ТЗК-3Х)

General service uniform "БОР" («БОП»), ТоТн (ТоТн).

[29]

5.7. Specifics at fire fighting

No information available.

6. Measures on emergency and contingency prevention and their aftereffect recovery

6.1. Precautions against harmful impact on human health, environment, buildings, structures etc. in case of contingency and emergency

6.1.1. Required general measures at contingency and emergency

Bring transport facility (rail car) to safe place. Confine the hazardous area within a radius of minimum 50 meters. Take away unauthorized staff. Enter the hazardous area with personal protective equipment. Observe fire precaution measures. Smoking is prohibited. Remove flame and spark sources. Apply first aid to the injured. Send people from affected area to medical examination.

[30]

6.1.2. Personal protective equipment in case of emergency

(personal protective equipment of emergency teams)

Full military protective outfit L-1 or L-2 completed with industrial gas mask and cartridges A, B.

Insulating protective overall КИХ-5 (КИХ-5) completed with isolating gas mask ИП-4М (ИП-4М) or with breathing apparatus ASV-2 (АСВ-2).

Fire-fighting suit completed with escape hood SPI-20 (СПИ-20).

[30]

6.2. Procedure to be followed at contingency and emergency elimination

6.2.1. Measures to be undertaken in case of leaks, spillage and scattering

(including measures on their elimination and precaution measures providing for environment protection)

Inform Center for Sanitary and Epidemiological Supervision. Do not touch the scattered substance. Confine scattered substance with earth dike, thoroughly collect substance into containers. Prevent substance transfer into water basins, basements and sewage system.

[30]

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6.2.2. Fire- fighting procedure

One shall enter the emergency area in protective cloths and wearing breathing apparatus. Extinguish fire from maximal distance with sprayed water containing wetting agents, CO₂, foam and dry powder. Arrange people evacuation from the nearest buildings taking into account the direction of toxic combustion products' movement.

[30]

7 Regulations for chemical products' storage and handling at loading-unloading operations

7.1 Safety measures at chemical products' handling

7.1.1. Engineering safety measures' systems

Rooms shall be equipped with general supply & exhaust ventilation and with local ventilation providing for hazardous substances' concentration in the air of working area not exceeding the maximum allowable value. Room ventilation system shall be arranged according to GOST 12.4.021-75.

[4]

Process automation and mechanization shall exclude package integrity damage.

7.1.2. Environmental protection measures

Packages shall be tightly closed.

Determination and control over maximum admissible emissions of hazardous substances into the air shall be performed according to GOST 17.2.3.02-78.

Entrapping grates shall be installed on the sanitary sewer manholes (manways).

Control over concentration of hazardous substances in the air of working area, analysis of hazardous substances concentration in effluents shall be carried out in compliance with the production control program.

[21]

7.1.3. Recommendations on safe transfer and transportation

Product shall be transferred and transported in packed form on wooden pallets in covered transportation facilities in compliance with goods' carriage rules.

[9]

Loading – unloading operations shall be mechanized and automated. Loading- unloading operations are allowed to be performed only by persons specially trained according to the established procedure.

[15]

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At product transfer and transportation it is required to avoid contacts with strong oxidizers, acids, alkalies and open fire.
[5]

7.2. Storage regulations for chemical products

7.2.1. Safe storage terms and conditions:

(including guaranteed shelf life, useful life, substances and materials incompatible at storage)

Guaranteed shelf life of polyethylene terephthalate (pellets) is two years as from the date of production.
[9]

The product shall be stored in tightly closed containers in the dry vented room. One shall keep it away from fire sources.

At storage the product is incompatible with strong oxidizers, acids and alkalies.

[5]

7.2.2. Packing and wrapping materials

(including materials used for packing and wrapping)

Soft containers of big bag type with capacity of 1050-1100 kg made of polypropylene woven fabric with polyethylene inserts. The containers shall be placed on wooden pallets.

[9]

7.3. Safety precautions and storage regulations in household conditions

The product is not applied in household conditions.

[5]

8 Means for control over hazardous exposure and personal protective equipment

8.1. Parameters of working area subject to mandatory control (MAC (one-time)

Name of hazardous substance

MAC (one-time),
mg/m³

SRLI (one-time):

Polyethylene terephthalate
(aerosol)

[8]

5,0

The following substances are subject to control at polyethylene terephthalate processing

[11]:

5,0

Acetaldehyde

0,1

Terephthalic acid

5,0

Acetic acid

0,1

Dimethyl terephthalate

20,0

Carbon oxide

8.2. Measures providing for hazardous substances content within allowable concentration range

Production process automation and mechanization.

Production process running in strict compliance with process control documentation.

Use of local and general ventilation.

Polyethylene terephthalate heating shall be carried out

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in tight equipment preventing air pollution in the working area with hazardous substances.

Control over hazardous substances concentration in the air of working area.

[6]

8.3. Personal protective equipment for personnel

8.3.1. General recommendations

At normal conditions polyethylene terephthalate (pellets) is not toxic and does not produce harmful impact on human body.

[4]

At polyethylene terephthalate (pellets) processing one shall use personal protective equipment for respiratory tract, skin and eyes. Personal protective equipment shall be in compliance with GOST 12.4.011-89.

Workers shall be provided with personal protective equipment in compliance with relevant industry standards providing for handing out special overalls, special boots and protective equipment approved by state labor authorities to workers on free of charge basis.

[6]

8.3.2 Respiratory protection (types of personal protective equipment for respiratory tract):

Breathing masks of “Lepestok” and Astra-2 types; in emergency conditions one shall use gas mask with filter box A, BKF or M.

[4, 9]

8.3.3. Protective equipment (material, type) (special overalls, special boots, hand protection means, eye protection means)

Special cotton overalls, special boots, cotton gloves or mittens. Safety goggles according to GOST 12.4.253-2013

[17]

8.3.4. Personal protective equipment for household use.

The product is not used in household conditions.

[5]

9 Physical and chemical properties

9.1. Physical form (aggregate state, color, odor)

Solid substance, polymer pellets of white color with bluish shade, odorless

[9]

9.2. Parameters characterizing basic product properties (temperature indices, pH, solubility, n-octanol/water ratio and other parameters typical for the given product)

Melting temperature, °C 245-249

Density, g/cm³ 1,33 – 1,46

Water solubility

Not soluble in water at (125-135)⁰C

In phenol /1,1,2,2-tetrachloroethane mixture (50:50; 60:40)

In phenol / 1,2-

at (125-135)⁰C

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dichlorobenzene mixture
(50:50; 60:40)
In dichloroacetic acid at 65±2⁰C
In o- chlorophenol at 100 °C Soluble
In cresol at 60 – 80 °C Soluble

Internal viscosity, dl/g: 0,78-0,82
Mass fraction of moisture, %, not more than: 0,4
Mass fraction of acetaldehyde, ppm (mln⁻¹), not more than: 0,8
Thermal conductivity, W/(m x K) 0,14
Specific volume electrical resistance, Ohm x cm 1 x 10¹⁹
Dielectric conductivity at 10⁶ cycle/s 3,2 – 3,3

[5,

9]

10 Stability and chemical reactivity

10.1. Chemical stability
(for unstable product one shall specify decomposition products)

At normal conditions polyethylene terephthalate (pellets) is stable.
[5]

Thermal destruction starts at temperature over 290°C. It is accompanied by hazardous products' emission, such as acetaldehyde, dimethyl terephthalate, terephthalic acid, acetic acid, carbon oxide
[6]

10.2. Chemical reactivity

The product is subject to oxidation
[5]

10.3. Conditions to be avoided:
(including hazardous effects at contact with incompatible substances and materials).

Avoid contact with open fire, oxidizers, acids and alkalis.
[5]

The product melts at T = 245⁰C, burns in melted condition and get oxidized.

11. Toxicity data

11.1. General effect characteristic
(hazard (toxicity) evaluation of effect produced on human body and the most typical hazard effects)

Moderately hazardous substance, in terms of its effect on humane body it belongs to hazard category 3 (aerosol). Under normal conditions the product is not toxic and does not produce harmful effect on humane body.

11.2. Exposure pathways

Polyethylene terephthalate aerosol (dust-like

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(inhalation, oral, at skin and eye contact)

polyethylene terephthalate) might enter into the humane body at inhalation, at contact with skin and eyes and at its swallowing.
[27]

11.3. Target humane organs, tissues and systems

At polyethylene terephthalate processing its thermal destruction products produce effect on central nervous system and heart-vascular system as well as on morphological composition of peripheral blood and liver.

11.4. Data of health hazardous effects and after-effects at direct contact with product

(irritant effect on upper respiratory tract, eyes, skin, percutaneous and sensibilizing effect)

[5]

The product does not produce irritant effect on eye mucous membrane and skin tissues. Basing on occasional data, workers in polyethylene terephthalate production facilities have some genetic immunity deficit.

The product does not produce percutaneous effect.

Sensibilizing effect – not applicable.

11.5. Data of hazardous remote effects on humane body

(effect on reproduction function, carcinogenicity, mutagenicity, cumulation and other chronic effects)

[5]

Slight cumulation.

Embryotropic effect – not determined.

Gonadotrophic effect – not surveyed.

Teratogenic effect – not determined.

Carcinogenic effect on humane body – not surveyed, Carcinogenic effect on animals - not determined.

Mutagenic effect is determined but not confirmed by evaluation performed by International Agency for Research on Cancer.

[5]

11.6. Acute toxicity indications

(DL₅₀, routes of entry (intra-gastrically, skin contact), animal species;

CL₅₀, exposure time (hr), animal species)

DL₅₀ (rats, skin contact) > 2500 mg/kg

(rats, intra-gastrically) > 10000 mg/kg

CL₅₀ not achieved

[5]

12 Information on environmental effect

12.1. General characteristic of exposure effect produced on natural environments

(atmospheric air, water basins, soil, including observed exposure signs)

Under normal conditions polyethylene terephthalate almost does not emit hazardous substances and does not produce negative effect on environment.

The product is soluble in water, it does not produce effect on quality of surface and underground water. It is not biodegradable and not subject to biological

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magnification. Biological dissimilation of polyethylene terephthalate is a complicated process and makes up from 10 to 20 %. Polyethylene terephthalate pellets contaminate soil and water basins.

Polyethylene terephthalate combustion and thermal destruction products are hazardous for the environment and pollute atmospheric air.

Indication: odor of combustion and thermal destruction products in the atmospheric air.

Under abiotic conditions polyethylene terephthalate demonstrates extreme stability, its half-life period makes up over 30 days.

[5]

Emissions of hazardous substances into the air, water basins, soil at violation of production process regulations, as well as at violation of regulations relevant to product handling, placing, storage, transportation, disposal and incineration. Emission as a result of emergency situations.

12.2. Exposure pathways to environment

12.3 The most important characteristics of effect produced on environment

12.3.1. Hygienic standards

(allowable concentrations in the atmospheric air, water (including in fishery water bodies) and in soil)

Table 2 [22, 23, 24, 25, 34]

Components (combustion and thermal destruction products)	MAC _{atm.air.} or SRLI _{atm.air.} , mg/m ³ (LHI ¹ , class of hazard)	MAC _{water} ² or AP water, mg/l, (LHI, class of hazard)	MAC _{fishery water} or SRLI _{fishery water} , mg/l (LHI, class of hazard)	MAC or TAC for soil, mg/kg (LHI)
Acetaldehyde	0,01 (refl., 3)	0,2 (organolep. 4)	0,25 (organolep., 4)	Not established
Terephthalic acid	0,01/0,001 (resorpt., 1)	0,1 (gen.san., 4)	0,05 (gen.san., 3)	Not established
Carbon oxide	5,3 (resorpt., 4)	Not established	Not established	Not established
Dimethyl terephthalate	0,05/0,01 (refl.-resorpt, 4)	1,5 (organolep.odor, 4)	0,3 (tox., 4)	Not established
Acetic acid	0,2/0,06 (refl.-resorpt., 3)	1,0 (gen.san., 4)	0,01 (san.-tox., 4) for seas or for their separate parts 0,05 (san.-tox., 4)	Not established

12.3.2 Ecotoxicity indices:

(CL, EC, NOEC for fish, Daphnia Magna, algae etc.)

Acute toxicity for fish (mg/l) (species: Salmo irideus (rainbow trout)) at exposure time period of 96 hr CL₅₀ > 1000.

Acute toxicity for daphnia (mg/l) (Daphnia Magna) at exposure time period of 96 hr, CL₅₀ > 1000.

Toxic effect on algae (in vitro) (mg/dm³) (Scenedesmus quadricauda (green algae) at exposure time period of 96 hr,

¹ LHI – limiting harmful index (tox. – toxicological; san.-tox. – sanitary- toxicological; organolep. - organoleptic; refl. – reflectory; resorpt. - resorptive; refl.- resorpt. - reflectory - resorptive, fish. - fishery (change in commercial properties of fishery water life) ; gen.san. – general sanitary).

² Water in water basins of household and amenity water use.

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12.3.3 Migration and environmental fate due to biodegradation and other processes (oxidation, hydrolysis etc.)

CL50 > 1000.
[5]
Polyethylene terephthalate is resistant to environmental impact, to oxidation and it is almost insoluble in water.
Lavan water extract does not effect odor, taste or water oxidability.
[5]

13 Recommendations on waste (residues) disposal

13.1. Safety measures at handling wastes formed at product use, storage and transportation

Polyethylene terephthalate wastes belong to the 5th class of hazard for the environment.

[36]

All works with the product shall be executed with actuated general ventilation or local ventilation.

For work with the product one shall wear special overall and use personal protective equipment.

It is prohibited to take food and to keep it at the working place.

It is prohibited to smoke and to use open flame sources.

It is allowed to keep wastes only in specially allocated areas.

Transportation of polyethylene terephthalate process wastes shall be arranged with use of industrial enterprise transportation facilities.

Wastes transportation shall be executed in specially equipped transportation facilities excluding potential product losses along the transportation route and environmental pollution and providing for easy transshipment.

At work with dust-like wastes one shall provide for wetting at all stages: loading, transportation, unloading.

It is recommended to use wastes formed as a result of polyethylene terephthalate process for recycling.

Wastes not suitable for recycling shall be disposed in compliance with SanPiN 2.1.7.1322-03 «Hygienic requirements to disposal and decontamination of production and consumption wastes».

Product packing (containers of big-bag type made of polypropylene woven fabric with polyethylene inserts) is subject to disposal.

The product is not used in household conditions.

13.2. Information of locations and methods for product wastes' decontamination, disposal or removal including containers (packing)

13.3. Recommendations on disposal of

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wastes formed at household application
of product

[5]

14 Information for transportation (shipment)

14.1. UN number
(in compliance with UN recommendations of
hazardous cargo carriage)

Not applicable as the product is not classified as
hazardous cargo.
[10, 31]

14.2. Proper shipping name and / or
name for transportation

Polyethylene terephthalate (pellets).

14.3. Applicable means of transportation

Truck transportation.
Polyethylene terephthalate (pellets) in packed form
can be transported by all means of transportation in
covered transport facilities in compliance with the
rules for goods carriage valid for the given means of
transportation.

14.4. Classification of cargo hazard
according to GOST 19433-88:

Not applicable as the product is not classified as a
hazardous cargo. [10,
31]

- Class
- Subclass
- Classification Code
(according to GOST 19433-88 and in case of
transportation by rail)

- number (s) of drawing(s) of hazard sign(s)

14.5. Classification of cargo hazard
according to UN recommendations
relevant to hazardous cargo carriage:

Not applicable as the product is not classified as a
hazardous cargo. [10,
31]

- class or subclass
- additional hazards
- UN packing group

14.6. Shipping marking
(handling marks according to GOST 14192-96)

Handling marks are not applicable.

14.8. Transport emergency cards:
(at transportation by rail, by sea and by other
modes of transportation)

Not required as the product is not classified as
hazardous cargo.
[10]

15 Information on national and international legislation

15.1. National legislation

15.1.1. RF laws

1 Federal law dd. 30.03.1999 № 52-FZ «On Sanitary and
Epidemiologic Well-Being of the Population».

2 Federal law dd. 27.12.2002 № 184-FZ «On Technical
Regulation».

3 Order of Rospotrebnadzor (Russian Agency for Health
and Consumer Rights) N 224 dd. 19.07.2007 «On
Sanitary and Epidemiologic Expert Examinations,
Surveys, Investigations, Tests and Toxicological,
Hygienic and other types of assessment».

4 Federal law dd. 24.06.1998 № 89-FZ «On Production
and Consumption Wastes».

15.1.2. Information of documents

Polyethylene terephthalate (pellets) is not subject to state

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regulating requirements to human and environmental protection

registration by Federal Service for Consumer Rights Protection and Human Welfare, as it is not included into the consolidated list of goods subject to sanitary and epidemiological supervision (control) on customs border and on the customs territory of the Customs Union.

[35]

15.2 International conventions and agreements

Not regulated.

(Is product regulated by Montreal Protocol, Stockholm Convention etc.?)

16. Additional information

16.1. Information of development and revision (re-edition) of PSDS

PSDS is re-registered upon its validity expiration. Former registration № 55588670 22 22213 dd. 15.12.2009.

(to specify: “PSDA is developed for the first time” or “PSDS is reregistered upon validity period expiration. Former PSDS registration №...», or «Modifications are introduced into the following paragraphs ..., date of introduction....»)

16.2. List of data sources used at Product Safety Data Sheet compilation

1. GOST 30333-2007 Material Safety Data Sheet. General requirements. Introduced on 01.01.2009;
2. GOST 31340-2013 Warning marking of chemical products. General requirements;
3. GOST 12.1.007-76 SSBT (Occupational safety standards system). Hazardous substances. Classification and general safety requirements. – Introduced on 01.01.1977. – 7 pages. – Group T58;
4. GOST P 51695-2000 Polyethylene terephthalate. General technical conditions. – Introduced on 01.01.02. – 11 pages. – Group JI27;
5. Information card of potentially hazardous chemical and biological substance – poly (oxy-1,2-ethane diyl oxycarbonyl -1,4- phenylene carbonyl) series BT № 002837 dd. 18.07.2006, verification of 23.09.2011. State Registration Certificate, series № 77.99.26.8.Y.12904.11.06 dd. 28.11.2006;
6. GOST 12.3.030-83 SSBT. Plastic material processing. Safety requirements – Introduced on 01.01.1984. – 7 p. – Group T58;
7. GOST 14192-96 Cargo marking. Introduced on 01.01.98. – 23 p. – Group D79 (Д79);
8. GOST 12.1.005-88 SSBT. General sanitary requirements to the air in the working area. Introduced on 01.01.89. – 75 p. – Group T58;
9. TU 2226-001-55588670-2007, rev. №1, Polyethylene terephthalate (pellets) – Group L27 (JI27).
10. GOST 19433-88 with rev.1. Hazardous cargos. Classification and marking – M.: Standards publishing house, 1988;
11. GOST 17.2.3.02-78. Environmental protection. Atmosphere. Rules for establishing hazardous substances’ emissions by industrial enterprises;

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12. GOST 12.1.044-89 (ISO 4589-84) with rev. 1 Standards system of labor safety. Fire and explosion hazard of substances and materials. List of rates and their detection methods;
13. GOST 12.4.021-75 SSBT. Ventilation systems. General safety requirements;
14. GOST 17.2.3.02-78 Environmental protection. Atmosphere. Rules for establishing allowable hazardous substances' emissions by industrial enterprises;
15. GOST 12.3.009-76 SSBT. Loading & unloading operations. General safety requirements;
16. GOST 12.4.011-89 SSBT. Protection equipment for workers. General requirements and classification;
17. GOST 12.4.253-2013 SSBT. Personal protective equipment for eyes. General technical requirements. (EN 166:2002);
18. GOST 12.4.121-83 SSBT. Industrial filter gas masks. Technical specifications.
19. GN 2.2.5.1313-03 Maximum allowable concentrations (MAC) of hazardous substances in the air of the working area. Introduced on 15.06.2003. – 161 p.;
20. GN 2.1.6.1339-03 Safe Reference Levels of Impact (SRLI) of pollutants in the atmospheric air of population aggregates. Introduced on 25.06.2003. –108 p.;
21. SP 1.1.1058-01 Arrangement and execution of production control over fulfillment of sanitary rules and execution of sanitary & epidemiological (preventive) measures. Introduced on 01.01.2002. – 7 p.;
22. GN 2.1.6.1338-03 Maximum allowable concentrations (MAC) of pollutants in the atmospheric air of population aggregates. Hygienic standards;
23. GN 2.1.5.1315-03 Maximum allowable concentrations (MAC) of pollutants in water of water basins for domestic & potable and cultural and general water use;
24. GN 2.1.7.2041-06 Maximum allowable concentrations (MAC) chemical substances in soil. Hygienic standards. Approved on January 23, 2006;
25. GN 2.1.6.2309-07 Safe Reference Levels of Impact (SRLI) of pollutants in the atmospheric air of population aggregates. Hygienic standards. Approved on 19.12.2007;
26. SanPiN 2.1.7.1322-03 Hygienic requirements to disposal and neutralization of production and consumption wastes;
27. Hazardous substances used in industry. Reference book for chemists, engineers and physicians. 7-th Edition, Enlarged Reedition. In three volumes. Under the editorship of N.V. Lazarev and E.N. Levina. L., «Chemistry», 1976. – 624 p.;
28. A.Ya. Korolchenko. Fire and explosion hazard of substances and materials and their fire fighting means. Reference edition in 2 parts. – M.: Ass. «Pozhnauka», 2000, 2004;
29. V.N. Krutikov. Collective and personal protection equipment. Control of protective properties: Encyclopedia of reference edition series on environmental and medical measurements. – M.: FID «Delovoy Express», 2002 – 408 p.;
30. Safety regulations and procedure for emergency elimination relevant to hazardous cargo at their transportation by rail (Novosibirsk: NIIZHT, 1997). Emergency cards for hazardous cargos transported by rail in CIS, Latvian Republic, Lithuanian Republic, Estonian Republic (M.: Transport, 2000, Enlarged Revision dd. 21.11.2008 and 22.05.2009; Revision of protocols dd. 14.05.2010, dd. 21.10.2010, dd. 29.10.2011, dd. 18.05.2012, dd. 17.10.2012);
31. Recommendations on hazardous cargo transportation. Standard regulations. The seventeenth revised edition. United Nations Organization, New York and Geneva, 2011;
32. International Maritime Dangerous Goods Code. IMDG Code. Edition of 2006. - St.

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- Petersburg: ZAO TSNIMF, 2007;
33. Dangerous goods carriage regulations. Appendices 1 and 2 to “ Agreement on International Goods Transport by Rail”. – M.: MPS RF, 2009;
 34. Water quality standards in fishery water bodies, including rates of maximum acceptable concentrations of hazardous substances in water of fishery water bodies. Approved by Order №20 dd. 18.01.2010 issued by Federal Fishery Agency;
 35. Consolidated list of goods subject to sanitary and epidemiological supervision (control) at custom border and within the customs territory of the Customs Union approved by Resolution of the Customs Union Commission №299 dd. May 28, 2010;
 36. Federal Classificatory Catalogue of Wastes approved by Order № 663 dd. 30.07.2003 issued by Ministry of Natural Resources of the Russian Federation with supplements approved by Order № 786 dd. 02.12.2002.
 37. V.O. Sheftel. Hazardous substances in plastic materials. Reference edition M., «Chemistry », 1991.-544 p.;
 38. Data of Information System EC – ESIS (European chemical Substances Information System). [Electronic resource]: Access mode – <http://esis.jrc.ec.europa.eu/>.
 39. GOST 32419-2013 Hazard classification of chemical products. General requirements.
 40. R. Ludevig, K. Los. Acute toxic exposures. M., Meditsina, 1983.