MATERIAL SAFETY DATA SHEET
Recorded in the Register

SDS registration No.53505711 24 *28312* of *June 28, 2012*
Valid before *June 28, 2017*

Rosstandart

Data analytical center "Safety of materials and substances" Head */Signed/* A.D. Kozlov
FSUE "VNITsSMV" Seal

Seal: Data analytical center "Safety of materials and substances "FSUE "VNITsSMV" (illegible) All-Russian Science and Research Standardization Center, Federal State Unitary Enterprise OGRN 1027700169144. Moscow

NAME:

technical (in normative documentation)	**Heavy Resin of Pyrolysis**
chemical (in IUPAC)	**No**
trade	**Heavy Resin of Pyrolysis**
synonyms	**No**

National product classification code: 2 4 1 5 4 1

Customs commodity code: 2 9 0 2 9 0 0 0 0 0

Designation and name of main normative, technical or informational document for products (GOST, TU, OST, (M)SDS etc.)
TU 2451-021-53505711 -2011 "Heavy Resin of Pyrolysis" *Rev.1*

HAZARD STATEMENT:

Signal word: Caution
Short (wording): Moderatly dangerous substance according to the degree of impact on the body. Has irritating, skin-resorptive, sensitizing and narcotic effects. Can penetrate trough the undamaged skin. Probability of a carcinogenic effect. Highly flammable liquid. It can contaminate natural environments. *Can affect fertility function.*
Detailed: in 16 attached sections of the data sheet.

MAIN HAZARDOUS COMPONENTS	**MPCw.a., mg/m^3**	**Class of hazard**	**CAS No.**	**EC No.**
Dimethylbenzene (isomer mix)	150/50	3	1330-20-7	215-535-7
Naphthalene (toluene)	20	4	91-20-3	202-049-5
Benzapyrene	-/0.00015	1	50-32-8	200-028-5

APPLICANT: CJSC Sibur Khimprom (company's name) city of Perm (city)

Applicant's type: manufacturer, supplier, vendor, ~~exporter, importer~~ (delete as applicable)

OKPO code: 53505711 Hotline phone: (342) 290-87-05

Head of the applicant company: */Signed/* (signature) S.N.Bagrov (print name)
Seal

Seal: Sibur Khimprom, OGRN 1025901207804 INN 5905018996 KPP 69051001, Russia, city of Perm, Closed Joint Stock Company Sibur Khimprom

IUPAC – International Union of Pure and Applied Chemistry

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

RCP – Russian Classification of Production

OKPO – Russian Business and Organization Classification

Customs code – Commodity Nomenclature for Foreign Economic Activities

CAS No. – number of the substance in the Register of Chemical Abstracts Service

EC No. – number of the substance in the Register of European chemical agency

$MPC_{w.a.}$ – Maximal Permissive concentration in working area, mg/m^3 (maximal one-time/shift- average)

Safety Data Sheet – Safety data sheet for chemicals (substance, mixture, material, wastes of industrial production)

The Safety Data Sheet is in compliance with:

- UN recommendations ST/SG/AC. 10/30 "GHS";
- EC Regulation No.1907/2006 concerning Registration, Evaluation, Authorisation and Restriction of Chemicals, Annex II.

Signal word – one of two words "**Hazardous**" or "**Caution**" (or "**None**") is specified according GOST 31340-2007 "Warning labeling of chemicals . General Requirements"

1. MATERIAL IDENTIFICATION AND INFORMATION ON MANUFACTURER AND/OR SUPPLIER

1.1 Technical name:
Heavy Resin of Pyrolysis [1].

1.2 Application recommendations and restrictions:
Heavy resin of Pyrolysis (hereinafter - Resin) is used as a raw material component in the production of carbon black, as well as for export. When used as intended - no restrictions. In intended application – no restrictions[1].

1.3 Full official name and address of the company in charge of manufacture, import and release of chemical products:
CJSC Sibur Khimprom
98 Promyshlennaya Str., Perm, Russian Federation, 614055

1.4 Telephone (including emergency line):
(342) 290-87-05 (24-hour) - operator
(342) 290-89-01 (7.00 to15.00 – Moscow time) – Leading Engineer of Quality
342) 290-89-01 (7.00 to15.00 – Moscow time) – Chief Engineer

1.5 Fax:
(342) 290-83-72, 290-86-60

1.6 E-mail:
mail@siburperm.ru

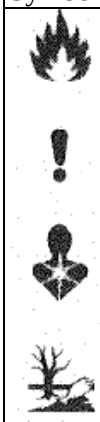
2 HAZARDS IDENTIFICATION

2.1 Hazard rate of the product in general:
In terms of effect on human body the resin is classified according to GOST 12.1.007 as the 3rd class of hazard – highly hazardous substances [1,5]. The resin is fire/explosion hazardous, highly flammable liquid [1].

2.2 Hygienic standards for the product generally the air of working area:
None for the product in general [1,2].

2.3 Labeling data:

2.3.1 Hazard summary:

Symbols	Signal word	Short description of hazard
	Caution	Highly flammable liquid. The vapors form explosive mixtures with air. Harmful by inhalation, ingestion and skin contact. May cause cancer. Causes irritation when in contact with skin and eyes. May cause allergic reaction when in contact with skin. May cause genetic defects, cancer. May affect the fertility function. May cause drowsiness and dizziness. Very toxic for aquatic flora with long-term effect.

[17].

2.3.2 Hazard prevention measures:
Keep away from ignition sources. No smoking. Use explosion-proof equipment and lighting. Keep away from static discharge. Use personal protection equipment. When handling the product do not smoke, drink or eat. Wash your hands thoroughly after work. When in contact with skin, immediately take off all contaminated clothing, wash contaminated skin with water. Seek medical aid. Store in a cool, well-ventilated place [17] (see sections 4,6,7,8).

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 General description:

3.1.1 Chemical name (IUPAC):

None [1].

3.1.2 Chemical formula:

None [1].

3.1.3 General description of the composition:

Heavy resin of pyrolysis is obtained with the use of a pyrolysis installation in production of ethylene and propylene, contains aromatic hydrocarbons $C_8$and higher [1].

3.2 **Components:**

(weight ratio, MPC $_{w.a.,}$ class of hazard, link to the data source)

	Weight ratio, %	**MPC $_{w.a.}$. mg/m^3**	**Class of hazard**
Aromatic hydrocarbons C_8 and higher including:			
dimethylbenzene (2,3,4-isomers) (CAS 1330-20-7; EC 215-535-7)	not more than 12	150/50	3
Naphthalene (CAS 91-20-3; EC 202-049-5) and methylnaphthalene(1,2-isomers) (CAS 1321-94-4; EC 215-329-7)	not less than 25	20	4
Benzapyrene (CAS 50-32-8; EC 200-028-5)	not more than 0.002	-/0,00015	1

[1,2,5,9,10,29]

4 FIRST-AID MEASURES

4**.1 Symptoms:**

4.1.1 Poisoning by inhalation

Headache, dizziness, weakness, drowsiness, tiredness, loss of motion coordination, short breathing, cough, nausea, vomiting, diarrhea [10].

4.1**.2 Skin:**

Redness, dryness.

4.1.3 Eyes:

"Sandpaper" in the eyes, watery eyes [10], redness and pain.

4.2 First aid depending on the harmful effect:

4.2.1 Poisoning by inhalation :

Fresh air, rest and warmth. With the weakening or complete cessation of breathing – rescue breathing by mouth-to-mouth method. Seek medical assistance [1,9,10,29].

4.2.2 Skin contact:

Wash with water and soap, apply oil rich cream or paste on the affected area. Seek medical assistance of necessary [1,9,10,29].

4.2.3 Eye contact:

Wash with plenty of water keeping the eye wide open. Consult the medical specialist[1,9,10,29]**.**

4.2.4 Stomach contact (if accidentally ingested)::

Flush the mouth with water. Drink a lot of water, absorbent carbon, saline purge. Seek medical advice [9,10,29].

4.2.5 Contraindications:

N/A [1,9,10,29].

4.2.6 First aid means (first aid kit):

Absorbent carbon, saline purge, drinking water, oil rich cream or paste.

5 FIRE-FIGHTING MEASURES

5.1 General description of fire/explosion hazard:
According to GOST 12.1.044 the resin is highly flammable liquid [1]. The fire can cause burns and injures. The vapors can cause irritation. Fire/explosion safety in production must be provided according to requirements of GOST 12.1.004, GOST 12.1.010 [6,20].

5.2 Fire/explosion hazard indices:
Closed Flash Point: not lower than 23°C;
Self-ignition temperature – not lower than 400°C;
Temperature limits of flame propagation (ignition): low limit is 80 °C, upper limit is not higher than 140°C;
Concentration limits for flame propagation: low limit is not less 1,5% (by volume), upper limit is not higher than 12% (by volume)[1].

5.3 Hazard caused by combustion products and/or thermal destruction:
During thermal desctruction carbon oxides are generated [9,10].

5.4 Suitable extinguishers:
Chemical and mechanical air-foam, powders, carbon-dioxide, water spray, sand [1,7,8].

5.5 Forbidden extinguishers:
Water jets[7].

5.6 Personal protective clothing for fire-fighting:
In case of inflammation - fire-proof clothing with self-rescue device SPI-20**:** [8].
5.7 Special requirements for fire-fighting:
Extinguish the fire from a maximum distance. Cool the water tanks from a maximum distance [8].

6 ACCIDENTAL RELEASE MEASURES

6.1 Measures to prevent impact on people, environment, buildings etc. in emergency situations
6.1.1 Necessary general-purpose actions:
Isolate the dangerous area within a radius of at least 50 m. Enter the danger zone wearing protective clothes and breathing apparatus. Evacuate unauthorized people. Observe fire safety precautions. No smoking. Provide first aid to the injured [8].
6.1.2 Personal precautions: (emergency response teams and personnel):
For emergency teams - insulating protective outwear suit KIH-5 completed with insulating mask IP-4M or breathing apparatus ASV-2 [8].
Personal protection means for personnel – see para.8.3.

6.2 Procedure for clean up in case of accidental release or emergency

6.2.1 Actions in case leakage, spilling (including precautions providing environmental protection):
Eliminate leaks with caution. Pump the contents into a good container or container for draining observing the conditions of mixing fluids. Block off the large spillage by earthworks. Avoid the substance to get into waterways, sewers. Pump out the substance from the lower areas in compliance with fire safety measures. Soak up with sand, wash with plenty of water, embark and do not allow entering into surface waters. Cut off the surface layer of polluted soil, collect and remove for disposal with caution. Fill the cut areas with a fresh layer of soil. Call the professionals for neutralizing [8].

6.2.2 Fire-fighting procedure:
Enter the accident zone wearing protective clothes and breathing apparatus. Extinguish the fire from a maximum distance. Cool the water tanks from a maximum distance [8].

7 HANDLING AND STORAGE OF CHEMICAL PRODUCT

7.1 Safety precautions while handling

7.1.1 Security and collective protection equipment (including fire and explosion safety measures)
Production of the resin shall comply with safety rules PB 09-540-03. The following safety signs according to GOST R 12.4.026: P02 "Never use open flame or smoke". Production must be equipped with sealed production equipment and forced ventilation system. It is forbidden to use open flame and sparkle sources. Electrical and artificial lighting should be made explosion-proof, the equipment and pipelines should be grounded. When handling observe precautions regarding static electricity according to the requirements GOST 12.1.018 [1,11].

7.1.2 Environmental protection measures:
Protection of the environment during production, transportation and storage of the resin is provided by sealing of equipment, tare, elimination of emissions to air, soil, water [1].

7.1.3 Recommendations for safe transportation :
Resin is transported in tank-wagons or truck tanks Regulations concerning the Carriage of Dangerous Goods in force for a specific type of transport considering the requirements of GOST 1510 (according to the requirements set for petroleum aromatic products).
On the railways the resin is transported in bulk in special tank-cars of the consignor (consignee) or leased (shipments types – car freights).
The tank-cars must conform to the "Regulations concerning the Carriage of Dangerous Goods by rail" and "Regulations concerning the Carriage of liquid goods in bulk in tank-wagons and hopper wagons for transportation of petroleum bitumen" and meet the following requirements:
- Barrel material - low alloy steel or stainless steel;
- Draining device - a universal drain device (with two or three gates);
- Test pressure - at least 0.4 MPa;
- Pressure relief device – Inlet relief valve.

Code of tank-cars - LGBF, L4BN or the other in accordance with Appendix 2 to Agreement on International Goods Transport by Rail.
The filling extent of tank-cars is set in accordance with the "Regulations concerning the Carriage of liquid goods in bulk in tank-wagons and hopper wagons for transportation of petroleum bitumen" and should not exceed capacity of the tank. The maximum filling is 95 % (by volume).
Maximum temperature of the resin for loading is 50 °C.
The tanks are prepared before resin filling according to GOST 1510 (in accordance with the requirements established for the petroleum aromatic products).
In case of road transport the resin is carried in bulk in tankers or in packaged form (barrels) in covered vehicles.
It is allowed to transport the resin packaged and loose. The resin, packed into the container up to 100 dm^3, is transported in packaged form. Packaging is acc. to GOST 26663 [1,22,28].
When performing filling, draining, cleaning-up vehicles and storages observe the instructions and rules of occupational safety, industrial hygiene and fire safety approved in the established procedure [16].

7.2 Storage

7.2.1 Terms and conditions of safe storage: (including the warranty shelf life, expiry date):
The resin is stored according to the requirements of GOST1510 (in accordance with the requirements established for the petroleum aromatic products). The storage temperature is from -50°C to 50°C [1]. Store in sealed container in a well-ventilated room [9]. Warranty shelf life of the resin is three months from the manufacturing date [1].

7.2.2 Incompatible substances and materials for storage:
Store together with hazardous substances and materials acc. to GOST 12.1.004. Avoid contact with oxidizers, acids, bases, inflammables, highly flammable liquids [9,10,20].

7.2.3 Materials recommended for tare and packaging:
The resin shall be packed in steel or galvanized barrels in accordance with GOST 13950 of type 1A1, according to GOST 6247 of type 1 or steel drums in accordance with GOST 17366 of type 1. Capacity of the barrels shall be 85 - 275 dm^3. The barrels must comply with GOST 26319. The maximum filling degree of drums (by volume) shall be not more than 95%. The barrels with the product should be closed tight and sealed. the package of the product for export

must comply with the terms of the supply contract or provisions of a foreign economic contract subject to the requirements of technical specifications [1].

7.3 Precautions and storage in household
Not used in household

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Parameters subject to control and their limit values biologically safe for the personnel:
MPC $_{w.a.}$ (dimethylbenzene, mixture of 2-, 3-,4-isomers) = 150/50 mg/m^3, vapors, 2 class of hazard;
MPC $_{w.a.}$ (benzapyrene) = /0.00015 mg/m^3, aerosol,1 class of hazard [1,2]

8.2 Set parameters assurance and control measures:
Forced-air ventilation system, sealing of equipment, containers for storage and transportation, control of the vapor concentration in the air of the working area at intervals specified in Annex 9 P 2.2.2006 [1,9,14].

8.3 Personal protection means for personnel:
8.3.1 General recommendations:
The workers shall be trained to use safe methods of work. The personnel that involved in production should pass preliminary medical examination during hiring and periodic medical examinations during employment period [15.18]. All activities related to the production and use of resins must be performed using personal protective equipment in accordance with duly approved standard industry norms [19].

8.3.1 Respiratory protection:
Filtering industrial gas mask with box DOT 600, A or BKF; isolating airline respirators PSh-1 or PSh-2 in closed space [1].
8.3.3 Eye protection:
Safety glasses with side shields acc. to GOST R 12.4.230.1 [1,19].

8.3.4 Hand protection:
Oil-and-petrol resistant gloves, gloves made of butyl rubber dispersion [19].

8.3.5 Protective clothes:
Suit of cotton fabric, leather boots, safety helmet, helmet liner [19].

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Physical state (aggregate state, color, odour):
The resin is viscous liquid of brown colour with characteristic odour [1].

9.2 Parameters characterizing the main properties of the product:
9.2.1 Density at 20 °C:
not less than: 0.9500 g/cm^3 [1].

9.2.2 Volatilization temperature:
at least 100 °C [1].

9.2.3 Kinematic viscosity at 50°C:
Max. 50.0 mm^2/c [1].

9.2.4 Solubility (for dimethylbenzene):
solubility in water at 20 °C is less than 150 mg/l [9].

10 STABILITY AND REACTIVITY

10.1 Chemical stability:
The product is stable under normal conditions [1].

10.2 Reactivity:

Oxidized, nitrated, alkylated, hydrogenated, sulfonated, halogenated. At high temperature, in the presence of oxygen it is combusted forming carbon oxides [9,10].

10.3 Conditions to be avoided:
Heating. Handling with open flame [1,8,9,10].

11 TOXICOLOGICAL INFORMATION

11.1 General description of effect:
Resin is a compound of low toxicity when administered in the stomach and by inhalation of its vapors in saturated concentrations. The average lethal dose injected into the stomach is 6-7 g/kg.
By the degree of impact on the human body the resin belongs to hazard class 3 in accordance with GOST 12.1.007 - moderately hazardous substance [1].

11.2 Routes of exposure:
Inhalation, oral, in contact with skin and eyes [1].

11.3 Target organs and systems:
Central and peripheral nervous system, cardiovascular system, respiratory system, morphological composition of the peripheral blood, blood-forming organs, the gastrointestinal tract, liver, kidneys, skin, eyes [9,10].

11.4 Information on human health hazard in direct contact with chemicals as well as the consequences of such exposure:
Causes irritation to skin, mucous membrane, upper respiratory tract. Has skin-resorptive and sesibilizing effects as well as cumulativeness [1,9,10]. At continuous exposure of the skin it can cause eczema or chronic dermatitis [1].

11.5 Information about dangerous long-term effects on the body:
Mutagenic, teratogenic, embryotropic, gonadotropic effects. Probability of carcinogenic effect [9,10, 29].

11.6 Acute toxicity:

For benzene:

	Value	Route, exposure time (h)	Animal
For dimethylbenzene [9]			
DL_{50}, mg/kg	4300	intragastrically	rat
DL_{50}, mg/kg	1548	abdominally	mouse
DL_{50}, mg/kg	1700	subcutaneously	rat
CL_{50}, mg/m^3	22084	4	rat
CL_{50}, mg/m^3	50000	2	mouse
For benzapyrene [29]			
DL_{50}, mg/kg	50	subcutaneously	rat
DL_{50}, mg/kg	500	abdominally	mouse
CL_{50}, mg/m^3	Not defined		

11.7 Doses (concentrations) having minimal toxic effects and other numerical values characterizing the effects of chemicals on human health:

For dimethylbenzene:
A minimal lethal dose for a human in case by ingestion is 50 mg/kg; minimal lethal concentration for a human by inhalation is 44168 mg/m^3, 6 h.;

Limac – 200-400 mg/m^3, inhal, 40 min., rabbit (by flexion reflex);
Limac – 10000 mg/kg, on skin, rat;
LC $_{odor.}$ – 0.6 mg/m^3, human;
LC $_{eeg}$ – 0.32 mg/m^3, human;
Subthreshold limit $_{eeg}$ – 0.2 mg/m^3, human;
Lim sv.ch. – 0.5-0.6 mg/m^3, human.
LC ch. – 14 mg/m^3, inhal., 3mon., 24-hour, rat (by changes in leukocytes);
Limchr. – 4 mg/kg, intragastrically, 6 mon., rat (eosinophilia, reticulocytosis);
NEDch. – 0.1 mg/kg, intragastrically, 6 mon., rat;
Lirach - 200 mg/kg, on skin, 4 mon., for 4 h., rat (by change in CIS, morphological composition of the peripheral blood

For banzapyrene:
SubTLirr. – 0.0000002 mg/m^3, human;
Limchr. – 0.0000025 mg/kg, intragastrically, 6 mon, rat;
NEDch. – 0.00000025 mg/kg, intragastrically, 6 mon, rat;
5 mg, intratracheally, once per month, 3 mon, rat (by change of energetic metabolism in lungs);
15 mg (total dose), intratracheally, 3 mon, rat (change of energetic metabolism in lungs, liver, kidneys);
2 mg, intratracheally, once per month, 1 year, rat (reduction of SH groups in serum, an increase in excretion of 17 - keto steroids in urine, activation of anaerobic glycoside in lungs);
0.02 mg – maximal non- blastomogenic dose, intratracheally, rat [29]

12 ECOLOGICAL INFORMATION

12.1 General characteristics of the impact on the environment (air, water, soil):
When released into the air basin, waters and soil the resin has toxic effect on biological objects living in the air, aqutic environment and soil [9,10,29].

12.2 Environment impact pathways:
Harmful effects of the resin on the environment can occur only in cases of emergency, when there is the possibility of getting into the air and water basins or soil.
12.3 Observed adverse effects:
Changes organoleptic properties of water, adding odour and taste [4,9,10].

12.4 The most important characteristic of impact on environment:
12.4.1 Hygienic regulations for natural environments:
For dimethylbenzene:
$MPC_{air.}$ = 0.2mg/m^3, refl., 3 class of hazard [3].
MPC_{water}= 0.05 mg/l, org. odor., 3 class of hazard [4].
MPC_{soil}= 0.3 mg/kg, translocation [9].
$MPC_{fishery}$ = 0.05 mg/l, org., 3 class of hazard [9,26].
MPL = 1.75 mg/cm^3 [9].

For benzapyrene:
$MPC_{air\cdot d.a.}$ = 0.1 μg/100m^3, ac., 1 class of hazard [3].
MPC_{water} = 0.000005 mg/l, san-tox., 1 class of hazard [29].
MPC_{soil}= 0.02 mg/kg, general san. [29].

12.4.2 Ecotoxicity:

	Value	Exposure time, (h)	Species
Acute toxicity for fish			
for dimethylbenzene			
CL_{50}, ml/l	24	24	Centarchidae
CL_{50}, ml/l	29	24	Phoxinus phoxinus
CL_{50}, ml/l	35	24	Lebisted reticulates peters
CL_{50}, ml/l	17	96	Sparidae
CL_{50}, ml/l	86-308	48	Leuciscus idus mela-notus
for benzapyrene			
EC, ml/l	0,00008		Psettichthys mel- anostichus (changes in embryo)
AU, mg/kg	10	96	Fundulus heteroclitus (increased activity of liver enzymes)
Acute toxicity for daphnia Magna			
for dimethylbenzene			
EC_{50}, mg/l	165	24	-
EC_{100}, mg/l	200	24	-
EC_0, mg/l	137	24	-
for benzapyrene			
N/A			
Toxic effect on soil invertebrates			
for dimethylbenzene			
N/A			
for benzapyrene			
AU_{min} µg/kg	40	-	(increase in the number of fungi, reduction of saprophytic microorganisms count)
Toxic effect on algae in culture (population growth inhibition)			
for dimethylbenzene			
EC, ml/l	10	48	Amphidinium carterae
EC, ml/l	20	72	Skeletonema costatum
for benzapyrene			
EC, ml/l	0,01	96	Antithmnion plumula (increase in population growth)
EC, ml/l	0,005	288	Antithmnion plumula (increase of fissiparity time)

[9,29].

12.4.3 Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis etc.):
Does not transform in the environment. Highly table in abiotic conditions [9,29].

13 WASTES (RESIDUES) DISPOSAL CONSIDERATION

13.1 Recommendations on safe treatment of chemical wastes (residues):
Safety measures when handling wastes are similar to those used when handling the product.
Observe precautions for handling flammable liquids, avoid contact of wasted with open flames (sections 5,7,8,9).

13.2 Information on removal and disposal of wastes according to the current national legislation:
The product is disposed by combusting. The industrial wastes are stored in the landfills and sludge dump in accordance with SanPiN 2.1.7.1322. [9,10,21,24,29].

13.3 Methods and places of disposal (destruction) of wastes and contaminated package (tare):
The tare is allowed to be used again after removal of the residue [16].

14 TRANSPORT INFORMATION

14.1 UN number in accordance with the UN recommendations:
3082 [12,22]

14.2 Proper shipping and/or transport name :
LIQUID SUBSTANCE, HAZARDOUS FOR ENVIRONMENT, N.O.S. (Heavy Resin of Pyrolysis) [1,12,22].

14.3 Types of transport:
Closed road and rail transport [1].
14.4 Hazard classification of cargo:
Class 9, Classification code 9063, hazard sign by sample No.9 [1,22,25].
14.5 Transportation labeling:
Handling instructions “Keep away from sun rays”, “Sealed package” are acc.to GOST 14192 [1,23].

14.6 Packing group
III [1,12].

14.7 Information on danger during transportation by road:
Emergency measures code – 345 KE [28].

14.8 Emergency cards:
(railway, marine and other transportation)
No.906 [1,8,22].

14.9 Information on danger for international freight traffic:

Agreement on International Goods Transport by Rail: classification code M6, Hazard code No. 90, Danger sign No. 9 [22].
ADR/RID: class of hazard 9, classification code M6, Hazard identification No.90, Danger sign No. 9 [31].

15 NATIONAL AND INTERNATIONAL REGULATORY INFORMATION

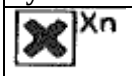
15.1 National legislation
15.1.1 Laws of the Russian Federation:
Law “On technical regulation”, the Law “On Environmental Protection”. Law “On sanitary and epidemiological welfare of the population”, “Labor Code of the Russian Federation”, the Law “On Production and Consumption

Wastes", the Law "On Industrial Safety of Hazardous Production Facilities", the Law "On Protection of Atmospheric Air".

15.1.2 Documentation regulating the requirements for human and environment protection:
Certificate of State Registration in the Register of Potentially Hazardous Chemical Substances (PHCS)
series VT No. 000525 dated 26.06.1995;
series VT No.000378 dated 17.03.1995.
series VT No.000387 dated 22.03.1995.

15.2 International legislation
15.2.1 International conventions and agreements: (whether the product is subject to the Montreal Protocol, Stockholm Convention)
N/A

15.2.2 Warning marking in EU countries:

Symbol	Value	Explanation
		Harmful hazardous substances
R-phrases	10 20/21/22 36/37/38	Flammable Harmful by inhalation, in contact with skin and if ingested. Causes irritation of eyes, respiratory system and skin.
S-phrases	25 36/37/39	In case of contact with eyes rinse immediately with plenty of water and seek medical advice Wear suitable protective clothing and gloves, protective means for face and eyes

16 OTHER INFORMATION

16.1 Information on revision (reissue) of the SDS:
The SDS is issued in view of production according to new technical requirements as per GOST 30333-2007 "Material Safety Data Sheet. General requirements."

16.2 List of data sources used for preparation of this Safety Data Sheet:
1 TU 2451-021-53505711-2011 Heavy resin of pyrolysis. Specification
2 GN 2.2.5.1313-03 Maximum permissible concentrations (MPC) of harmful substances in the air of the working area.
3 GN 2.1.6.1338-03 Maximum permissible concentrations (MPC) of pollutants in the air of residential areas.
4 GN 2.1.5.2280-07 Maximum permissible concentrations (MPC) of chemicals in water bodies of drinking and social use.
5 GOST 12.1.007-76 SSBT. Harmful substances. Classification and general safety requirements.
6 GOST 12.1.044-89 SSBT. Fire/explosion hazard of substances and materials. Nomenclature of indices and methods for their determination.
7 A.Ya.Korolchenko , D.A.Korolchenko Fire/explosion hazard of substances and materials and extinguishing means. Reference book, M.: Ase. "Pozhnauka", 2004.
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