

## POWDERED TECHNICAL LIGNOSULFONATES

Specs. 2455-002-00281039-00 (in exchange for specs 13-0281036-15-90)

### SAFETY CERTIFICATE OF THE SUBSTANCE

Name and composition of the substance or material

**Name of the substance:** Powdered technical lignosulfonates

**Synonyms:** Powdered concentrates of sulfite yeast mash

**Lignosulfonates are made from:** Lignin in the process of bisulfite cooking of wood with sodium base, sodium-magnesium base acid (in production of cellulose)

Product is obtained: In the process of concentration of bisulfite alkali liquor by evaporation up to 18-30% dry substance and posterior drying of this substance in a spray drier up to 92-96% dry substance.

#### Structural formula

Composition (component ingredients)	%	Class of danger
Sodium lignosulfonate (sodiummagnesium lignosulfonate) (basic Material)	66-71	4(1,2) ; 3 (3)
Sugar (glucose)	12-10	4 (1)
Sodium salts of sulphur acid (sodium bisulfite)	12-14	3 (1)
Health effect	Low-hazard (low-toxic) substance. 4th class of danger according to State Standard 12.1.007 (1,2) Limit of concentration (active area) 6,0 mg/m <sup>2</sup> , Lignin(s) (1,2,3)	

Current specs apply to Powdered Technical Lignosulfonates. These are sodium, sodium-ammonium, sodium-magnesium and magnesium salts of lignin sulfonic acids with the admixture of reducers and mineral substances. They are intended for the use as follows.

- \* For production of pesticides and seed protectants in chemical industry.
- \* In well-boring as a component for drilling fluid production
- \* In cement industry as a plasticizer of cement and for dilution of rough sludge
- \* In foundry as a binder for agglutinant sands and core sand mixtures
- \* In production of non-ferrous metals as a flotation reagent, and as a binder in the process of briquetting of fine-grained raw materials
- \* In production of fireproof materials (bricks, etc.) for quality improvement
- \* As a binder in the process of fine-grained coal briquetting. Crash-proof briquettes are obtained. They are used in exchange for expensive coke
- \* As a bonding component in production of flake boards and fiberboard
- \* As a component in skin (hide) tanning
- \* In production of concrete for quality improvement and concrete savings

This is an example of the product's designation when you order it or when you find it in different technical documents

## POWDERED TECHNICAL LIGNOSULFONATES (PTL) Specs. 2455-002-00281039-00

Compulsory quality and safety requirements-ensuring safety of life, health personal belongings and environmental protection- are stated in Section 2.

### 1. TECHNICAL REQUIREMENTS

**1.1** Powdered technical lignosulfonates should meet the requirements of the current specs. They should be produced in accordance with the technological regulations approved according to established procedure.

**1.2** We produce powdered technical lignosulfonates of two grades (superior quality and first quality) depending on quality indices.

**1.3** Characteristics

**1.3.1** Quality indices of powdered technical lignosulfonates should meet the requirements indicated in Table 1.

1. Appearance	Farinaceous powder
2. Color	Light Brown – Brown
3. Moisture Content ,%	< 2,5
4. Ash content % (in ratio of dry substances content)	< 22
5. Reducers content %(in ratio of dry substances content)	< 8,9
6. Hydrogen ions concentration (pH of the aqueous solution)	4,5
7. Tensile strength of dried spec.mPa	0,7

## 1.4 Packaging

**1.4.1** Powdered technical lignosulfonates should be packed in enclosed four-ply paper bags (not more than 40 kilograms each). Plastic sacks can be used for packing of powdered technical lignosulfonates on the assumption of observance of the qualifying standards. These qualifying standards of packing material include methods of sack filling, safety and quality of the product. The shipment of powdered technical lignosulfonates can be carried out in bulk in special-purpose containers, elastic containers (Big Bags), and other containers. These containers are stowed into open wagons and platform cars.

## 1.5 Marking

**1.5.1** Shipping data should be applied in accordance with the State Standard 14192. "Protect from moisture" indication should be applied to sacks in indelible paint with the help of a stencil along with the following data:

Name of goods

Factory of origin

Batch number

Gross weight and net weight (kg) Date of production

Marking of the current specs

It is possible to attach labels to sacks with the same marking.

When shipments are carried out for export, quality packing and marking should comply with contract requirements.

## 2. SAFETY REQUIREMENTS

**2.1** Powdered technical lignosulfonates are low-hazard substances.

**2.2** Powdered technical lignosulfonates do not irritate skin and retina under normal conditions.

**2.3** Powdered technical lignosulfonates are inflammable. Aerosols can form explosive mixtures with air.

Temperature of smouldering	155°C
Temperature of inflammation	195°C
Temperature of spontaneous ignition	490°C
Lower concentration level of flame spreading	200 g/m <sup>2</sup>

**2.4** When ignition is occurred you should use water, sand and felted cloth for extinguishing fire.

**2.5** When packing (parceling) of powdered technical lignosulfonates is carried out, you should avoid suspended materials concentration and equip work places with local and exhaust ventilation.

**2.6** Workers, who are engaged in production of powdered technical lignosulfonates, should wear overalls, safety glasses, welder's gloves, and breathing masks.

**2.7** Maintenance staff, working in direct contact with this product, should undergo preliminary and periodical medical examinations.

**2.8** It is forbidden to dump this product into superficial water (which is used for household and domestic purposes) with the purpose of environmental protection.

### **3. RULES OF ACCEPTANCE**

**3.1** Powdered technical lignosulfonates are accepted in lots. A lot is any amount of product of consistent quality with one document (common quality certificate).

**3.2** This document should include:

Manufacturer's name

Name of goods

Cooking acid base

Data of shipment

Lot number

Net weight

Quality indices of products according to the results of tests Current specs

### **4. TRANSPORTATION AND STORAGE**

**4.1** Transportation of powdered technical lignosulfonates should be carried out in boxcars and closed trucks.

**4.1.1** It is possible to use hopper cars and various kinds of containers for transportation of powdered technical lignosulfonates in compliance with rules of loose goods transportation.

**4.2** Transportation of goods by railway transport should be handled in conformity with "Rules of, Goods Transportation".

**4.3** Powdered technical lignosulfonates should be stored in enclosed and ventilated spaces and kept dry.

### **5. INSTRUCTIONS FOR USE**

**5.1** Powdered technical lignosulfonates should be used in accordance with the purpose indicated in the preamble of the current specs.

**5.2** It is possible to use powdered technical lignosulfonates in other branches of industry if you come to an agreement with your consumer about application of this product.

**5.3** It is possible to use powdered technical lignosulfonates in exchange for liquid technical lignosulfonates produced according to specs 13-0281036-029-94.

**5.3.1** Preparation of liquid technical lignosulfonates from powdered technical lignosulfonates:

You can make liquid technical lignosulfonates by means of dilution of powdered technical lignosulfonates in the weight ratio of 1,1-1,2 : 1. Mechanical agitation should be applied to the solution for a few minutes at water temperature of 20 - 70°C till all the powder is diluted.

**5.4** In order to ensure safe operation a customer should follow the information stated in Section 2 of these specs and in safety certificate for powdered technical lignosulfonates. This safety certificate should be sent to the customer on request

### **6. MANUFACTURER'S GUARANTEE**

**6. 1** Manufacturer guarantees that powdered technical lignosulfonates will satisfy the requirements of the current specs if storage, use and transport conditions are observed.

Warranty period of storage: 1 (one) year since the moment of production.