

# SORBIS GROUP

ONLY HIGH-QUALITY SORBENTS

## SORBIS DESICCANTS

2018 PRODUCT CATALOGUE

**DIN 55473**  
**MIL- D - 3464**  
**GOST 9.014- 78**

SORBIS GROUP head office is located in Moscow, Russia.

The core business of the company is production of desiccants.

SORBIS GROUP supplies also the following sorbents:

- silica gels
- molecular sieve
- activated aluminum oxides
- activated carbon

### **SORBIS GROUP Ltd.**

Russia, Moscow, Ozyornaya ulitsa, 42, office 1104

Tel.: +7 (495) 223-00-32

E-mail: [sales@sorbis-group.com](mailto:sales@sorbis-group.com)

[www.sorbis-group.com](http://www.sorbis-group.com)

# SORBIS GROUP

## ABOUT US



Based on the long-term experience and modern technologies we've developed desiccants satisfying even the most demanding customer.

SORBIS is the manufacturer of desiccants based on high-quality sorbents only, having maximal water-absorbing capacity, made of firm materials enduring the highest loads.

SORBIS ensuring offers large selection of desiccants. To the wide range of products we can find a solution even for the most demanding client.



SORBIS gives his customers exclusive service, guarantee of high quality and the most comfortable commercial terms



*\*SORBIS GROUP guarantees that you'll be satisfied with the quality of our protection facilities. In case they do not meet your demands for any reasons, SORBIS GROUP will replace them with the ones you need or you will get your money back including shipping charges.\**

Viacheslav Pasevin

President of  
SORBIS GROUP

## ABOUT DESICCANTS

SORBIS desiccants helping to protect goods from moisture during storage and shipping.

SORBIS desiccants meet all international quality standards, including German DIN 55473, U.S. MIL-D-3464 and Russian GOST 09.014-78

Use of SORBIS desiccants allows reduction of moisture level inside the package. Therefore, it ensures protection of cargo from corrosion and other adverse effects of moisture.

### Typical applications of SORBIS desiccants:

- Electronic components
- Plate glass
- Optical devices
- Semiconductors
- Pharmaceuticals
- Military equipment
- Foodstuff
- Engines
- Motorcar components
- Welding wire
- Wire for 3D printers
- Chemical products

### Available types of SORBIS desiccants:

- Single bags according to DIN/MIL-D/GOST
- Bag strips of different length consisting of single bags fastened with each other
- Bags with indicator opening
- Customized bags

Guaranteed storage life for SORBIS desiccants is 3 years provided that storage conditions are observed

# SORBIS GROUP

## Product range

Desiccant  
SORBIS 219 B+ .....p.6



Desiccant  
SORBIS 219-T .....p.7



Desiccant  
SORBIS 317 BK.....p.8



Desiccant  
SORBIS 317-TP .....p.9



Desiccant  
SORBIS 235.....p.10-11



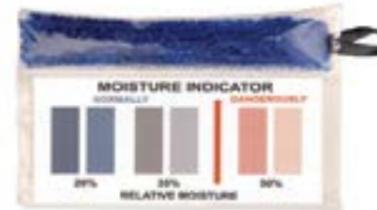
Desiccant  
SORBIS 235+..... p.12-13



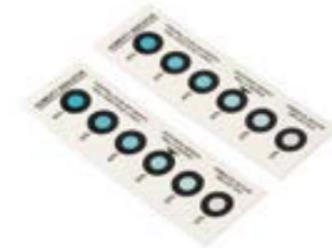
# SORBIS GROUP

## Product range

Indicator  
SORBIS 511 .....p.16



INDICATOR STRIPS .....p.17



Desiccant for containers  
SORBIS DRY ..... p.18



OXYGEN  
ABSORBER.....p.19



TILT AND SHOCK  
INDICATORS ..... p.20-21



SORBENTS..... p.22-25

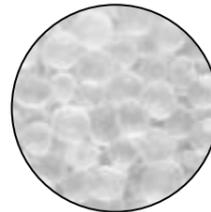


# SORBIS 219 B+

Desiccant tissue bags



Sorbent:	narrow pore silica gel
Package:	30 – 1000 g With a loop for hanging
Moisture content:	<2%
Regeneration conditions:	150–160°C during 3–4 h
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78
Marking:	customized marking upon request

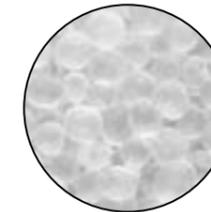


# SORBIS 219-T

Desiccant tissue bags



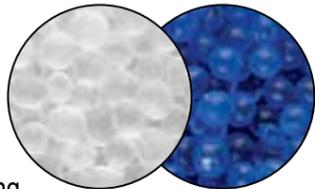
Sorbent:	narrow pore silica gel
Package:	30 – 1000 g With a ribbon for hanging
Moisture content:	<2%
Regeneration conditions:	150–160°C during 3–4 h
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78
Marking:	customized marking upon request



# SORBIS 317 BK

Desiccant tissue bags

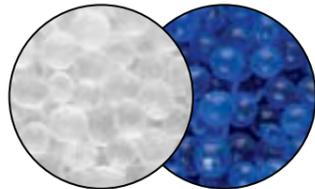


Sorbent:	narrow pore silica gel + silica gel indicator	
Package:	30 – 1000 g With a loop for hanging	
Moisture content:	<2%	
Regeneration conditions:	80-100°C during 6-7 h	
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78	
Marking:	none	

# SORBIS 317-TP

Desiccant tissue bags



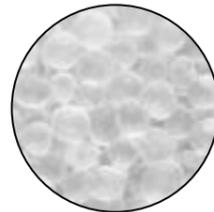
Sorbent:	narrow pore silica gel + silica gel indicator	
Package:	30 – 1000 g With a ribbon for hanging	
Moisture contents:	<2%	
Regeneration conditions:	80-100°C during 6-7 h	
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78	
Marking:	customized marking upon request	

# SORBIS 235

Desiccants in non-woven fabric



Sorbent:	narrow pore silica gel
Package:	1 – 1000 g
Moisture content:	<2%
Regeneration conditions:	single-use
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78
Marking:	DESICCANT/SILICA GEL

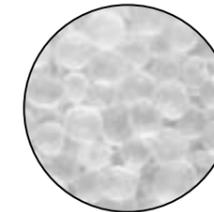


# SORBIS 235+

Desiccants in non-woven fabric



Sorbent:	narrow pore silica gel
Package:	1 – 1000 g as stripes
Moisture content:	<2%
Regeneration conditions:	single-use
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78
Marking:	DESICCANT/SILICA GEL



# SORBIS 435

Desiccants in non-woven fabric



Sorbent:	activated zeolite / activated clay	
Package:	1 – 1000 g	
Moisture content:	<2%	
Regeneration conditions:	single-use	
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78	
Marking:	DESICCANT/ACTIVATED ZEOLITE	

# SORBIS 435+

Desiccants in non-woven fabric



Sorbent:	activated zeolite / activated clay	
Package:	1 – 1000 g as stripes	
Moisture content:	<2%	
Regeneration conditions:	single-use	
Standards:	DIN 55473, MIL-D-3464, GOST 9.014-78	
Marking:	DESICCANT/ACTIVATED ZEOLITE	

# SORBIS GROUP

## Package



SORBIS desiccants are delivered in corrugated cardboard box. The box is covered with heat-shrink film for additional protection.



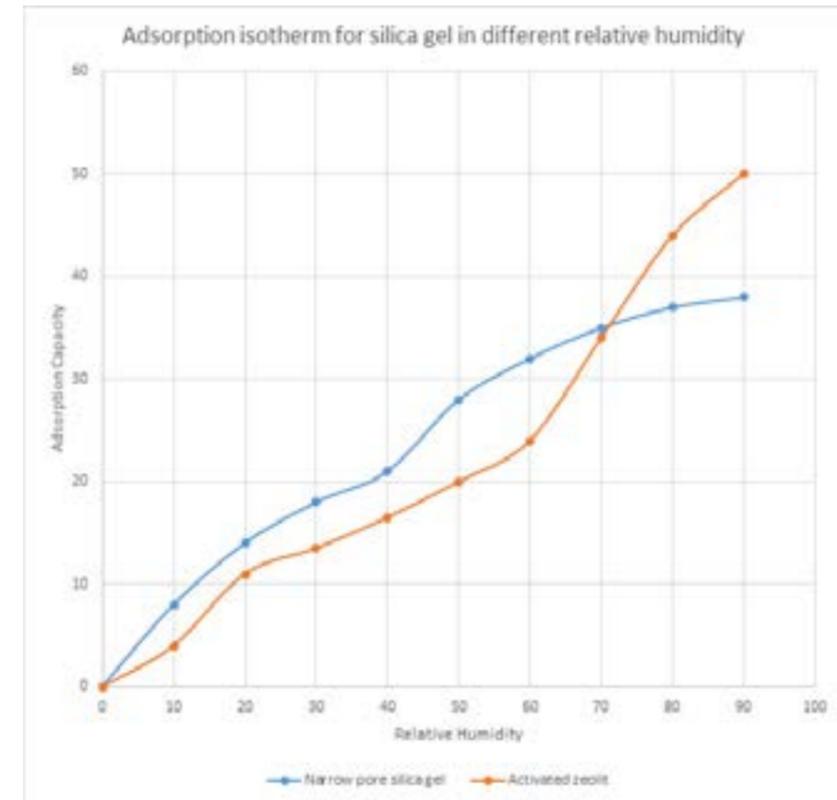
One hermetically sealed pack can hold up to 5 kilograms of desiccants.



Up to 5 kilograms of desiccants can be placed in one hermetically sealed package.

# HOW DOES IT WORK ?

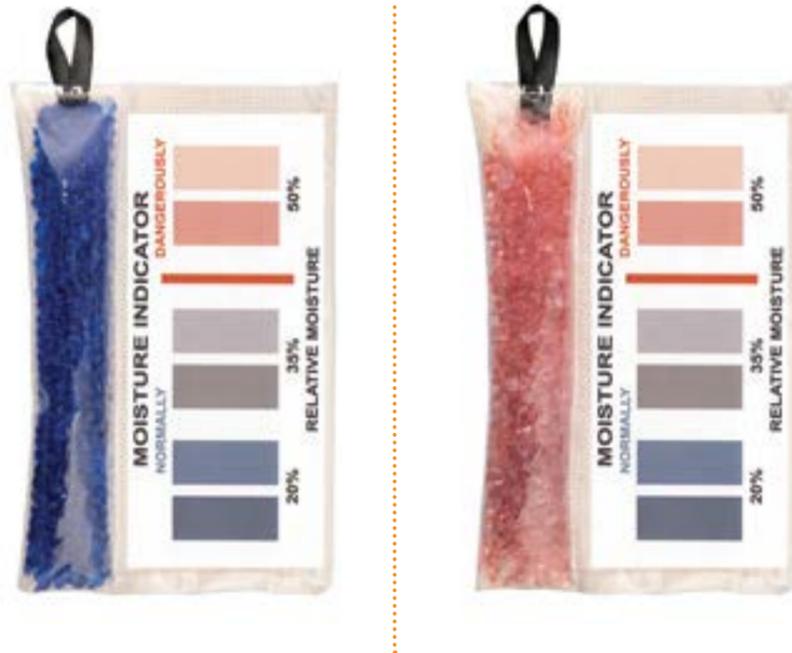
## Comparison of sorbents used in SORBIS desiccants



Absorption properties of silica gel and activated zeolite are quite similar. Both sorbents are good humidity absorbers at all levels of relative humidity. However, activated zeolite absorbs moisture better than silica gel at low relative humidity, while silica gel shows best results at high humidity levels. Given that the price of desiccants based on activated zeolite is lower by 10%, they have the highest economic feasibility for protection of cargo from moisture effects.

# SORBIS 511

## Moisture indicator



Sorbent:	silica gel indicator
Package:	40 g
Moisture content:	<2%
Regeneration conditions:	80–100°C during 6–7 h



Use for visual control of humidity level in the package. If silica gel indicator becomes pink, it's necessary to reduce humidity of the package and regenerate SORBIS 511 or replace it with a new one.

# INDICATOR STRIPS

## Moisture indicator



Use for visual control of humidity level in the package.

# SORBIS DRY

## Desiccants for containers



Sorbent: activated zeolite / activated clay

Moisture content: <2%

Regeneration conditions: 150–160 °C during 3–4 h

Package: 20 pieces by 1000 g + 20 clamps

Marking: SORBIS DRY  
DESICCANT/ACTIVATED ZEOLITE  
1000g



Desiccant kits protecting cargo during shipping.  
Use one SORBIS DRY kit for protection by container 20 ft.

Increased absorption ability (absorbs at least 70% of its weight)  
Does not contain SVHC (substances of very high concern), environmentally friendly and 100% waterproof.

# OXYGEN ABSORBERS

## Deoxider



Model	Volume of captured O2	Volume of your package	Size of bag	Units per package
<b>Oxygen absorber LV</b>				
Model 30	30 ml	150 ml	30x40 mm	12000 pcs/box
Model 50	50 ml	250 ml	30x45 mm	10000 pcs/box
Model 100	100 ml	500 ml	40x50 mm	7000 pcs/box

Model	Volume of captured O2	Volume of your package	Size of bag	Units per package
<b>PREMIUM Oxygen absorber</b>				
Model 30	30 ml	150 ml	30x40 mm	12000 pcs/box
Model 50	50 ml	250 ml	30x45 mm	9000 pcs/box
Model 100	100 ml	500 ml	40x50 mm	5000 pcs/box
Model 200	200 ml	1000 ml	40x60 mm	3000 pcs/box

Oxygen absorber is an active packaging solution designed to absorb all oxygen contained in the food package. The product can remove oxygen and maintain oxygen level in the food package below 0.01%. It proved to be a highly efficient product preventing mould growth and extending products' shelf life in a natural way.

# TILT INDICATORS

## Indicators



The given tilt indicators can fix the tilt of package within 10 degree slot, and also fix if a package is rotated by 180 or 360 degrees.

The warning signs at your package will inform your partners and shipping companies that products should be handled with care. You will be able to control the whole chain from your warehouse to the final consumer. Use of these tilt indicators will improve the quality of supplied products and protect you from claims.

Stick tilt indicators to the two side planes of your package and they will track the tilt angle of your package

# SHOCK INDICATORS

## Indicators



Shock watch indicators

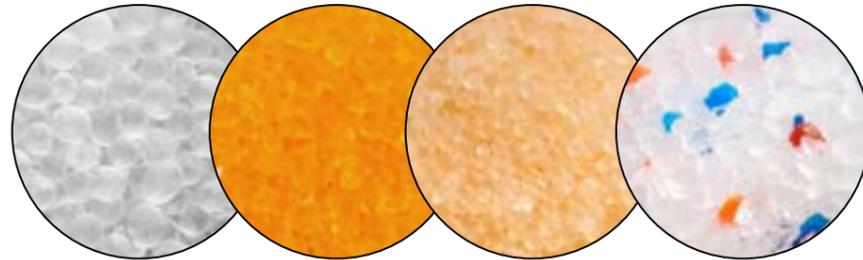
Shock watch labels are octagonal glue labels fixed outside the box with the goods. If the indicator detects the excessive shock exceeding the set range, the tube in the middle of the octagon will turn from white to red. Shock watch labels are designed for a specific impact, they are cheap and widely used for surveillance during transportation of goods, their aim is to monitor the condition of goods beginning from production and during transportation. Shock watch label used as a shipping label requires direct attention of the operator involved into transportation process. Shock watch label monitors safe transportation of sensitive products with great accuracy and effectiveness. With this label and technical support you will have an up-to-date information about packaging and shipping of product. Simply put, shock watch label means less defects, reduction in the number of incidents, amount of damage and cut of costs.

The label allows:

- accurate indication of source of mishandling during transportation of package
- reduction of loss rate at least by 50% during storage and transportation of goods
- ensuring quality of goods
- careful handling of goods
- assessment of packaging methods

# SILICA GEL

## Sorbents



The basic ingredient of silica gel is silicon dioxide (SiO<sub>2</sub>).

The physical structure of silica gel is defined by rich finely porous structure and large specific surface area.

Silica gel's surface area consists of silicon hydroxide, thus silica gel has high adsorption effect and is widely used for adsorption, drying, separation, purification and preparation of highly purified substances, etc. In chemical engineering silica gel can be used as a catalyst or a carrier of catalyst.

### Types of Silica Gel:

- Narrow pore spherical silica gel
- Type B spherical silica gel
- Wide pore spherical silica gel
- Wide pore micro spherical silica gel
- Big wide pore spherical silica gel
- Super wide pore silica gel
- Column chromatography silica gel
- High performance thin layer chromatography silica gel
- Liquid phase chromatography silica gel series
- WS waterproof silica gel
- Spherical blue silica gel
- Orange silica gel (indicator)
- Cat litter
- Fragrant silica gel
- Silical gel for aquariums

# SILICA GEL

## Sorbents



Molecular Sieve – used for dehydration of industrial gases, drying and cleaning of fluids.

### - 3A Molecular Sieve:

Application:

The product is widely used for deep desiccation of cracked gases, such as acetylene, propylene, butadiene and natural gas, as well as polar liquid, such as ethanol, LPG and solvent.

### - 4A Molecular Sieve

Application:

The product is mainly used for desiccation of gases and liquids, such as oil well gas and natural gas; it adsorbs H<sub>2</sub>O, H<sub>2</sub>S, NH<sub>3</sub>, SO<sub>2</sub>, CO<sub>2</sub>, C<sub>2</sub>H<sub>5</sub>OH, C<sub>2</sub>H<sub>6</sub> and so on.

### - 5A Molecular Sieve

Application:

The product is used for dehydration and purification of various hydrocarbon and non-hydrocarbon gas and liquid streams. It is also used for separation of straight and branched chain hydrocarbons, sweetening and drying of natural gases and production of high purity hydrogen.

### - 13X APG Molecular Sieve

Application:

The product is used for general air-drying, decontamination of raw in air-separating equipment (to adsorb water and carbon dioxide), desulfuration of liquid hydrocarbons and natural gases (to remove hydrogen sulfide and mercaptan).

Other types of molecular sieve

- Portable medical oxygen molecular sieve
- Carbon zeolite
- XH series zeolite
- Insulating glass molecular sieve
- Zeolite powder
- Activated zeolite powder

# ACTIVATED ALUMINA

## Sorbents



### Activated Alumina

Description: Consists of aluminum oxide (Al<sub>2</sub>O<sub>3</sub>).

Particle Size (mm): 0.4-1.2; 2.0-3.0; 3.0-4.0; 3.0-5.0; 4.0-6.0; 5.0-7.0; 6.0-8.0

Application: Widely used for dehydration in electronic and textile industry, at production of oxides and as an adsorbent in the aircraft industry (the dew point is under -55°). The product is suitable for climatic equipment and is used as an agent for defluorination of drinking water.

### Activated Alumina JZ-K2

Particle Size: 3.0-5.0 mm

Description: The product is specially designed to increase water adsorption and surface area.

Application: air dryer / air separation systems

### Ceramic Alumina Ball

Description: Ceramic filler showing high stability, significant acid corrosion resistance and heat resistance.

Application: Ceramic alumina balls are widely used in petroleum, chemical, natural gas industry. Due to high aluminum content, the product is ideal for very acidic or alkaline environment. The product is especially suitable for liquefied natural gas plants.

### Potassium Permanganate Activated Alumina

Description: The product uses specially activated alumina carrier having double adsorption capacity compared with similar products. It uses intense oxidizing of potassium permanganate, reducing the amount of harmful gas in the air resulting from oxidation decomposition and thus purifying the air.

Application: gas adsorbent - adsorbs sulfur dioxide, chlorine, NX, hydrogen sulfide and other gases.

# ACTIVATED COAL

## Sorbents



### Activated coal is used for:

- dechlorination, deozone, odor removal, improvement of gustatory characteristics, removal of pesticides, herbicides, dioxins, xenobiotics and iron when treating drinking water;
- filtering (removal of after-tastes, odors and organic substances) when treating natural water and water for the city;
- treatment of water for swimming pools;
- treatment of water for production of non-alcoholic beverages and beer, purification of water-alcohol mixture during production of liqueur and spirits and low-alcohol beverages, clarification of wine;
- clarification and deodorization of oils and fats, production of citric, lactic and other edible acids, purification of starch and syrup solutions, sugar syrups, fruit sugar and xylite;
- clarification of plasticizers and as a catalyst carrier in chemical industry;
- production of mineral oils, chemical agents and paint materials;
- filters of any capacity, including household water filters;
- protection of reverse-osmotic membranes and ion-exchange resins from chlorine and organic substances;
- cleaning of water from oils and condensates at electrical power plants;
- sewage treatment and wastewater treatment, treatment of ground water and storm water;
- as an enterosorbent in poultry industry and livestock production for elimination of high toxic substances.

# SORBIS GROUP

## Where does the condensate come from?



Moisture from the environment gets into the box during packaging of products.



When the temperature of environment falls below the dew point temperature, the condensate is formed on the cargo surfaces.



Condensate causes corrosion of surfaces or caking of loose goods.

That's why it's necessary to ensure a reliable protection from moisture effects.

# HOW DOES IT WORK?

## How to protect cargo during shipping?



Place SORBIS desiccants into the package, distribute them evenly throughout the package.



High-quality sorbent absorbs moisture inside the package.



The moisture is kept by the desiccant and no condensate is formed!

Thus the products are protected from moisture.