



www.sorbeum.com

What is SORBEUM®



SORBEUM® is patented, highly efficient adsorbent with hydrophobic surface, produced in EU which is of grey, almost black color. It is totally natural, lab-tested, field proven adsorbent that is not health hazardous. It is biologically and chemically neutral, cost effective, non-toxic, totally environment friendly with high heat resistance, high thermal, sound and radioactivity isolation ability.

It adsorbs: **petrochemical and crude oil substances**
toxic and chemical substances
acids
alcohols
heavy metals
harmful vapors
oils
pollen dust



Range of use



Adsorbent

SORBEUM® is most of all, highly efficient adsorbent. It is mainly used for prevention and elimination of ecological disasters. SORBEUM® is capable to adsorb unbeatable volume of crude oil and petrochemical substances, oils and other environment harmful substances. SORBEUM® efficiently adsorbs toxic and chemical substances, mainly acids and alcohols directly. It adsorbs also heavy metals and oils from water, harmful gases as well as pollen from air.

Widely known adsorbents can adsorb on 1 kilogram own weight, 2 to 10 kilograms of crude oil.

Adsorbent SORBEUM® on 1 kilogram of own weight can adsorb from 50 to 80 kilograms of crude oil!



Adsorption properties for selected chemical substances and metals	
Adsorbate - chemicals	Adsorption ability g of adsorbate / 1g of SORBEUM®
H3PO4 - orthophosphoric acid	98 g / 1g
Motor oil Madit OH HM 46	52 g / 1g
Crude oil	53 g / 1g
Adsorbate - metals	Adsorption ability g of adsorbate / 1g of SORBEUM®
Manganese (Mn)	130 – 160 mg/ 1kg
Cuprum (Cu)	260 – 290 mg/ 1kg
Cadmium (Cd)	280 – 320 mg/ 1kg
Plumbum (Pb)	910 – 950 mg/ 1kg

Tested type: SORBEUM® M, Used standards: ASTM F 726-81, STN 68 4134

Range of use

Cleaning of the air, gases, air filtering systems and application in the industry

Food industry

Due to the characteristics of the SORBEUM® it is possible to use it in air filtering systems applicable in the food industry to improve quality of wines and other alcohols, for elimination of bad smells, dust (cowsheds, stables, poultry farms, coffee-roasting plants, etc.), silica cleaning - allergen (arising in beer brewing process). SORBEUM® also eliminates lipids from sewage - it is possible to use it in dairy or slaughterhouse, etc.

Automotive industry

The application is in painting shops and workshops (exhaust and filtering appliances), air recuperators, petroleum distillate interceptors, production of pollen, smell and smog automobile filters, or as a filling and reinforcement of interior and exterior parts as a substitution of currently used flammable materials.

Army and other filtering systems

The application in air conditioning appliances causes restriction in ability of using chemical combat substances (government buildings, embassies, financial institutions, hotels, subway, etc.). There is proven adsorption ability of the activated SORBEUM® applied on SARIN, YPERITE, SOMAN, etc. Activated adsorbent SORBEUM® has higher efficiency than modern army filtration systems. SORBEUM® is capable also for use or production of filters in kitchen digestors and smoke filtering systems, burned oil vapors and many others.

SORBEUM® has the ability to eliminate ephemeral organic substances, aerosol gases, smoke contaminated by dioxine, quicksilver, heavy metals, or harmful substances from incinerators. There is possible usage of SORBEUM® in gas masks or respirators in the chemical industry.

Water management and sewage disposal

The application includes cleaning of drinking water (smell, taste, color), elimination of organic or inorganic impurities. The adsorbent SORBEUM® is able to eliminate substances like heavy metals, hydrocarbons, acids, fats, PCB and dioxines from sewage. There is ability to use SORBEUM® for sewage disposals, for water cleaning from dumps but also for cleaning water in swimming pools.



Thermal and sound isolation and fire prevention

SORBEUM® for its properties such as low volume mass and high heat resistance (short-term 1.200 °C, long-term 800 °C), it is suitable for thermal and sound isolation and as fire prevention measure. Another possible usage may be manufacturing of heat resistant sealants, fire proof products and insulations and in electrochemistry. SORBEUM® does not sublime until 3.000 °C.

Suitable addendum for soil

SORBEUM® used in the soil, acts as a stabilizer of humidity, lightens the soil and reduces evaporation, thus reduced water use. SORBEUM® mixed with peat is also used to reclaim the land from desert to farmland.



Cleaning of the contaminated land

Crude oil, petrol, diesel oil, oil dyes, dioxines, PCB, heavy metals is not a problem to eliminate it from contaminated land using SORBEUM® in special machinery, also directly on the contaminated spot. Similarly it is possible to decontaminate land air from chlorine hydrocarbons. Appropriately modified SORBEUM® has antibacterial properties and absorbs biological substances and wounds.

In brief, SORBEUM® is applicable in food industry, chemical industry, agriculture, but also power industry, electrical engineering and many others.

To our customers we offer complete ecological solutions upon individual needs.

Environment, Ecology

SORBEUM® is chemically pure carbon and it is:

- not health hazardous
- biologically and chemically neutral
- totally environment friendly and beneficial



Products of SORBEUM®

- powder - produced in eight basic variants
- pads and mats
- socks and booms - suitable for the use on the water level, or on the ground as a barriers
- boards, barrels and cubes - adsorbent in solid state
- submersible walls
- filters - water and air
- plates, sheets, gaskets



Recuperation – recovery of an adsorbed substance, Liquidation

SORBEUM® is the only one to us known adsorbent which offers the option of recovery up to 80%.

Most of the adsorbated substances can be recovered in condition for further utilization or usage.

SORBEUM® has the recovery property that means most of the adsorbed substances can be recuperated by extraction, pressure or centrifugal force. **Normally can be recovered 80% of adsorbated substance.** SORBEUM® can be liquidated by burning in a boiler producing electricity (coal heating value), or after agreement, returned to manufacturer for recycling.



Economic return

Adsorbent SORBEUM® with its unique characteristics offers **more than 30% cutting of all costs** against competitor adsorbents and it is the only one known adsorbent with outstanding characteristics such as:

- **Recuperation** - recovery of the adsorbated substances
- **Recyclation** - SORBEUM® can be used several times
- multiple higher adsorption capability against competitor adsorbents
- **Environment friendly**, neutral, no special storage condition are needed
- Easy and cheap liquidation
- **Cost reduction** against competitor adsorbents



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