



## BACTOFORCE: MATERIAL SAFETY DATA SHEET

### ⤴ Identification and composition of the material.

Bactoforce is a microbiological soil improver.

The active substance of this material are natural bacteria „Bacillus subtilis“, which are able to colonize the developing root system, competing with various disease organisms that attack the root system.

Harmful and toxic materials were not used to make this preparation.

### Manufacturer information.

Manufacturer – Bioenergy LT

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### ⤴ Hazards identification.

By hygiene classification, Bactoforce is classified as a low toxic material.

Danger of accident contact to eyes, skin, and stomach if used improperly.

### ⤴ First aid measures.

After eye contact, wash them with a water stream or a 2% soda solution for a few minutes.

If eyes and eyelids are irritated, instill of 30% albucid solution.

After swallowing, wash it out by drinking a few glasses of water or light potassium permanganate solution (1:5000 – 1:10000) and, by irritating the back wall of the throat, induce vomiting.

After skin contact, wash the stained spot with soap and water. Call for medical help immediately for persons, working with the preparation, who felt specific symptoms of allergies.

Information for the doctor: there is no antidote, symptomatic treatment has to be applied.

### ● Firefighting measures.

Bactoforce belongs to non-flammable, non-explosive materials.

In case of fire, extinguish with water mist or foam.

### ⤴ Handling, transportation and storage.

While using Bactoforce general safety requirements shall be followed by “Hygiene Requirements for pesticide and agrochemical storage, usage and transportation”.

The produced preparation is packed to hermetic packages from 1 litre to 1000 litres.

The preparation shall be transported in covered, dry and clean transport vehicles. It is forbidden to use transport vehicles, which were used for transportation of poisonous chemical materials. It is forbidden to transport Bactoforce together with food.

Bactoforce belongs to non-poisonous, non-dangerous materials, it is safe to transport by all means of transportation, including air transport.

The marking about dangers of transporting is not necessary.

Store in dry, clean, ventilated rooms, on shelves or pallets, on a strong and even surface, in temperature from 5°C to 40°C, away from direct sunlight.

⤴ **Safety means and instructions for the staff.**

While transporting, storing and using Bactoforce, it is recommended to follow usual safety and personal hygiene instructions, applied for not very dangerous agrochemicals.

Only people, who have passed a medical examination, can work with the preparation.

It is forbidden to work with the preparation for persons under 18 years-old, pregnant and breast-feeding women, also for persons with diseases in gastrointestinal tract and respiratory tract, eye diseases and those, who are prone to allergic reactions.

To avoid contact with eyes and skin, wear special clothing, use personal safety means (cotton clothes, rubber gloves).

Do not smoke, drink or eat while working. Take a shower, wash your face and hands with soap after work.

⤴ **Physical and chemical properties.**

Bactoforce is a brown or dark-brown fluid.

Number of vital spores in 1g of preparation is not less than  $1 \times 10^9$ .

The preparation cannot start a fire itself, does not have acid features, does not make toxic compounds in air or water.

⤴ **Stability and chemical activity.**

The best before date of Bactoforce is 12 months.

When this period is over, biological activity may get lower, although the preparation does not decompose or release toxic substances.

During contact with water, air, acid, alkali a chemical reaction does not happen, toxic derivatives do not form.

⤴ **Toxicity.**

Primary producers of Bactoforce belong to group 4 of the hazard groups of microorganisms, so by criteria of virulence, toxicity, toxigenicity and dissemination, this culture is not pathogenic for warm-blooded animals and human.

Allowed concentration of primary producers in the air of working area is -  $5 \times 10^3$  cfu/m<sup>3</sup>.

By performing a onetime oral experiment with white mice, it was found, that LD50 exceeds 10g for 1kg of weight, also, no animal deaths or intoxications were diagnosed (the hazard group 4).

Onetime (for 4 hours) contact with the rat skin was not influential; irritability of the animal skin was not noticed.

⤴ **Ecological information.**

According to the hygiene classification, Bactoforce is a compound of low toxicity, so sanitary dosage while using it in nature or planting is not **necessary**.

The preparation is not phytotoxic, has no influence on taste or smell of plants, quickly degrades in the soil.

By following the recommended rates, Bactoforce is not dangerous for human and warm-blooded animals, fish, hydrobionts, bees, entomophagous.

⤴ **Disposal and landfilling.**

Residue of the BactoforceThe product should s operation within 24 months from date of manufacture are utilized likely to domestic waste – mixed with plant waste and composted, landfilled into the ground.

Decontamination of spilled aqueous solution of preparation, its residue, and spraying equipment is performed with one of these compounds: lime milk, 1% formalin solution, 2-3% caustic soda solution