

Product Data Sheet

Lucosoil® 2400D

1. Product description

Lucosoil®2400D is an aqueous, plasticizer-free vinyl acetate-ethylene co-polymer dispersion.

2. Properties

- Good adhesion to various plastic surfaces
- Permanently flexible adhesive joints
- Very good properties for soil stabilization
- High cohesion

3. Applications

- Sand and soil stabilization (e.g. sand dunes, street stabilization, parkings, landscapes)

4. Storage

When Lucosoil®2400D is stored in tanks, proper storage conditions must be maintained. If stored in the original, unopened containers at temperatures between 0 - 30 °C, Lucosoil®2400D has a shelf life of approx. 6 months. Iron or galvanized-iron equipment and containers are not recommended because the dispersion is slightly acidic. Corrosion may result in discoloration of the dispersion or its blends when processed further. Therefore, the use of containers and equipment made of ceramics, rubberized or enamelled materials, appropriately finished stainless steel, or plastic (e.g. rigid PVC, polyethylene or polyester resin) is recommended.

5. Preservation for transport, storage and further processing

Lucosoil®2400D is adequately preserved during transportation and storage if kept in the original, unopened containers

However, if it is transferred to storage tanks, the dispersion should be protected against microbial attack by adding a suitable preservative package. Measures should also be taken to ensure cleanliness of the tanks. In unstirred tanks, only bacteria-free air may enter the tank when the dispersion is removed. Finished products manufactured from polymer dispersions usually require preservation as well. The type and scope of preservation will depend upon the raw materials used and the anticipated sources of contamination. The compatibility with other components and the efficacy of the preservative should always be tested in the respective formulation. Preservative manufacturers will be able to

advise you about the type and dosage of preservative required.

6. Additional application information

The intended application of Lucosoil®2400D is the stabilization of loose soils like sand or weak grounds made of stones, pea gravel or split.

The main application is the physical solidification of sand to reduce the wind transportation effect of sand like dunes.

Science-based research shows in the case of solidification of the surface of dunes, one will get better efficiency when the angle of climbing of the windward slope is about 40 to 60° because the sand flows over the dunes without increase the height of the dune whereas other angles lead to up growth of the dune.

Lucosoil®2400D penetrates the sand layer and after volatile the water the resin left will crosslink and fasten the sand particles.

To get a good penetration of Lucosoil®2400D it should be diluted and dispensed with water. Trials show that the moisture of the sand might be about 8 – 12 % for the best treatment

The needed Lucosoil®2400D depends on the nature of the ground (gravel, split, sand) and has to evaluate by the use, typical values are 0.5 to 2 % to soil.

For example:

Target is 1 % Lucosoil®2400D to soil, depth 30 cm.

Density of sand about 2 g/cm³.

1 sqm Sand 30 cm depth weight	600 kg sand
10 % moisture	60 l water
1 % Lucosoil®2400D to soil	6 l Lucosoil

That means

6 l Lucosoil®2400D (50%) which is diluted with 57 l water (3 l from Lucosoil) may compact the a.m. ground when the solution is sprayed on 1 sqm soil uniformly.

After drying and volatile of the water the ground can be used.

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7. Additional environmental information

Lucosoil®2400D is an aqueous, plasticizer-free vinyl acetate-ethylene co-polymer dispersion.

The system Lucosoil®2400D was intensively investigated by the German Authority DIBt¹ and LAUS².

As a conclusion of the studies about Lucosoil®2400D lead to the following statements

- it is an aqueous solution,
- is free of organic solvents, plasticizers and film forming agents,
- has good saponification resistance
- Complies with REACH³
- is free of SVHC⁴
- has no CRM effects
- is not toxic against bacteria, water flea, alga, fish eggs

After application of Lucosoil®2400D the aqueous eluates were analysed. It was found that the eluate of Lucosoil®2400D

- has no influence to the pH-value of ground water
- has very small tendency for foam formation
- leads to small increase of the TOC⁵ value
- but lead simultaneously to a higher degree of biodegradability of the eluate caused by the vinylacetate-content
- meets the strong specifications of DIBt concerning the toxic effects of eluates to ground water

The used substances do not pose a risk either to soil or the groundwater.

8. Safety notes

Comprehensive instructions are given in the corresponding Safety Information Sheet (SI)

A layer of preservative-containing water should be sprayed onto the surface of the dispersion to prevent the formation of unwanted skin and possible attack by microorganisms of the products. Respective measures should be taken.

Data Sheets are available upon request from LUCOBIT AG sales offices.

Typical general characteristics	Inspection Method	Unit	Value
Solids content	DIN EN ISO 3251	%	55
Viscosity, dynamic at 23 °C	DIN EN ISO 2555	mPas	2400
pH-Value	DIN ISO 976	-	4,5
Density	DIN ISO 2811-3	g / cm ³	1,07
Minimum film forming temperature	DIN ISO 2115	°C	approx. 0
Frost resistance	LUCOBIT method	-	protect from freezing
Filler and pigment compatibility	LUCOBIT method	-	very good
Appearance	LUCOBIT method	-	Opaque
Surface	LUCOBIT method	-	slightly tacky
Glass transition temperature	LUCOBIT method	°C	approx. 5

These figures are only intended as guidelines and should not be used in preparing specifications.

¹Deutsches Institut für Bautechnik (German Institute of Civil Engineering, Berlin)

²Libertäre Arbeitsgemeinschaft Umweltanalytik und Schadstoffberatung GmbH

³Registration, Evaluation, Authorization and Restriction of Chemicals

⁴Substances of very high concern

⁵Total organic carbon

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