

Zytoplast EFD

Zytoplast EFD is a new generation Modified Tapioca Starch compound specially formulated for spun yarn sizing. The product has excellent adhesion to polyester, cotton and rayon fiber.

Zytoplast EFD gives excellent flexibility and abrasion resistance making it an ideal compound for spun yarn sizing.

Zytoplast EFD is based on modified starches making it easier to desize without enzyme technique.

| Features | Benefits |
|--|---|
| Homogeneous compound | Should be used alone for enzyme free desizability. No dusting. |
| Lower viscosity | Better wetting and penetration. |
| New surface chemistry | Excellent adhesion, lower dropping & improved lubricity. |
| Chemical modification of starch | Stable viscosity, excellent wetting & lower retrogradation temperature. |
| Improved solubility | Easily desized without enzymes. |
| Excellent film formation and compatibility | Improves strength, reduces loss in elongation, allows easy opening and lower dropping on looms. |

Specifications:

| | | |
|----------------------|---|--|
| Appearance | : | Light white colour powder |
| Solid content | : | 93 ± 2% |
| Solubility | : | Easily soluble in hot water above 85°C |
| Chemical composition | : | Modified starch |

Application:

The product can be cooked from 10% to 18% concentration depending on sizing requirement. The product can work by itself as a single product for sizing 100% cotton, polyester-cotton and polyester-rayon blends yarn from 6's count to 40's count.

Desizing:

Desizing of this compound is relatively very easy. It can be desized without enzyme.

Preparation:

Add-on % of this product should be decided by user taking into consideration gain in strength required maintaining reasonable loss in elongation and surface protection required for controlling hairiness of the final yarn. The optimum % pick-up varies from Mill to Mill and from sort to sort depending on yarn quality and types and speed of the looms used.

Cooking Procedure:

Take water and add **Zytoplast EFD** powder to cooking vessel. Stir for 10 minutes and start the cooking by injecting steam. One can cook in closed vessel at atmospheric or high-pressure conditions, depending on concentration of size. The time can vary from 60 minutes to 30 minutes depending on heating profile and final temperature achieved.

The cooked solution is generally stable in viscosity and small drop may be seen over extended storage beyond 2-4 hours. The cooked size solution should be maintained at 85 - 90°C in storage vessel with indirect heating. Concentration should be monitored by refractometer for routine control along with viscosity cup for maintaining % concentration and viscosity at a given temperature.

Complimentary products:

- **Ran 1000:** Acrylic based binder for spun yarn sizing
- **R Cryl:** Acrylic based binder for spun yarn sizing
- **Z 3000 ACP:** polyester resin based binder for spun yarn sizing
- **R Soft 44:** Softener for spun yarn sizing
- **R Soft 55:** Softener for spun yarn sizing

Storage:

- Do not store **Zytoplast EFD** bags above 50°C or in direct sun.
- Stable for 6 months, if stored in a shade at room temperature.

Disclaimer: *The information in this leaflet is given in good faith but without warranty. We recommend that before using our products, the customer should make his own tests to determine the suitability of the products for his own purpose under his operating conditions. As the circumstances under which our products are stored, handled and used are beyond our control, we cannot assume any responsibility for their use by the customers.*

MATERIAL SAFETY DATA SHEET

1. Trade Name : **ZYTOPLAST EFD**

Company:

ZYDEX INDUSTRIES
25A, GANDHI OIL MILL COMPOUND
GORWA
VADODARA-390016, INDIA

Emergency information:

ZYDEX INDUSTRIES
TELEPHONE NO.+91 265 2280865, 2283386 FAX NO.91 265 2280872

2. **Composition/information on ingredients:**
Chemical nature: **Modified Starch** with additives.

3. **Possible hazards**

Critical hazards to man and the environment: Non-Hazardous

4. **First aid measures:**

| | |
|-----------------------|---|
| General advice: | Remove contaminated clothing |
| If inhaled: | Keep patient calm, remove to fresh air |
| On skin contact: | Wash thoroughly with soap and water |
| On contact with eyes: | Wash affected eyes for at least 15 minutes under running water with eyelids help open, consult an eye specialist. |
| On ingestion: | Rinse mouth and then drink plenty of water |

5. **Fire fighting measures:**

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| Suitable extinguishing media: | Water spray, dry extinguishing media, foam, carbon di-oxide (CO ₂) Non-flammable and hence no fire hazard. |
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6. **Accidental release measures:**

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| Personal precautions: | No special measures necessary |
| Environmental precautions: | Do not let product enter drains |
| Methods for clearing up: | Contain with absorbent material and dispose. Clean with water. |

7. **Handling and storage**

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| Handling: | Ensure thorough ventilation of stores and work areas |
| Protection against fire & explosion: | No special measures necessary |
| Storage: | Keep tightly closed in a dry and cool place. |

8. **Exposure controls and personal protection**

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|--------------------------------------|---|
| Personal protective equipment | |
| Respiratory protection: | Avoid breathing vapour |
| Hand protection: | Protective gloves |
| Eye protection: | Goggles |
| General safety and hygiene measures: | The usual precautions for the handling of chemicals must be observed. |

9. **Physical and chemical properties**

| | | |
|-------------------------------------|---|---------------------------------|
| Form | : | Powder |
| Colour | : | Creamish White |
| Solid content | : | 93 ± 2% |
| Flash point | : | >100°C |
| Ignition temperature: | : | >200°C |
| Explosion hazard | : | No explosion hazard |
| Vapour pressure | : | N/A |
| Solubility | : | Soluble in hot water above 85°C |
| pH value | : | Approx. 6.5 – 7.0 |
| (at 10% conc. in water when cooked) | | |

10. **Stability and reactivity**

Storage time: 6 months

Hazardous reactions: None provided product is correctly processed

11. **Toxicological information:** NON-TOXIC

12. **Ecological information:**

General Notes:

Do not allow material to be released to the environment without proper governmental permits.

13. **Disposal consideration:**

Product: Must be dumped or incinerated in accordance with local regulations

Contaminated packaging: Uncontaminated packs can be re-used. Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. **Transport Information:** Not a hazardous material for transportation.

DOT regulations

Hazard class : Not regulated.

Land transport ADR/RID (Cross-border)

ADR/RID Class : Not regulated.

Maritime transport IMDG:

IMDG Class : Not regulated.

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class : Not regulated.

Transport/Additional information : Not dangerous according to the above specifications.

15. **Regulations**

Product related hazard information:

*Hazard symbols: Non-hazardous

*Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water
& seek medical advice.

16. **Other Information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of the information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product conformance with this Material Safety Data Sheet, or in combination with any product or process, is the responsibility of the user.

.Department issuing MSDS: Safety and Environmental Department.

.Contact: Ajay I. Ranka

PS: The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of our product must take responsibility for observing existing laws and regulations.
