

Unique Single Component
Dispersing & Levelling of Disperse Dyes on
Polyesters Fibers,
Yarns and Fabrics

ZP-101



Z Cross International

Address:701,Gopi Cine Mall, NSS Road, Dombivli(W)-421202.

Phone No:7208014087,**Email:**zcrossinternational@gmail.com



ZP-101

APPLICATION

Single multifunctional product for dispersing & levelling of disperse dyes.
On substrate polyester fibers, yarns and fabrics.

CHEMISTRY FOR PERFORMANCE

- Excellent dispersing, migration and Levelling properties for all class of disperse dyes.
- Better brilliancy, fastness & softer feel.

CHEMISTRY FOR ECONOMICS

- Low dose level

PHYSICAL PROPERTIES

Product	Colour	PH	Dosage	Pack Size
Anionic Bio-degradable Eco-friendly	Pale yellow liquid	4.5 ± 1 (1 gpl solution in D.M. Water)	0.5 – 1.5 gpl	35 kg

(Note: Dosage given on MLR 1:10)

Tentative Dose Level:

Colour Shade		Product Dose levels at MLR 1:10		
		For Fabric	For Yarn	For Fibre
High	4.0 – 6%	0.25 gpl	0.25 – 0.5 gpl	0.5 – 1.0 gpl
Medium	2.0 – 4%	0.375 gpl	0.5 – 1.0 gpl	0.2 – 0.5 gpl
Light / Critical Combination	0.25 – 2%	0.50 gpl	1.0 – 1.5 gpl	0.2 – 0.4 gpl

Compatibility:

- The product is not compatible with hard water. Please check the compatibility before use. If there is a tendency of precipitation do not use this product. Instead use other product offered by us RDL-55
- For other acids than normal Acetic Acid please check the compatibility.

Lab Test for compatibility:

Prepare 10% solution of ZP 101 (S) in hard water keep for 1 hr. if there is no precipitation, and then proceed for trial.

The product must be diluted before addition to the dye bath.

PREPARATION OF STOCK SOLUTION (1: 10)

- Shake the ^{ZP 101} carboy well before making the dilution.
- The dilution can be in the ratio of 1:10 by water i.e. adding 9 parts of water to 1 part of our product.

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TYPICAL GUIDE RECIPE FOR FIBRE, YARN, FABRIC:

S. No.	Substrate Machine M : LR	Fibre		Yarn		Fabric		
		HTHP		HTHP		JET		
Particulars	Existing Recipe	RAN Recipe	Existing Recipe	RAN Recipe	Existing Recipe	RAN Recipe	1 : 9	
							1 : 4	
1.	Levelling Agent	0.5 gpl	Nil	1.0 gpl	Nil	1.0 gpl	Nil	
2.	Dispersing Agent	0.7 gpl	Nil	1.0 gpl	Nil	0.7 gpl	Nil	
3.	Oligomer remover	0.35 gpl	Nil	0.35 gpl	Nil	Nil	Nil	
3.	ZP 101	Nil	1.2 gpl	Nil	1.5 gpl	Nil	0.5 gpl	
4.	Sequestering Agent	0.2 gpl	0.2 gpl	0.2 gpl	0.2 gpl	0.5 gpl	0.5 gpl	
5.	Anticreasing Agent	Nil	Nil	Nil	Nil	1.0 gpl	Nil	
6.	Acid Buffer	0.27 gpl	0.27 gpl	0.2 gpl	0.2 gpl	0.2 gpl	0.2 gpl	
7.	Acetic Acid	1.0 gpl	1.0 gpl	1.0 gpl	1.0 gpl	1.0 gpl	1.0 gpl	
8.	Temp. Gradient							
	60°C-100°C	3°C/min	3°C/min	3°C/min	3°C/min	2°C/min	2°C/min	
	100°C-135°C	1°C/min	1.5°C/min	1°C/min	3°C/min	2.5°C/min	3°C/min	
	Time & Temperature	25 min 135°C	25 min 135°C	40 min 135°C	40 min 135°C	30 min 135°C	30 min 135°C	

OPERATIONAL SEQUENCE:

S.No.	Sequence
1	Load the fibre or Yarn or Fabric and fill the machine with water as per MLR
2	At 45°C add acetic acid and acid buffer, seq. agent & Anticreasing as per given recipe. Hold for 10 minutes at same temperature.
3	Check the pH i.e. 4 – 4.5 and raise the temperature to 55°C.
4	Add ZP 101 (S) at this temperature and hold for 5 minutes.
5	At 60°C add properly dissolved and filtered disperse dyes solution slowly for 10 minutes.
6	After completion of dye addition hold at this temperature for 10 minutes.
7	Start rising the temperature as per given rate in above recipe & hold as given in above recipe.
8	Check the sample shade, if found O.K. then cool or drain the dye bath & proceed for R.C.

IMPORTANT POINTS FOR GETTING THE BEST RESULTS:

- Preferably only acid should be used along-with our product ZP 101 (S). In case one has to use other products like sequestering agent, defoamer, dispersing powder, carrier, acid buffers please check the compatibility of the system.
- Never mix acid directly with our product ZP 101 (S). This will always lead to inferior results.
- Never use ZP 101 (S) directly. Use the dilution 1:10.
- On long storage there is a tendency for formation of fibrous precipitate and hence after making the dilutions please filter before use.

The literature indicates general information guidelines on our product for their use. The user should check the suitability of the product for his own use. We make no warranty of any kind expressed or implied. Industrial safety practice is to be followed. We take no responsibility and expressly disclaim liabilities for law, damage or expense rising out of or in any way connected with the handling, storage, use or disposable of the product.

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MATERIAL SAFETY DATA SHEET

ZP-101

1	Product Identification Synonyms CAS No Molecular Weight Chemical Formula Product Code	Anionic mixture of Polyester Resin & Surfactant Dispersing and Leveling Agent Not Known Not Known Anionic mixture of Polyester Resin & Surfactant ZP 101	
2	Composition / Information On Ingredients		
	Ingredients	CAS Number	Hazardous
	Anionic mixture of Polyester Resin & Surfactant	Not Known	Less Hazardous
3	Hazardous Identification Health Rating Flammability Rating Reactivity Contact Rating Protective equipments Storage Colour Code Potential Health Effect Inhalation Ingestion Skin Contact Eye Contact	1- Not severe 0- None 0- None 0- None personal protective equipments for should be used Not applicable Avoid breathing dust or aerosol Symptoms not known Non irritant as per standard Draize Test May cause irritation with redness. Particles may cause injury to eye.	
4.	First Aid Measures General Advice Inhalation Skin contact Eye contact	Remove contaminated clothing and wash the affected area and treat as per the symptoms. If symptomatic, move to fresh air. Get medical attention if, symptoms persist. Wash immediately with soap & water and Treat as symptoms. Wash eyes for at least 15 minutes under running water. Seek immediate medical attention	
5	Fire Fighting Measures Flash point Suitable Extinguishing Media Hazardous thermal decomposition products Protection of fire fighters Other information	Greater than 120 ⁰ C Dry chemicals, Carbon dioxide, foam, water spray Oxides of Carbon & Oxides of Sulphur Use breathing apparatus and protection clothing Combustible, not flammable.	
6	Accidental Release Measures Personal Precautions Environmental precautions Method for cleaning up	Respiratory protection, safety goggles & plastic gloves Do not let product enter drains Contain with absorbent material and dispose as per the local regulations and flush the area thoroughly with water.	

7	Handling and Storage Handling Storage	Ensure thorough ventilation of stores and work area Keep tightly closed in dry and cool place
8	Exposure Controls / Personal Protection Airborne Exposure Limits OSHA permissible Exposure Limit PEL ACGHI Threshold Limit Value TLV Ventilation Personal Respirator (NIOSH Approved) Skin Protection Eye Protection	Not known Not Known Not Known System of local and /or general exhaust is recommended to keep employee exposure within limit. If exposure limit exceeded, full-face piece respirator with dust/mist filter may be worn. Wear protective gloves and clean body covering clothing Use Chemical Safety Goggles
9	Physical and Chemical Properties Form Colour Solubility in water Solubility in other solvents pH (25% Solution in Water)	Liquid Pale Yellow Soluble Data not available. 4.5 ± 1
10	Stability and Reactivity Stability Reactivity	Stable under normal conditions Hazardous polymerizations will not occur
11	Toxicological Information Oral Toxicity to Rats LD 50 Toxicity to Fishes (LC-50, 48 Hrs) Inhalation Toxicity by dust LC 50 Vapour inhalation hazard LC 50 Skin irritation Eye irritation	Greater than 2000 mg/kg Greater than 2 g/ltr Data not available Data not available (Standard Dazed Test) No irritation observed on adult human at 20 mg/24 Hours. Severe
12	Ecological Information COD: BOD ZAHN-WELLENS/EMPA TEST (OPPTS.835-3200) COD REDUCTION	Biodegradable. For 10% solution, COD-102000 mg/l, BOD-20000 mg/l Ratio less than 5, At 20 °C For Five days (BOD) Adapted activated sludge from E.T.P. of textile dyeing & finishing unit. 71% in 28 days.
13	Disposal Consideration	Land fill in approved area according to authorized procedure or incinerate in accordance with local regulations

14	Transport Information Proper Shipping Name Hazard Class UN/NA Packing Group Information reported for product/size International (Water I.M.O.)	Domestic (Land D.O.T) Polyester Resin & Surfactant Not Known Not Known Not Known kgs. (Max.) Not Known			
15	Regulatory Information Chemical Inventory Status				
Polyester Resin & Surfactant		TSCA Not Known	EC Not Known	JAPAN Not Known	AUSTRALIA Not Known
Chemical weapons convention TSCA 12b CTDA SARA 331/312 Fire N.A. Presence Reactivity Australian: Hazchem Code Poison Schedule		Not Known Not Known Not Known Not Known Not Known Not Known Not Known			
16	Other Information- NFPA Rating Health Flammability Reactivity Label Hazard Warning Label Precautions Label First Aid	Not Known Flash point > 120 °c, Not Known (Pure/Liquid/Solid) DANGER : May cause irritation to eyes -Do not breath Vapor/Dust -Avoid contact with eyes -Keep container closed -Wash thoroughly after handling In case of contact flush eye and skin with plenty of water for at least 15 minutes and seek medical help.			
Product Use		Dispersing & Leveling Agent for Polyester in textile industry			
Prepared by		Z Cross International Address:701,Gopi Cine Mall, NSS Road, Dombivli(W)-421202. Phone No:7208014087, Email:zcrossinternational@gmail.com			

The above information is given in good faith based on the present state of our knowledge and experience. We do not suggest or guarantee that any hazards listed herein are the only one, which exist. The condition or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liabilities for law, damage or expense rising out of or in any way connected with the handling, storage, use or disposal of the product. Therefore, it is the users sole responsibility to determine the suitability of the information, the supervision of the workers safety, health, and the conditions of the use of product

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