

## Neutracid series

### Neutracid ADN

#### Acid donor for dyeing of nylon.

#### INTRODUCTION

The pH of the dye bath is a critical factor in dyeing nylon with acid dyes and has a profound effect on the dye strike rate. At low pH, the acid functionality of the dye reacts with the activated amino groups of the polyamide to form a salt. Generally, the pH at the beginning of the dye cycle is neutral and is slowly decreased during the dye cycle.

It is desirable to lower the pH to 3.5 or less during the dye cycle to maximize dye exhaustion. However, it is very difficult to achieve pH levels below 4.0 without losing control of the dye strike rate, thereby causing variations in dye coverage on the fabric. The pH control is especially necessary with premetallized dyes because of their greater reactivity.

For this reason, strong acid buffer is required to further reduce the pH below 4.0 and maintain it between 3.75 - 2.25 with its buffering action and thus lead to perfectly reproducible dyeing even when using pH sensitive dyes.

#### FEATURES

- Maintains a constant pH during the dyeing process
- Phosphate free.
- Stable at high temperature.
- Has a sequestering action on heavy metal ions like Fe<sup>++</sup> Cu<sup>++</sup> Co<sup>++</sup>

#### PROPERTIES

Appearance	Clear colourless liquid
pH	approx.3.0
Ionic character	Anionic

Compatibility with	
Cationics	Poor
Anionics	Good
Non-ionics	Good

#### **STALWART ADVANCE MATERIAL INDS**

Application & Business Center, B-120, Ansa Industrial Estate, Saki Vihar Road, Sakinaka, Andheri (E), Mumbai – 400 072.  
email: [sales@stalwartadvance.com](mailto:sales@stalwartadvance.com); web: [www.stalwartadvance.com](http://www.stalwartadvance.com); Customer care:1800 121 3497

Stability to	
hard water	Good
temperature	Good

### **SAMPLE RECIPE FOR NYLON DYEING**

The pH at the start of the dye cycle is relatively high to control the dye strike rate, thus promoting level dyeing. The desired pH is dependent upon the dye used; a pH of 7-8 is recommended for pre-metallized dyes and a pH of 6.5 is recommended for most other acid dyes. The pH is adjusted slightly higher at the start of the dye cycle for nylon 6 as compared to nylon 6.6 type fibers, since nylon 6 has a greater affinity for most dyes.

During the dye cycle, temperature of dye bath containing the nylon fiber, is gradually raised. At the start of the cycle, dye bath temperature is relatively low, for e.g. 38°-45°C, to avoid excessive dye strike rates which lead to non-uniform dyeing. As the dye temperature increases, the fiber structure opens to facilitate dye migration, increasing diffusion and enhancing leveling. Typical dyeing temperatures are between 80°-100°C.

As the temperature is gradually raised, the pH of the dye bath is gradually decreased by adding acid donor. It hydrolyses in the dye bath to form an acid as the temperature increases. Thus the pH decreases as the temperature increases. Once the dye bath reaches 100°C and pH 4.0-4.5, most of the dye is exhausted onto the fabric. However, it is desirable to enhance dye exhaustion and utilization. Therefore, at this stage of the process, **Neutracid ADN**, strong acid buffer is slowly added to the dye bath to lower the pH to a level of 3.5-2.5.

Note : At a pH of less than 2.25, the fiber may be damaged or otherwise degraded.

1.0 – 3.0 %	Sodium acetate
1.0 – 3.0 %	Ultreza DLN
	Raise the temperature to 50°C & run for 10 minutes.
x %	Acid dyes
	Raise the temperature to 100°C
2.0 – 3.0 %	<b>Neutracid ADN</b> (pH 3.5-2.5)
	Treat at 100°C for 50-60 mins.
	Lower the temperature to 80°C and drain the bath.
	Rinse thoroughly for 20 mins. at 50°C
	Raise the temperature to 90°C
1.0 – 2.0 g/l	Evoran SAN
	Treat for 20-30 mins.
	Cold wash for 15-20 mins.
	Drain

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## **STORAGE AND HANDLING**

Precautions for safe handling	Do not eat, drink or smoke while handling the product.
Conditions for safe storage	Store in a cool, dry & ventilated area away from the sources of heat.
Shelf Life	6 months.

Note: Kindly refer SDS for further information on Storage & Handling.

**Neutracid is a registered trade name of Stalwart Advance Material Inds.**

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The information and recommendations presented here were based on our general experience and correspond to the state of our knowledge. They are intended to service as non-binding guidelines and must be adapted to the prevailing conditions. We cannot accept liability for any injury, loss or damage resulting from reliance upon such information.

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