

EBT Series

THE BRIGHTEST COLOURS



Colours:

Brightener 22
Yellow 31
Rose 35
Magenta 37

Features and Benefits:

- Excellent compatibility in Flexographic and Gravure Inks.
- Dissolves in a combination of strong polar solvents such as alcohols and esters.
- Compatible with nitro-cellulose, ethyl-cellulose and certain acrylic and polyamide resins.
- Limited lightfastness in exterior exposure.
- Conforms to international H & S standards including EN-71 Part 3, RoHS & REACH.

Swada EBT Series is a aminotriazine, sulphonamide, formaldehyde, solvent soluble thermoplastic copolymer available in a range of three high strength toners and a clear brightener / extender. The EBT series are recommended for indoor use only.

EBT Series in Inks

The Swada EBT Series are especially formulated for use in Flexographic and Gravure ink formulations and give excellent printability, transparency and colour.

The addition of Brightener 22 to the formulation will improve the overall colour purity and brightness. As well as maintaining excellent colour strength, the use of Brightener 22 can also reduce the overall cost of the ink.

The Swada EBT Series can also be blended with white to produce extremely bright pastel colours.

Fluorescent Flexographic and Gravure inks are printed at very low film weights and therefore have limited lightfastness. It is recommended that these inks be printed onto products designed for indoor applications.

The Swada EBT Series are completely soluble in various polar solvents commonly used in the Flexographic industry. Using the EBT series in a mixture of alcohol and ester solvents results in a solution of sub - micron particle size, so requiring no need for any further milling.

The Swada EBT Series can be easily blended to provide a range of fluorescent shades. Other shades may be obtained by blending with pastes of conventional pigments and dyes.

The following tables indicate starting point blends to achieve standard Swada fluorescent shades.

| Nova Red 2 | |
|------------|------|
| Magenta 37 | 67.5 |
| Rose 35 | 7.5 |
| Yellow 31 | 25.0 |

| Laser Red 3 | |
|---------------|------|
| Magenta 37 | 42.8 |
| Rose 35 | 6.0 |
| Yellow 31 | 41.7 |
| Brightener 22 | 9.5 |

| Flame Orange 4 | |
|----------------|------|
| Magenta 37 | 15.5 |
| Rose 35 | 15.0 |
| Yellow 31 | 67.8 |
| Brightener 22 | 1.7 |

| Blaze 5 | |
|---------------|------|
| Magenta 37 | 9.5 |
| Rose 35 | 13.1 |
| Yellow 31 | 67.9 |
| Brightener 22 | 9.5 |

| Arc Orange 6 | |
|---------------|------|
| Magenta 37 | 4.8 |
| Rose 35 | 7.2 |
| Yellow 31 | 84.5 |
| Brightener 22 | 3.5 |

| Magenta 10 | |
|---------------|------|
| Magenta 37 | 75.0 |
| Brightener 22 | 25.0 |

Regulatory Information

Compliance with Swiss packaging inks Ordinance:

All ingredients used in the manufacture of Swada EBT Series are included in Annex 1 (list 1 and 2) and Annex 6 of the above regulation or are shown in the subsequent addendum within Letter 153.

Resolution AP (89) 1 - Colorants for Plastics in Contact with Food:

In certain conditions migration of the dye from the resin may occur. It is necessary that the end user conducts their own tests on the final product to determine if migration will occur.

Heavy Metal Content

Analysis of the total amount of heavy metals on typical batches of Swada EBT Series show that these are below the allowable limits given in Resolution AP (89) 1.

| | Antimony | Arsenic | Barium | Cadmium | Chromium | Lead | Mercury | Selenium |
|-------------------|----------|---------|--------|---------|----------|------|---------|----------|
| ppm found | <5 | <10 | <20 | <5 | <5 | <5 | <5 | <5 |
| ppm AP(89)1 limit | 500 | 100 | 100 | 100 | 1000 | 100 | 50 | 100 |

Aromatic Amines

Analysis of the total primary unsulphonated aromatic amine content in batches typical of Swada EBT Series is less than 100 mg/kg. This is below the limit of 500 mg/kg (ppm) in AP (89) 1. Benzidine (CAS 92-87-5), beta-naphthylamine (CAS 91-59-8) and 4-Aminobiphenyl (CAS 92-67-1) are not present in Swada EBT Series.

Polychlorinated biphenyl (PCB)

PCB's are not present in Swada EBT Series or are below the detection limit of 0.2 mg/kg (ppm) in AP (89) 1.

Other materials such as Sulphonated Aromatic Amines, Carbon Black and Inorganic Cadmium pigments are not present in Swada EBT Series.

Azo Dyes:

The Swada EBT Series does not contain any Azo dyes or colorants or any of the other amine derivatives as listed.

| <u>CAS No.</u> | <u>Compound</u> | <u>CAS No.</u> | <u>Compound</u> |
|----------------|--|----------------------|---|
| 60-09-3 4 | amino azobenzene | 101-80-4 | 4,4'Oxydianiline |
| 90-04-0 | o-anisidine | 106-47-8 | p-Chloraniline |
| 91-59-8 | 2-Naphthylamine | 108-44-1 | m-Toluidine |
| 91-94-1 | 3,3'-Dichlorobenzidine | 119-90-4 | 3,3'-Dimethoxybenzidine |
| 92-67-1 | 4-Aminodiphenyl | 119-93-7 | 3,3'Dimethylbenzidine |
| 92-87-5 | Benzidine | 120-71-8 | 2-Methoxy-5-methylaniline (p-Cresidine) |
| 95-53-4 | 4-Chlor-o-toluidine | | 2,4,5-Trimethylaniline |
| 95-80-7 | 4-Methyl-1,3-phenylenediamine (2,4-Toluenediamine) | 137-17-7 139-65-1 | 4,4'Thiodianiline |
| 97-56-3 | o-Aminoazotoluene | 615-05-4 | 4-Methoxy-m-phenylenediamine (2,4-Diaminoanisole) |
| 99-55-8 | 2-Amino-4-nitrotoluene | | 3,3'-Dimethyl-4,4' |
| 101-14-4 | 4,4'Methylen-bis-(2-chloranilin) | 838-88-0 | diaminodiphenylmethane |
| 101-77-9 | 4,4'-Diaminodiphenylmethane | | |

EuPIA Exclusion List:

The Swada EBT Series does not match any of the criteria that would lead to exclusion for use as raw materials, as listed in the EuPIA 'Exclusion List for Printing Inks and Related Products' (6th revision October 2009).

Other Information

Starting formulations to use our EBT Series are available upon request.

| Product Specification | | | |
|-------------------------|---------|--------------|-------------|
| Property | Unit | Value | Test method |
| Soluble Colour Strength | | As standard | AG |
| Softening Point | °C | 85 - 115 | AM |
| Typical Properties | | | |
| pH (5% aq. slurry) | | 6 - 7 @ 20°C | |
| Decomposition | | 195°C | |
| Particle size | microns | Random | |
| Specific Gravity | | ~1.38 @ 20°C | |

methods available on request

Copies of test

Swada is fully compliant with current environmental regulations. Individual Safety Data Sheets prepared in accordance with Regulation (EC) No. 1907/2006 (REACH) are available for each shade in the EBT Series range. Please request these from your distributor or our customer services' department.

You can also keep regularly updated on any Health, Safety and other regulatory information about our products by contacting EHS@danecolor.com

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The Swada guarantee is limited to the consistent quality of its products. Technical information, advice, verbal and written suggestions and test results are offered for guidance without responsibility. No warranty of merchantability for a particular purpose is made.

Users are responsible for testing our products and suggestions to ensure that they are suitable for the intended purpose and application prior to use.

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