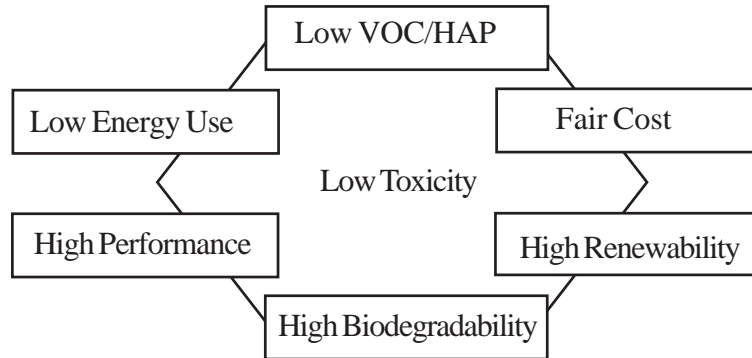


No-Tox® Bio-Green Inks

NS29
(3/12)

No-Tox® Bio-Green inks and coatings are designed with your sustainability objectives in mind for any substrate or printing process.

Typical Objectives:



Position of Current Inks & Coatings

Many of our inks and coatings are prepared using renewable direct or indirect food additives in water.

The tasks listed below are being pursued in parallel to establish the degree of sustainability of our direct or indirect food contact inks:

- Data gathering from suppliers of raw materials.
- Data gathering from companies using our inks in compostable products.

Typical Waterbased (WB) & Solventbased (SB) Inks

| Component | SB Ink % | WB Ink % |
|-----------|----------|----------|
| Pigments | 12 - 15 | 12 - 15 |
| Waxes | 2 | 2 |
| Additives | 2 | 2 |
| Resins | 20 - 25 | 20 - 25 |
| VOC | 50 - 60 | 5 - 10 |
| Water | 0 | 40 - 50 |

Typical Ink Viscosity vs. Printing Process at 25°C

| Printing Process | Ink Viscosity (cP) | Ink Efflux Time (s) | Ink State |
|------------------|--------------------|----------------------------------|--------------|
| Lithographic | 10,000 - 50,000 | NA | Paste |
| Letterpress | 1,000 - 50,000 | NA | Paste |
| Screen | 1,000 - 5,000 | NA | Paste/Liquid |
| Flexographic | 50 - 500 | Z2: 23 - 60 | Liquid |
| Rotogravure | 30 - 200 | Z2: SB 17 - 30 Z2: WB 20 - 35 | Liquid |
| Inkjet | 3 - 20 | Z2: 18 | Liquid |