GANS INK & SUPPLY COMPANY, INC.
www.gansink.com

Natura V/E
Offset Printing Inks for Food Packaging

General Information

The *Natura V/E* ink series is a print product solution for foodstuff packaging. *Natura V/E* is suitable for printing on the **non-food-contact surface** of primary and secondary food packaging, for **low-odor and low-migration** requirements.

These conventional, vegetable oil based, offset inks are formulated to:

1. Minimizes both migration through the substrate, and set-off to adjacent printed or non-printed surfaces during stacking, or on the reel.*

2. Comply with the European Printing Ink Association's EuPIA Guidelines on Printing Inks applied to the non-food contact surface of food packaging (November 2011).

3. Comply with CEPE/EuPIA Guidelines Good manufacturing practices for the production of inks used on the non-food contact surface of foodstuff packaging and on articles intended to be placed in contact with food.

***It must be noted that both migration and set-off are strongly dependent on the ink drying conditions, and the barrier properties of the substrate.**

Natura V/E inks do not contain:

- Substances classified as carcinogenic, mutagenic, or toxic for reproduction according to CLP Regulation (EC)N° 1272/2008. *Natura V/E* inks do not contain hydroquinone or cobalt salts.

- Pigments known to migrate (i.e. fanal pigments).

- Mineral oils.

Recommendations relating to the printing of foodstuff packaging

To guarantee conformity of foodstuff packaging with the Framework Regulation 1935/2004/EC, design of packaging is paramount. It is important to comply with the following:

- The substrate must be suitable for the printing of food packaging.
  - The nature of the substrate, and in particular its porosity, facilitates migration to a greater or lesser extent.
  - The substrate itself may contain potentially migrant chemical substances (be cautious with recycled paper and cardboard).
  - The substrate alone may cause change to the organoleptic properties of the packed foodstuff.

- The amount of potentially migrant substances from the ink is proportional to the ink wet film thickness. This is why we recommend "standard" OD or ink film weights. The maximum deposit must not exceed 2.0 g/m² and the risk of set-off must be controlled.

- To avoid contamination, the printing press, ink knives, and other printing tools must be kept clean. Clean only with suitable auxiliary products (Natura cleaner).

- Some applications may require the use of performance additives. All additives must be compatible with food packaging printing conditions.

- Compliance may be compromised if the storage conditions are not suitable (temperature, moisture, etc.).

- Article 17 of Regulation 1935/2004/EC requires complete traceability of the materials and articles. This implies traceability and records of all consumables, printing conditions, and identification of the final recipients.

Responsibility

The packaging manufacturer and the packer are legally responsible for the properties of the foodstuff packaging and for its compliance with legal requirements.

Compliance of the packaging (in particular with Article 3 of Regulation 1935/2004/EC) must be checked by the printer by means of representative analytical measurements (migration test and Robinson test).

Gans Ink & Supply Company is committed to providing the relevant information (identification of the components whose migration must be evaluated), under a confidentiality agreement, to the printer, external analysis laboratory, or other third party involved in compliance control.

It is important to know the nature of the packed food as well as the design of the packaging (with an effective functional barrier or not). Knowledge of the characteristics of the packed element will make it possible to select the suitable migration testing protocol (please refer to Regulation 10/2011/EC), and if needed, pigments with particular resistance properties.

Table 1

List of food simulants

Food simulant	Abbreviation
Ethanol 10 % (v/v)	Food simulant A
Acetic acid 3 % (w/v)	Food simulant B
Ethanol 20 % (v/v)	Food simulant C
Ethanol 50 % (v/v)	Food simulant D1
Vegetable oil (*)	Food simulant D2
poly(2,6-diphenyl-p-phenylene oxide), particle size 60-80 mesh, pore size 200 nm	Food simulant E

GANS INK & SUPPLY COMPANY, INC.

www.gansink.com

Natura V/E

Conventional offset inks for foodstuff packaging

Vegetable oil based formulation

Characteristics

- **Low Odor:** Robinson test ~.08 (1= very slightly perceptible odor or taste)
- **Low Migration**
- **Mineral oil free**
- Stay open
- High pigment concentration
- Very good stability on press
- **Process colors comply with ISO 2841-1 Standard** (meets requirements for 12647-2 standard)

Substrates

	Not suitable	Requires testing	Suitable	Perfectly suitable
Non-coated			✓	
Matt coated				✓
Gloss coated				✓
Lightweight paper			✓	
Cardboard				✓
Non-absorbent*		✓		
Synthetic**	✓			

* Non-absorbent substrates: tracing paper, coated chroma color

** Synthetic substrates: PE, PP, PET, PVC

Resistance Properties

	Natura V/E Process	Lightfast ISO 2835	Alcohol ISO 2837	Alkali ISO 2838
	A160000	8	-	+
	A160001	8	+	+
	A160002	5	+	-
	A160003	5	+	+

Recommendations

- No direct ink-food contact
- An acrylic varnish is recommended to avoid set off. *
- Prints may be laminated (recommended drying time before laminating: 24 to 48h).*
- Compatible with both alcohol and alcohol-free fount solution.
- Compatible with infrared (I.R.) drying: maximum stack temperature: 95 °F (35°C) on top and 86 °F (30°C) on reverse side

* The final packaging must be evaluated in order to ensure its compliance.