# TECHNICAL DATA SHEET

UV FLEXO INK

**LUNA GAIA SYSTEM**
Revision 5 – 27th August 2026

# LUNA GAIA SYSTEM

## Introduction

LUNA GAIA is a purpose-designed ink system developed to support the environmental sustainability objectives of printers, converters, brand owners, and retailers in packaging applications. The system is specifically engineered for use on compostable packaging substrates, providing a comprehensive solution aligned with sustainable packaging requirements.

Fully tested and certified to EN 13432, the system meets strict requirements for heavy metals and fluorine, providing confidence in both performance and compliance.

Built on the proven foundations of the core LUNA Range, LUNA GAIA inks deliver the same exceptional press performance, colour strength, fluidity, stability, and print quality that customers expect, without compromise.

LUNA GAIA inks are developed for in-line UV flexo presses and offer optimum performance across all flexographic printing units equipped with UV (MPM) drying systems.

The range lends itself to a wide range of applications including self-adhesive labels, wet glue applications, carton and board applications (Non FCM), ticket and tags.

## Technical Information

### Fastness and Product Resistance

#### Base Ink Palette

| Colour | Code | Maximum Lay Down (EN 13432) | Light Fastness | Weather Fastness (100hrs) | Alkali | Acid | Soap | Alcohol |
|---|---|---|---|---|---|---|---|---|
| Yellow | YFG001 | 16% | 4-5 | N/A | 5 | 5 | N/A | 5 |
| Orange | YFG002 | 16% | 6 | N/A | 4 | 4 | N/A | N/A |
| 021 Orange | YFG004 | 16% | 6 | N/A | 3 | 4 | N/A | N/A |
| Warm Red | RFG002 | 16% | 6 | N/A | 3 | 4 | N/A | N/A |
| 032 Red | RFG004 | 16% | 6-7 | N/A | 3 | 5 | N/A | 3 |
| Rubine | RFG001 | 16% | 5 | N/A | 4-5 | 4 | 2-3 | 3 |
| Rhodamine | RFG003 | 15% | 6-7 | N/A | 5 | 5 | 5 | 5 |
| Purple | CFG003 | 15% | 6-7 | N/A | 5 | 5 | 5 | 5 |
| Violet | VFG001 | 15% | 8 | 5 | 5 | 5 | 5 | 5 |
| 072 Blue | CFG004 | 7.6% | 7-8 | N/A | N/A | N/A | N/A | 5 |
| Reflex Blue | CFG002 | 7.6% | 7-8 | N/A | N/A | N/A | N/A | 5 |
| Cyan | CFG005 | 7.6% | 7-8 | N/A | N/A | N/A | N/A | 5 |
| Green | GFG001 | 7.6% | 4-5 | N/A | 5 | 5 | N/A | 5 |
| Untoned Black | BFG002 | 7.6% | 6 | N/A | 4 | 2 | 2-3 | 3 |
| Tint Medium | TFG001 | 17% | N/A | N/A | N/A | N/A | N/A | N/A |

## 4 Colour Process Set

| Colour | Code | Maximum Lay Down (EN 13432) | Light Fastness | Weather Fastness (100hrs) | Alkali | Acid | Soap | Alcohol |
|---|---|---|---|---|---|---|---|---|
| Yellow | YFG001 | 16% | 4-5 | N/A | 5 | 5 | N/A | 5 |
| Rubine | RFG001 | 16% | 5 | N/A | 4-5 | 4 | 2-3 | 3 |
| Cyan | CFG005 | 7.6% | 7-8 | N/A | N/A | N/A | N/A | 5 |
| Process Black | BFG005 | 7.6% | 6 | N/A | 4 | 2 | 2-3 | 3 |

## Opaque White Inks

| Description | Code | Maximum Lay Down (EN 13432) | Recommended Anilox Volume | Recommendations for Use |
|---|---|---|---|---|
| First Down White | WG3348 | 22% | 10-30 $cm^3/m^2$ | First down print applications on supported stocks |
| Flexible First Down White | WG3347 | 16% | 8-10 $cm^3/m^2$ | First down print applications on unsupported stocks and where flexibility is needed |

## Coatings

| Description | Code | Maximum Lay Down (EN 13432) | Recommended Anilox Volume | Recommendations for Use |
|---|---|---|---|---|
| Gloss Lacquer (O/P) | LG5508 | 15% | 6.0 – 8.0 $cm^3/m^2$ | Primer and/or over printable coating |
| High Gloss Lacquer | LG5512 | 17% | 6.0 – 8.0 $cm^3/m^2$ | General purpose coating |
| Matt Lacquer (O/P) | LG5519 | 17% | 6.0 – 8.0 $cm^3/m^2$ | Over printable coating |
| Dead Matt Lacquer | LG1117 | 22% | 6.0 – 8.0 $cm^3/m^2$ | Over printable coating |

| Key Features | Advantages |
|---|---|
| Developed and manufactured in line with the EuPIA Guidelines | EuPIA Charter compliance |
| Designed in accordance with the PPWR (Packaging and Packaging Waste Regulation) | No intentionally added PFAS |
| Tested and Certified to EN13432 | Product decoration for compostable packaging |
| Certified heavier film weight usage | Minimal limitations on print design |
| High Colour Strength | Anilox and ink laydown flexibility |
| Based on the Pantone Digital Library | Colour accuracy and consistency |
| Low Viscosity & Fluidity | Improved print unit performance<br>Optimised dot creation and clean print |
| Rapid & Balanced Cure Package Response | Optimum press speeds<br>Performance from 0 to maximum speed |
| Superior Adhesion | Use a wide range of materials |
| Solvent Free | Environmentally friendly<br>Ink stability<br>No excessive lamp degradation |
| Surfactant Free | No foaming or aeration<br>Overprintable |
| Press Ready | No press side additions to the ink |
| High Gloss | Aesthetic lacquer often not required |

### Notes on Fastness Table

All figures are based on the latest available information at the time of publication. Please note for inks containing more than one pigment the lowest fastness values are quoted.

For further information on lightfastness see our Knowledge Base article on “The Lightfastness of Printing Ink”.

The above lightfastness figures are based on a 1-8 Blue Wool Scale for dry lightfast conditions only.

Weather fastness results are quoted for 100 hours exposure (approximately 1 month) on the following grey scale for weather fastness where 1* = colour disappeared. For outdoor applications that may be exposed to weathering please contact ALDUS INKS for recommendations prior to printing.

| **Grey Scale** | **5** | **4-5** | **4** | **3-4** | **3** | **2** | **1** |
|---|---|---|---|---|---|---|---|
| **Fastness** | Very Good | Good | Adequate | Fair | Poor | Very Poor | Not Acceptable |

## Physical Data

| | | | |
|---|---|---|---|
| Curing speed | > 100 m/min | | |
| Curing type | Ultra Violet (free radical) | | |
| Typical densities (Optimised process weights at 150 m/min) | Yellow 0.95 - 1.15 Magenta 1.35 - 1.45<br>Cyan 1.35 - 1.45 Black 1.40+ | | |
| Volume recommendations ($cm^3/m^2$) | Process work | 2-4 $cm^3/m^2$ | |
| | Line or Type | 4-6 $cm^3/m^2$ | |
| | Solids | 5-7 $cm^3/m^2$ | |
| **Suitability/performance:** | **Excellent** | **Good** | **Testing advised** |
| **Substrates:** | | | |
| Machine coated paper | • | | |
| Top coated synthetic substrates | • | | |
| Thermal active papers (when over lacquered)** | | • | • |
| Foils | • | | |
| **Combination Printing:** | | | |
| UV Letterpress | • | | |
| UV Flexo | • | | |
| UV Flexo / Duct Varnish | • | | |
| Water based Flexo | | | • |
| UV Screen (silicone free) | • | | • |

**Notes on Compostability**

The amount of ink or coating that can be used is calculated on the following factors:

- The total weight of the packaging
- The “maximum Lay Down” (Limit Concentration Percentage)

**Example:**

If the total packaging weighs 100 grams, then the usage of YFG001 would be a maximum of 16g.

Coverage can be calculated by GSM, if the total packaging surface area is known and volume delivery of each ink and coating.

**Please Note:**

**Complete compliance to EN13432 and the ability to carry the composable logo, has to be demonstrated by the full testing of the final packaging.**

## Substrates

This ink system has been purposely designed for use on approved compostable materials both supported and unsupported. The inks are press ready and the use of performance additives is not recommended without prior consultation or recommendation by ALDUS INKS. This ink system is not suitable for thermal active papers without the use of a suitable over varnish.

**NB.** Due to the wide variety of synthetic substrates available we cannot provide guarantees for ink adhesion. We recommend the use of good quality top coated substrates. Non - top coated substrates can also be converted providing the material is corona treated or primed prior to printing.

It is recommended that adequate testing be carried out prior to production runs.

## Overprinting

All inks detailed in this information sheet are free from surfactants and are considered suitable for overprinting using thermal transfer ribbons, hot foils, laser toners, flexo and screen inks. Please note that due to the wide variety of ribbons, foils and toners which are available, we always recommend overprintability trials be conducted for suitability when using these products for the first time or if the print construction changes.

It is important that tests are carried out to ensure good results can be achieved when printing on press.

## Other Information

All products must be mixed/stirred thoroughly to ensure consistency prior to printing, failure to do so may alter the performance or finish of the ink.

## Storage and Shelf Life

All products detailed in this information sheet have a guaranteed shelf life of 12 months, but storage conditions are imperative. The container should be closed immediately after use and stored in a dry area at 5-18$^{o}$C away from direct sunlight. This guarantee only applies to sealed, unopened containers.

The information contained in this General Information sheet is based on the experience of ALDUS INKS and our internal laboratory test procedures. It is not to be interpreted as a warranty or guarantee in any form as conditions and variables beyond our control can affect the end result.

We recommend press trials when using new substrates and other print related variables for suitability purposes.

We reserve the right to alter any product data as a result of technical or manufacturing processes.

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