

Greening the Printing industry & the role of Bio-based inks!

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Evolution Marketing experience

Over last 4 years Evolution Marketing has...

- Managed 9 large print projects which have utilized soy/vegetable based inks
- Managed 20 + Forest Stewardship Council certified print projects
- Managed over 40 + print jobs that were handled in an environmentally friendly manner



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What is an eco-friendly printer?

Lisa's definition : A printer who uses the least amount of resources necessary to meet their clients needs & uses inputs which are made from renewable materials. Printer utilizes sustainable printing practices.



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Sustainable Printing Practices

- Create a waste reduction plan for the plant.
- Reduced energy use through energy efficiency measures or utilizes renewable energy.
- Facilitates within plant recycling program for all materials used in printing (i.e. inks, paper, solvents etc..)
- Utilizes eco-friendly pre-press options (i.e. PDF proofs, maximizes sheet size for job)



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Sustainable Printing Practices con't

Is FSC (Forest Stewardship Council) or SFI (Sustainable Forreest Initiative) certified OR sourced multiple types of FSC/SFI papers.

Replace pressroom washes & solvents with products which contain safer components & low/voc content.

In-house ink recycling/recovery program.

Source sustainable inks.



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Sustainable ink defined

Ink is considered “sustainable” when an optimal portion of renewable material is used to replace or reduce the amount of volatile organic compounds (voc’s) and/or the amount of petroleum contained in the inks.



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Sustainable Inks

- Use a predominantly bio-based medium (ex. linseed, cottonseed, tung, flaxseed, soybean or other agriculturally derived oils).
- Produce VOC levels of 5% or less.
- Do not include heavy metals (i.e. metallic inks)
- Require only nontoxic solvents & additives on press.
- Are sourced from local vendors.



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Type of sustainable ink used depends on...

- The amount and type of vegetable-based ink content that may be used depends on the printing method, ink drying time process, printing substrate and product quality requirement.



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History : Soybean oil inks

In 1990 the American Soybean Association (ASA) embarked on a highly successful campaign to increase the use of soybean oil as a component of printing inks.

Guidelines were established – 20% soybean oil required to earn the SoySeal.

Ink manufacturers began to use soybean oil mixed in with petroleum oil in the inks.



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The National Soy Ink Information Center is now closed. Due to the success of the soy ink industry, we feel there is no longer a need to continue our work promoting soy ink and its acceptance through the National Soy Ink Information Center. In short, the soy ink industry is such a success that you don't need us anymore!



Standards for veg-based inks



Today the vast majority of inks used in commercial printing which are “oil” based are composed of 20% – 30% vegetable/soy oil content and range from 0% to 23% petroleum oil content (depending on type of ink/printer etc) and 40% -70% bio-derived raw materials content (veg oils, resins and alkyds)



Water based inks

- Better know as “aqueous inks”
- These inks are the safest inks available
- Require a UV light to dry the ink and this is very energy intense
- majority of sheet feed presses can use both an “oil” based ink as well as a “water” based ink (dampener needed to be adjusted depending on ink)



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Ongoing Research – Future

- Dramatic change in % of sales for “water” based ink verse “oil” based inks
- Currently scientists and green chemists are working on creating a soy-based (additive) for aqueous varnishes.



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Resources /references

- Sustainable Green Printing Partnership
- EPA / USDA
- Soybean Association
- Ink manufacturers (Press Color & Superior Ink)
- Green Printers (Budget Print –Watertown,
United Press & Graphics – Hartland , RR Donnelly
Post Plant – West Bend)



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Samples to view at Break

Visit with Evolution Marketing during the “breaks” today to see samples of marketing materials which have been printed in an eco-friendly manner with soy/vegetable based inks.



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Questions ?



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