



CHAPTER X

INKS AND SOLVENTS

10.1.
Types

10.2.
Application

10.3.
Tips and Types
for Graphic Design Teachers



10.1 CHAPTER X TYPES

Inks and solvents used in graphic design can have a significant impact on the environment.

Traditional solvent-based inks contain volatile organic compounds (VOCs) that can contribute to air pollution and ozone depletion. These inks also require the use of solvents for cleaning and printing, which can add to the environmental impact.

Water-based inks, on the other hand, are much more environmentally friendly. They do not contain **VOCs**, and the water used in the printing process can be easily recycled. These inks also have the added benefit of being safer for printers to use, as they do not require the use of potentially harmful solvents.

Vegetable inks are a type of printing ink made from natural, plant-based ingredients such as soybeans, corn, and linseed oil. They are considered an eco-friendly alternative to traditional petroleum-based inks, as they have a lower impact on the environment and human health. Vegetable inks are biodegradable and produce less harmful emissions during printing. They also have a more vibrant color range and are compatible with a wider range of substrates, including recycled paper and other environmentally-friendly materials. When choosing between different types of inks, it is important to consider factors such as print quality, environmental impact, and cost. Vegetable inks can be a good choice for graphic designers who want to minimize their environmental footprint and promote sustainability in their work.

Water-based inks and solvents are a more sustainable option that can help reduce the environmental impact of the printing process.

In Europe, the EU has set regulations on **VOCs**²¹ emissions from printing inks, solvents and cleaning agents for graphic arts industry.

These regulations aim to limit the environmental impact of these products. In addition, the EU has set targets for member states to increase the recycling and composting of paper. This can also be considered when choosing the most sustainable printing options.

It is also important to consider the entire lifecycle of the design, from the sourcing of materials to the disposal of waste. By reducing the environmental impact of inks and solvents, designers can help minimize the overall ecological footprint of their projects and contribute to a more sustainable future.

NOTE

21— https://efca.net/?page_id=96



10.2 CHAPTER X APPLICATION

Water-based inks are less used than solvent-based inks because they have traditionally been considered less durable and less resistant to fading.

Additionally, water-based inks have a longer drying time than solvent-based inks, which can slow down the printing process. However, advances in technology have led to the development of water-based inks that have similar durability and resistance as solvent-based inks, making them a more sustainable option. It's important for graphic designers to weigh the benefits and drawbacks of both types of inks and make an informed decision based on the specific needs of their project and their commitment to sustainability. It's important to note that while each type of ink may be used in a variety of printing applications, some inks may be better suited to certain printing processes than others.

HERE ARE SOME EXAMPLES FOR THEIR APPLICATION:

a) SOLVENT-BASED INKS:

- Large format printing (such as banners, trade show graphics, and murals)
- Outdoor and indoor signs
- Vehicle graphics
- Wallcoverings
- Textile printing

b) WATER-BASED INKS:

- Package printing (such as food and beverage packaging, cosmetics, and household products)
- Textile printing (such as clothing and accessories)
- Paper printing (such as books, brochures, and catalogs)
- Stationary printing (such as letterhead, envelopes, and business cards)
- Interior wall graphics

c) VEGETABLE INKS:

- Paper printing
- Packaging printing
- Textile printing
- Greeting cards
- Letterpress printing



10.3 CHAPTER III TIPS AND TYPES FOR GRAPHIC DESIGN TEACHERS

The teaching of inks and solvents in schools in Europe should focus on their impact on the environment and their safe handling and disposal.

It should educate students on the types of inks and solvents available, their properties and the best practices for using them sustainably. Additionally, students should be taught about the regulations and standards related to inks and solvents in the EU, such as [REACH](#)²², which controls the use and disposal of chemicals in the EU.

By incorporating this education in their curriculum, students will be prepared to make informed decisions about inks and solvents in their future careers as graphic designers.

HOW TO INTRODUCE SUSTAINABLE INKS AND SOLVENTS IN THEIR CURRICULUM:

- **[START WITH THE BASICS](#)**
Begin by teaching students about the different types of inks and solvents available and the impact they have on the environment.
- **[PROVIDE REAL-LIFE EXAMPLES](#)**
Use examples of companies that are using sustainable inks and solvents to create environmental awareness and inspire students.
- **[ENCOURAGE RESEARCH AND EXPLORATION](#)**
Assign projects where students can research and experiment with different types of sustainable inks and solvents.
- **[HIGHLIGHT THE IMPORTANCE OF SUSTAINABILITY](#)**
Emphasize the significance of using sustainable inks and solvents in graphic design, and how it can contribute to a greener future.
- **[PROMOTE COLLABORATION WITH INDUSTRY](#)**
Partner with local printing companies to provide students with hands-on experience and exposure to sustainable printing practices.
- **[ENCOURAGE CERTIFICATION](#)**
Encourage students to pursue certifications in sustainable printing practices to further their knowledge and skills in this area.

By incorporating sustainable inks and solvents into the graphic design curriculum, teachers can equip students with the knowledge and skills to make informed choices in their future careers and contribute to a more sustainable future for the industry.

NOTE

22— https://ec.europa.eu/environment/chemicals/reach/reach_en.htm