INTERNATIONAL LABTAG

# The Ultimate Guide to Xylene & Chemical-Resistant Labels


Labtag.com

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# About This Guide

This comprehensive guide is for life science professionals seeking high-performance identification and tracking solutions that withstand harsh chemicals and solvents. We aim to empower you with the knowledge and confidence you need to navigate our products and decide which solvent-resistant labeling solutions are best suited for you.

# Who We Are

For over two decades, LabTAG® has innovated and developed laboratory labels and labeling solutions that satisfy the stringent requirements of identification in harsh environments. We are here for you every step of the way, and that philosophy has helped us become a global leader in solvent-resistant identification.

## Helping you Make the Right Choice Starts with Asking the Right Questions:

1

**What type of container am I trying to label?**

Microscope slides, bottles, paraffin blocks.

2

**What environmental conditions will the container be subject to?**

Chemicals, sterilization (i.e. autoclaving), freezing

3

**Do I require any special features?**

Transparency, lamination, adhesive type, blackout (cover-up).

4

**What printing method and format can I choose from?**

Laser, thermal-transfer, DYMO.

If you find yourself in a particular case where your requirements have no available options, you can always take advantage of our **custom manufacturing capabilities**.

# LabTAG's Xylene & Chemical-Resistant Labels

LabTAG has an extensive catalog of chemical and solvent-resistant labels that each fulfill a different purpose. This table outlines our solvent-resistant label classes and their main differentiating attributes, which you should consider when assessing your needs. These classes are available in many sizes, colors, and configurations, which are identifiable by SKU#.

**TT:** Thermal-Transfer **DY:** DYMO Direct Thermal **DT:** Direct Thermal **I:** Inkjet

| Brand | Class | Printing Method | Temperature Range | Recommended Application Surface | Adhesive | Chemical resistance | Xylene Immersion Resistance Time |
|---|---|---|---|---|---|---|---|
| ChemicoTAG™ | AUB | TT | -20°C to +98°C | Reagent Bottles/ Containers | Permanent | Alcohols, xylene, toluene, methyl ethyl ketone (MEK), acetone, thinners, commercial cleaners, as well as window cleaners and surface sanitizing wipes | Up to 15 minutes |
| | AUAR | TT | -20°C to +98°C | Reagent Bottles/ Containers | Removable | Alcohols, xylene, toluene, methyl ethyl ketone (MEK), acetone, thinners, commercial cleaners, as well as window cleaners and surface sanitizing wipes | N/A |
| AcidiTAG™ | ACT | TT | -80°C to +100°C | Reagent Bottles/ Containers | Permanent | Concentrated Sulfuric acid (H2SO4), Nitric acid (HNO3), Hydrochloric acid (HCL), Hydrofluoric acid (HF), Trichloroacetic Acid (TCA), as well as Sodium Hydroxide (NaOH) | Up to 5 minutes |
| FormaliTAG™ | ALA | TT | -196°C to +150°C | Formalin Immersion | Non-Adhesive | Formalin, alcohol, as well as formalin-acetic acid-alcohol combinations | N/A |
| HistoLAM™ | AFT | TT | -80°C to +120°C | Microscope slides | Permanent | Xylene, ethanol, formalin, acetic acid, as well as eosin, hematoxylin and special (counter) stains. Xylene substitutes such as EZ Prep, Clearify, Histo-Clear, Formula 83, Pro-Par and others. Acidic/ basic buffers | Up to 120 minutes |
| ParafiTAG™ | PRF | TT | -55°C to +70°C | Formalin-fixed paraffin-embedded blocks | Permanent | Xylene, toluene, alcohol, and other solvents | Up to 15 minutes |

**TT:** Thermal-Transfer **DY:** DYMO Direct Thermal **DT:** Direct Thermal **I:** Inkjet

| Brand | Class | Printing Method | Temperature Range | Recommended Application Surface | Adhesive | Chemical resistance | Xylene Immersion Resistance Time |
|---|---|---|---|---|---|---|---|
| ParafiGARD™ | PFG | TT | -20°C to +120°C | Formalin-fixed paraffin-embedded blocks | Permanent | Xylene, toluene, alcohol, and other solvents | Up to 15 minutes |
| StainTUFF™ | XST | TT | -80°C to +149°C | Microscope slides | Permanent | Xylene, toluene, alcohol, MEK and other solvents, hematoxylin/eosin | Up to 30 minutes |
| XyliTUFF™ | FTT | TT | -80°C to +120°C | Microscope slides | Permanent | Xylene and other harsh solvents, alcohols, and stains | Up to 15 hours |
| XyliSTUCK™ | XRM | TT | -80°C to +120°C | Microscope slides | Permanent | Xylene and other harsh solvents, alcohols, and stains | 24hr+ |
| XyliFIL™ | XFLA | TT | -80°C to +120°C | Microscope slides | Permanent | Xylene and other harsh solvents, alcohols, and stains | Up to 5 hours |
| XyliTRANS™ | XLY | TT | -20°C to +120°C | Microscope slides | Permanent | Xylene and other harsh solvents, alcohols, and stains | Up to 120 minutes |
| Histo-PinTAG™ | AZA | TT | -20°C to +120°C | Microscope slides | Removable | Alcohols, such as ethanol, and isopropanol | N/A |
| N/A | AZA | TT | N/A | Microscope slides | Removable | Alcohols, such as ethanol, and isopropanol | N/A |
| N/A | SBOR | TT | -79°C to +93°C | Microscope slides | Removable | Alcohols, such as ethanol, and isopropanol | N/A |
| Cryo-JetTAG™ | CIJ | I | -196°C to +121°C | Cryo vials, tubes, and other containers | Permanent | Xylene, acetone, alcohol, and other solvents | N/A |
| | CIJS | I | -196°C to +121°C | Cryo vials, tubes, and other containers | Permanent | Xylene, acetone, alcohol, and other solvents | N/A |
| DYMO-Compatible CryoSTUCK® | EDCS | DY | -196°C to +70°C | Cryo vials, tubes, and other containers | Permanent | Xylene, toluene, alcohol, MEK, and other solvents | Up to 30 minutes |
| Direct Thermal CryoSTUCK® | DTU | DT | -196°C to +70°C | Cryo vials, tubes, and other containers | Permanent | Xylene, toluene, alcohol, MEK, and other solvents | Up to 30 minutes |

# Containers

The first and most important factor to consider is the type of container you intend to label. Depending on the container's material, curvature, and dimensions, you will require labels made of different materials, flexibility, adhesive, and size. At LabTAG, we have a variety of classes available in different sizes, designed to fit any container type.

## Microscope Slides

We have specifically designed **XyliTUFF™**, **XyliSTUCK™**, **XyliFIL™**, **XyliTRANS™**, and our self-laminating **HistoLAM™** labels for microscope slides. We also offer specialty labels, including **StainTUFF™** designed specifically to repel histological stains, **Histo-PinTAG™** for slide re-labeling, and our **AZA-class** and **SBOR-class** labels which are opaque blackout labels allowing pre-existing content to be concealed. We also offer **RFID XyliTUFF™**, chemical-resistant labels with an integrated UHF RFID chip, which allows multiple slides to be read simultaneously, even when fully immersed in xylene.

Though some laboratories employ printers that generate printouts directly on the slide's glass, each of the label brands mentioned above provide greater resistance against organic solvents than printing ink directly on the slide.


## Tubes & Vials

Tubes and vials often require labels under conditions where incidental contact with chemicals poses the risk of damaging the label and/or compromising its printout. Small tubes and vials, 1-5 ml, have a highly curved surface (tight radius) that is unsuitable for use with our standard xylene-resistant labels, which are specially designed for flat surfaces like microscope slides.

Though they are not classified as xylene and chemical-resistant, for small tubes and vials with a tight radius, we recommend our CATT and DFSL labels, which provide a protective overwrap that protects the label and its printout from chemicals. Our **direct thermal CryoSTUCK®** labels are also solvent-resistant, ideal for labeling vials and tubes. For larger tubes like 15 and 50 ml, ChemicoTAG is suitable and is available in color options.


## Bottles

For bottles that are exposed to harsh solvents, we recommend **ChemicoTAG™** labels. These color labels are larger than our solvent-resistant brands used for microscope slides, making them suitable for bottles and other large containers. They can be either removable (leaving no residue behind) or permanent and come in various colors.


## Paraffin Blocks

Paraffin blocks, primarily used in histochemical applications and during formalin-fixed paraffin-embedding (FFPE), require a unique adhesive that can adhere to paraffin wax and resist harsh chemicals. We manufacture **ParafiTAG™** chemical-resistant labels that stick to paraffin wax blocks and other hard-to-stick surfaces such as Teflon, polytetrafluoroethylene (PTFE), perfluoroalkoxy (PFA), and parchment paper. They're also resistant to immersion in Xylene (up to 15 minutes) and other solvents. Moreover, our **ParafiGARD™** labels for wax blocks incorporate a metallic foil layer that allows them to be detected using a metal detector to ensure no sample is lost. We also offer an RFID enabled version of these labels, **RFID ParafiTAG™**, for superior tracking and better integration with inventory management systems.

# Environmental Conditions

The next step in the decision-making process is determining the environment in which the label must perform. The type of chemical exposure the label will encounter and the duration of the exposure need to be considered.

## Exposure Time

Your protocol may require labels that resist incidental exposure to certain chemicals or direct immersion in harsh solvents for a predetermined time. That's why it's essential to get a complete picture of your application's requirements before choosing a label. We test our labels for incidental exposure, as well as short-term (seconds or minutes) and long-term (hours) immersion in a variety of commonly used laboratory chemicals.


## Xylene & Harsh Solvents

Xylene, commonly used for clearing during histochemical protocols, is one of the harshest solvents for proper sample identification. For applications that use xylene or other similarly strong organic solvents, the duration of the exposure needs to be considered. For extended immersion in xylene, lasting hours, we recommend the following label brands: **XyliTUFF**, **XyliSTUCK**, **XyliFIL**, and **HistoLAM** (for microscope slides). These labels resist extended exposure to xylene, toluene, hexane, acetone, methyl ethyl ketone (MEK), and acetonitrile (ACN). XyliTUFF, XyliSTUCK, and XyliFIL also withstand immersion in xylene substitutes used in histochemistry, such as EZ Prep, Clearify™, Histo-Clear™, Formula 83™, and Pro-Par. XyliSTUCK has been shown to resist in excess of 24 hours of immersion in xylene, while XyliFIL and XyliTUFF are rated for up to 5 and 15 hours, respectively. **CryoSTUCK DYMO-compatible** labels will withstand up to 30 minutes in xylene. For slightly shorter exposure, still including immersion in xylene, we offer **XyliTRANS** (clear labels for slides) or **StainTUFF™** (for staining protocols).

## Histological Stains

Histological stains pose unique risks to sample identification as they can both discolor the label and cause it to become unreadable and fall off. XyliSTUCK and XyliTRANS labels withstand most common laboratory stains, including hematoxylin and eosin, while retaining their original color. They also withstand special stains, like silver stain and trichrome staining. HistoLAM provides greater protection and can also be used for immunohistochemistry techniques, including in acidic/basic buffers used during the antigen retrieval process.

Our continuing R&D program has led to the development of **StainTUFF**; our specialty microscope slide labels with a highly repellent face stock that resists stains and dyes that would otherwise darken or obscure the label and its printout. These labels are designed to protect against common histological stains employed during various pathology diagnostics and for applications that require the preservation of the label material and the unblemished appearance of the printout.

## Alcohols (Ethanol)

Most labs use a variety of alcohols in their various experiments, including 70% ethanol, 100% ethanol, isopropanol, and methanol. These are often used as sprays to disinfect surfaces and containers. This can also include alcohol-based disinfecting wipes. We recommend XyliSTUCK and **XyliTRANS** for most applications, including deep-freeze storage, while **ChemicoTAG** color labels for bottles are ideal when identifying refrigerated containers that will undergo regular disinfection with alcohol sprays and wipes.

Though they are not classified as xylene and chemical-resistant, our cryogenic **NitroTAG** labels and inkjet printable **Cryo-JetTAG** labels can withstand rubbing with alcohols and alcohol/alkyl chloride-based sanitizing wipes.

## Formalin

For immersion of samples remaining in formalin long-term (e.g., specimens preserved in formalin-containing jars), **FormaliTAG™** tags are required. These tags are made with a chemically inert plastic that protects sample information without affecting specimen integrity when immersed in formalin solution.

## Acids & Bases

For short- and long-term immersion in acids or bases, we recommend **AcidiTAG™** labels, which can resist a wide range of different pHs, including extreme pH ranges. These labels will withstand immersion in concentrated sulfuric acid ($H_2SO_4$), nitric acid ($HNO_3$), hydrochloric acid (HCL), hydrofluoric acid (HF), trichloroacetic acid (TCA), and sodium hydroxide (NaOH).

# Additional Environmental Conditions

In addition to chemical resistance, you may require a label that performs in other environmental conditions as well, such as cryogenic storage, high-heat sterilization, and abrasion.

## Cold Temperatures

Our leading label brand for chemical resistance, XyliSTUCK, can be stored in temperatures as low as -80°C. For colder temperatures where resistance to harsh solvents and chemical stains is required, we offer labels that will resist temperatures as low as -196°C (-321°F). Our **CIJ/CIJS-class** labels for inkjet printers and **DTU-class** labels for direct thermal printers withstand extreme cryogenic temperatures while providing excellent chemical resistance.



## High Temperatures

yliTUFF and XyliSTUCK labels can also be exposed to temperatures as high as 120°C (248°F). For protocols that require incubation at high temperatures with harsh buffers (i.e., antigen retrieval for immunohistochemistry), we recommend our patent-pending **HistoLAM** labels for microscope slides, which resist xylene and other organic solvents, in addition to immersion in acidic/basic buffers at temperatures as high as 120°C. Note that while XyliTUFF, XyliSTUCK, and HistoLAM resist high heat, they are not suitable for steam autoclaving.

Though they are not classified as xylene and chemical-resistant, our CATT, DFLT, DFSL, and GANA class labels are heat-resistant, autoclave-resistant, and provide short-term protection against alcohols and DMSO when applied to vials.

## Abrasion

Your chemical-resistant labels may also need to be resistant to abrasion and general wear-and-tear. Our **XyliSTUCK** labels will withstand most uses, but for improved resistance to abrasion and scratching, we suggest our **HistoLAM** labels with a self-laminating flap applied over the printout.

Though they are not classified as xylene and chemical-resistant, our wrap-around HBTT, JBTT, CATT, and DFSL classes of labels are abrasion-resistant and show chemical-resistant properties when applied on vials.

# Special Features

Now that the two main criteria have been met, we can look at special features. Apart from container-appropriateness and environmental performance, you may also require specific material features related to convenience or preference, such as adhesive, transparency, and opacity.

## Removable or Permanent Adhesive

Though many containers require permanent identification, others, such as bottles and cardboard boxes, may require removable labels. Either label type must also remain firmly attached upon exposure to chemicals. Permanent labels will be difficult to remove cleanly afterward, while removable labels can be lifted from the container without leaving behind any adhesive or label residue. For identifying slides, XyliSTUCK and StainTUFF are excellent permanent label options. **Histo-PinTAG** is intended for slide re-labeling and has a removable adhesive that will not damage the existing label when removed. Specific labels, like **ChemicoTAG**, come with either a removable or permanent adhesive.

## Self-laminating

Extra lamination provides additional protection against most environments, including chemical exposure. Many labels are self-laminating, allowing you to print on the face stock of the label, then cover it with a layer of laminate once applied to your container. Our **HistoLAM** labels for microscope slides are a perfect example, able to withstand long-term immersion in harsh solvents.

Though they are not classified as xylene and chemical-resistant, our wrap-around HBTT, JBTT, CATT, and DFSL classes of labels are self-laminating and show chemical-resistant properties when applied on vials.

## Transparent

**XyliTRANS** is our chemical-resistant transparent brand of labels. These thermal-transfer labels provide a way to identify your containers without obscuring their contents. We also offer transparent **Freezer-DTermo** labels for printing with the 450-series of DYMO LabelWriter printers. These DYMO-compatible labels will resist various harsh solvents and alcohols.



## Blackout (Cover-Up)

Blackout labels have a unique opaque face stock and can be placed over an existing label to efficiently cover-up any pre-existing information. They are generally used to re-label or over-label containers and can also block out sensitive information. Our **AZA** and **SBOR** label classes are great for post-procedure labeling, to block-out obsolete or incorrect information.

## Metal Detection

Histology labs that process a large volume of specimen can often experience the accidental loss of valuable samples that may become misplaced or discarded. To help prevent the loss of even a single patient specimen, the use of metal in labels, has been developed to screen lab waste. By incorporating a thin metallic layer into our labels for wax blocks, **ParafiGARD** allows specimen blocks to be securely labeled increasing work efficiency and sample security. ParafiGARD-labeled blocks are thus metal detectable, and should help reduce the chance of accidental loss of valuable samples when used in conjunction with an appropriate lab waste screening program.

# Printing Methods

Now that the two main criteria have been met, we can look at special features, apart from container-appropriateness and environmental factors. At this point, you have identified what containers you are labeling, which environments the labels will be subject to, and which special features you require. It is time to choose your printing method. Your choice of printing method is directly related to your label's overall chemical resistance. As such, depending on the previously chosen factors, your options will be limited. Remember, you can't change your criteria, but you can always change your printer! If you do not wish to deal with on-demand label printing yourself, you can always take advantage of our **custom label printing** services.


## Thermal-Transfer

Thermal-transfer printers provide a printout the withstands harsh environments—that's what makes them perfect for applications requiring chemical resistance. The technology works by heating a ribbon to transfer ink onto the label. When printing your labels in-house, using thermal-transfer ribbons made of resin provides the most resistance against harsh solvents (e.g.,xylene and DMSO), cold storage, extreme temperatures, high-pressure sterilization, smudging, and scratching.

These printers use rolls of labels and print using a thermal ribbon in only one color (commonly black). Thermal-transfer printing provides the most options for different label materials, so you're highly likely to find the product you need by sticking with thermal-transfer as your printing method. In addition, RFID enabled thermal-transfer printers can also encode RFID chips while printing the labels with text or barcodes, providing a versatile 2-in-1 solution. Moreover, most automated tube and plate labelers use thermal-transfer technology to print their labels. Our most chemical-resistant brand of labels, XyliSTUCK, is thermal-transfer printable.

## Direct Thermal

Direct thermal printers use rolls of labels coated with a leuco dye, a chemical that changes color when heat from the print head is applied. A ribbon is not required to print direct thermal labels, and the printout is only black, not colored.

Direct thermal labels are prone to fading over time, especially with exposure to chemicals, and they are not compatible with sterilization protocols, as the labels turn entirely black when heated.

Contrary to the nature of most direct thermal labels, LabTAG's advanced R&D team created a range of chemical-resistant direct thermal labels compatible with standard direct thermal and DYMO printers.

## Inkjet

Inkjet printable labels are available in sheet and roll formats for printing with full-color desktop inkjet printers and full-color roll label printers. These inkjet labels provide resistance to spraying and wiping with alcohols in addition to long-term storage in low temperature lab freezers. Ideal for printing eye-catching color logos, graphics, and images, our cryogenic inkjet labels also offer excellent chemical resistance.

## Laser

Laser desktop printers use toner cartridges to produce a smudge-proof, waterproof, UV-resistant, and cryogenic-resistant printout. You can print in color if your laser printer allows it. Labels printed with laser printers are not recommended for chemical exposure unless there is a protective layer on top of the printout, such as the one provided by our **DFSL** label class.

## DYMO

DYMO is a brand of direct thermal printers that inherit the previously mentioned direct thermal technology properties. **DYMO-compatible** label rolls have unique markings and layout that make them printable with DYMO printers.

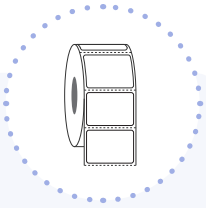
LabTAG has developed a line of DYMO-compatible labels that offer unprecedented levels of resistance to heat, chemicals, and frost. We provide chemical-resistant labels that are compatible with DYMO's 450-series of LabelWriter printer models. Our transparent **Freezer-DTermo** labels for deep-freeze applications provide resistance to harsh solvents and chemicals. We also have cryogenic labels for already frozen surfaces, our **DYMO-Compatible CryoSTUCK®** labels, that also offer strong resistance to harsh solvents and chemicals. (Xylene immersion: up to 30 minutes, and alcohols (100% ethanol) immersion: up to 15 minutes)

## Flexographic

Pre-printed labels can also be provided upon request. These labels can be printed using our **flexographic** printing press that uses printing plates to obtain a clear, crisp printout. This allows the use of various ink types and label materials to produce a truly custom solution. This also allows for superior color printing compared to other printing methods. Take advantage of high-volume flexographic printing services to obtain customized and resistant labels.

# Formats

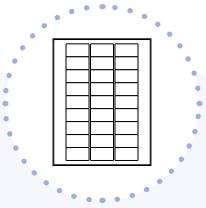
There are two basic label formats: sheets and rolls. Our chemical-resistant labels are available in rolls for thermal-transfer or DYMO printers and in sheets for laser and inkjet printers.



## Roll Labels

- Give more flexibility and control over what you're printing
- Greater choice of label types and configurations
- Free label design software is available
- Great for small or large batches of variable data
- Great for long-term projects or daily workflows

**Note:** Roll labels require a dedicated thermal label printer. When printing in thermal-transfer mode, a matching ink ribbon is required.



## Sheet Labels

- Print with regular office desktop laser or inkjet printers
- Ideal for printing large batches of identical information
- Rows and columns are useful for labeling batches with variable or identical information
- Easy to use, free label templates with MS Word
- Great for one-time projects

**Note:** Constantly feeding sheets into the printer can become a burden. Sheets can be impractical when printing a single label. Always factor in the cost of ink cartridges.

| | Thermal-Transfer | Direct Thermal | DYMO-Compatible | Flexography | Inkjet | Laser |
|---|---|---|---|---|---|---|
| **Format** | Roll | Roll | Roll | Roll | Roll/Sheet | Sheet |
| **Printout Colors Available** | Black, white, red, or blue | Black | Black | Full Color | Full Color | Full Color |
| **High Throughput Variable Data Printing** | Best | Best | Better | Not Ideal | Good | Good |
| **Smudge-proof** | Best | Good | Good | Best | Good | Good |
| **Fade-proof** | Best | Not Ideal | Not Ideal | Best | Better | Better |
| **Alcohol Resistant** | Best | Good | Good | Better | Good | Better |
| **Resistant to 10% DMSO** | Best | Good | Good | Best | Better | Better |
| **Water Resistant** | Best | Good | Good | Best | Good | Best |
| **Autoclave Resistant** | Best | Not Ideal | Not Ideal | Best | Better | Better |

# Data

Best practices state that a label should display human-readable data alongside a scannable code. Common elements displayed on a label are a unique identifier, batch number, date, and company logo. Scannable barcodes and RFID chips both offer great ways of tracking samples and managing inventory. Each has its own unique advantages.


## 1D & 2D Barcodes

- Low start-up cost
- Printable using any printer
- Scanners are inexpensive
- Scannable with smartphone applications
- Scan one barcode at a time, no mix-ups
- Adaptable to a large variety of applications


## Radio Frequency Identification (RFID)

- RFID printer and reader required
- Tags can be scanned and read from a distance with minimal line of sight
- Remain readable even if the label is defaced
- Scan multiple tags simultaneously
- Monitor many assets consistently
- Tags can be re-encoded
- Higher data storage capacity
- Increased security
- Face stock can be printed with barcodes

# Integration

To achieve optimal integration, your chemical resistant labels, printers, scanners, and printing software must work in harmony with your existing protocols and lab management software, like laboratory information management systems (LIMS) and specimen tracking systems (STS).

## Printers

Our labels work with most brands of printers. The printer you choose should fit seamlessly into your lab's workflow alongside all other components. For laboratories that process high volumes of samples or depend on lab informatics software, like a LIMS, having a dedicated label printer (e.g., thermal-transfer) rather than a desktop printer is necessary to ensure workflow isn't compromised. **Thermal-transfer barcode printers** and **RFID** printers are available through LabTAG.

## Automation

LabTAG partners with automated labeling systems such as Scinomix, providing labels tailored for automated tube and plate print-and-apply systems, perfect for high volumes of labeling. Our chemical-resistant labels are also made to be compatible with most automated stainers, tissue microarrays, and automated slide processors. Contact us for more information.

## Label Software

**Label software** can be categorized as label design software or informatics software.

Label design software can offer a range of basic and advanced features, allowing you to design, create, automate, and manage labels. You can connect databases to your templates, encrypt documents, generate serial numbers and variable data, design 1D and 2D barcodes, encode RFID tags, and much more. LabTAG offers two popular options, **BarTender™** and **ZebraDesigner Professional 3**, and can support other options.

Informatics software like laboratory information management systems, inventory management systems, and electronic witnessing systems handle patient and sample information. This software might include a label printing portion. If not, they can integrate with a label design software. We partner with several **informatics software providers** to have seamless integration with our labeling solutions.

## Scanners

**Scanners** are available with different options and additional features. Handheld scanners are portable, emitting a scanning light at the push of a button, while stationary scanners require the container to be held directly under or above the scanner to register the barcode. Handheld scanners can work online or offline, either sending data immediately to be processed by a computer or storing it in the scanner itself before downloading the information and relaying it to another system. These scanners can also be wireless or wired, depending on how much flexibility you require when scanning. Mobile app scanners can also be implemented, depending on the tracking method used (e.g., 2D barcodes can often be scanned with mobile apps).

# Why Choose LabTAG as Your Xylene & Chemical-Resistant Label Provider

As a worldwide leader in laboratory identification solutions, LabTAG offers complete identification solutions that keep sample identification in your lab error-free and efficient. Because our customer support and R&D teams have M.Sc. and Ph.D. degrees in life science, we understand the needs of your lab. With our custom manufacturing services, we can tailor every solution to your specific application and stringent requirements. As an ISO-certified company, we implement stringent protocols to ensure we uphold high-quality standards in our products and services.

## Dedication to Quality

Rigorously tested high-grade materials and high-quality products

## Business Continuity

Mitigated risk of service interruption from unexpected disruptions or disasters.

## Scientific Label Experts

Deep understanding of industry-specific identification requirements.

## Two Decades of Business

Continuously scaling, improving, serving, and delighting, with our customers in mind.

## Product Innovation

In-house R&D team continuously innovates and creates unique, patented products.

## Tailor-Made Solutions

Helping you realize your multifaceted projects with custom labels and creative solutions.

## Worldwide Distribution

Strategically located warehouses reduce friction for international shipments.

## Fast Order Fulfillment

Daytime and evening crews ensure short lead times so you can meet your project deadlines.

## Satisfaction Guarantee

Easy returns and exchanges if total satisfaction is not met.

## Free Samples

Generous, free sample service allows you to try products before purchasing.


## ISO 9001:2015 Certified

We are committed to providing reliable products and services that meet customer and regulatory requirements, through our quality management system.

## ISO 22301:2012 Compliant

Our ISO 22301:2012 business continuity management system allows us to prepare for and reduce the likelihood of unexpected disruptions so that we may continue to serve our clients.

## Experts ready to help

LabTAG provides excellent, personalized customer service and technical support – before, during, and after your purchase. We are with you every step of the way to help you achieve your labeling goals. Our highly educated experts will assist you throughout the label selection process, ensure you get your labels on time, and help you troubleshoot any issues that may arise. This service is free for all our customers.

# Shop Online at Labtag.com

- Discover a large selection of labels in many sizes and colors
- Find the right product by searching for keywords or item number
- Place your purchase orders (P.O.) online
- Use our live chat to get help from our support team

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