

# Applied Biosystems SOLiD® EZ Bead™ Emulsifier

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# About This Guide



**CAUTION! ABBREVIATED SAFETY ALERTS.** Hazard symbols and hazard types specified in procedures may be abbreviated in this document. For the complete safety information, see the “Safety” appendix in this document.

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**IMPORTANT!** Before using this product, read and understand the information the “Safety” appendix in this document.

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## Purpose

The *Applied Biosystems SOLiD™ EZ Bead™ Emulsifier Site Preparation Guide* provides information you need to fully prepare your site for the arrival and primary installation of the Emulsifier.

## User attention words

Five user attention words may appear in this document. Each word implies a particular level of observation or action as described below:

**Note:** Provides information that may be of interest or help but is not critical to the use of the product.

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**IMPORTANT!** Provides information that is necessary for proper instrument operation or accurate chemistry kit use.

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**CAUTION!** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

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**WARNING!** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

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**DANGER!** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

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Except for IMPORTANTs, the safety alert words in user documentation appear with an open triangle figure that contains a hazard symbol. These hazard symbols are identical to the hazard symbols that are affixed to the instrument. See the “Safety” appendix for descriptions of the symbols.

## 1

# Site Preparation Tasks

This chapter includes the following topics:

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■ Assign personnel .....	9
■ Select the site .....	10
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■ Environmental requirements .....	14
■ Ventilation and waste collection requirements .....	14
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■ Safety and materials .....	15
■ Receive and inspect the system .....	18
■ Move the crated instrument to the laboratory .....	18

## Overview

Before the SOLiD® EZ Bead™ Emulsifier arrives, prepare your site according to the instructions in this chapter. Checklists are provided in [Chapter 2, Checklists](#).

### Site preparation schedule

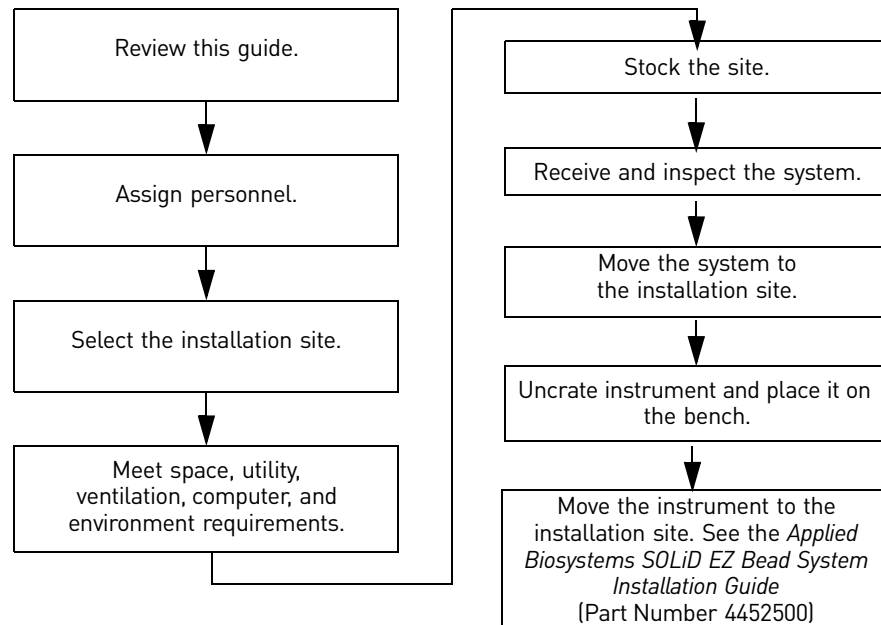
To minimize the time between the shipment arrival and system installation:

1. Complete the site preparation tasks ([Chapter 1](#)).
2. Fill out the corresponding checklists ([Chapter 2](#)).
3. Before the arrival of the Emulsifier, verify that:
  - All checklists are complete.
  - The purchase order is complete.
  - You have considered all components and options in preparing the site.

### Site preparation process

The general site preparation tasks and a suggested sequence for completing the tasks are summarized in [Figure 1](#). The sequence can vary, but always review this guide first.

**Figure 1** Site preparation tasks and their suggested sequence





## Assign personnel

Laboratory safety representative The laboratory safety representative should be familiar with laboratory safety procedures and know the location of all the safety equipment.

Tasks and personnel **Table 1** summarizes specific site-preparation tasks and suggests the personnel to accomplish the tasks. Use the table to help schedule and manage the site-preparation process.

**Table 1** Suggested personnel tasks

Personnel	Tasks
Site Preparation/ Installation Coordinator	<ul style="list-style-type: none"> <li>• Reviews the site preparation guide for safety information and system requirements.</li> <li>• Coordinates personnel and tasks.</li> <li>• Orders required materials.</li> <li>• Chooses the site.</li> <li>• Reviews checklists with applicable personnel to verify that the site is properly prepared.</li> <li>• Receives and inspects the system.</li> <li>• Schedules the installation and informs personnel of the installation date.</li> <li>• Ensures that the site is clear of unnecessary material on the installation day.</li> <li>• Is available to assist throughout installation.</li> </ul>
Laboratory Safety Representative	<ul style="list-style-type: none"> <li>• Reviews the site preparation guide for safety information.</li> <li>• Ensures that the required safety practices and equipment are in place.</li> </ul>
Laboratory Personnel/ Primary Users	<ul style="list-style-type: none"> <li>• Review safety information.</li> <li>• Ensure that all customer-provided materials for installation are present at the site.</li> <li>• Inspect the crate for damage.</li> <li>• Uncrate the instrument and place it on the bench.</li> <li>• Move the system to the installation site. See the <i>SOLiD EZ Bead System Installation Guide</i> (PN 4452500).</li> </ul>
Facilities Personnel	<ul style="list-style-type: none"> <li>• Ensure that installation requirements are met for:                             <ul style="list-style-type: none"> <li>– Space at the installation site</li> <li>– Building clearances</li> <li>– Temperature and humidity</li> <li>– Ventilation and waste collection</li> <li>– Electrical supply</li> <li>– Safety and installation materials</li> </ul> </li> <li>• If possible, move the crated system to the site before the installation date.</li> <li>• Are available to assist service representative and laboratory personnel throughout installation.</li> <li>• At least two people are available to move and position the system.</li> </ul>

## Select the site


When deciding where to install the instrument, refer to the following sections for site requirements:

- "Space requirements" on this page
- "Environmental requirements" on page 14
- "Ventilation and waste collection requirements" on page 14
- "Electrical requirements" on page 15
- "Safety and materials" on page 15

 **IMPORTANT!** The site cannot be designated BioSafety Level 3 (BSL-3) or BioSafety Level 4 (BSL-4). Applied Biosystems does not install, service, or repair Applied Biosystems instruments in areas designated BSL-3 or BSL-4.

## Space requirements

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 **WARNING!** To prevent contamination, *do not* install the Emulsifier in the same room as the Applied Biosystems SOLiD EZ Bead Amplifier and Applied Biosystems SOLiD EZ Bead Enricher.

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 **CAUTION!** The Emulsifier has components that cause vibration. It is important that the instrument is placed on a stable surface.

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Required tools      Pallet jack to expedite the handling of the instrument crate.

System components      The SOLiD EZ Bead Emulsifier includes the:

- Emulsifier (Figure 2)
- Documents. See "Related documentation" on page 33.

Figure 2 shows the Emulsifier with bottles and tubing installed. These items are part of a consumables kit and must be separately purchased.

Figure 2 Applied Biosystems SOLiD EZ Bead Emulsifier



Instrument components

Figure 3 shows the interior components of the Emulsifier.

Figure 3 Emulsifier interior components

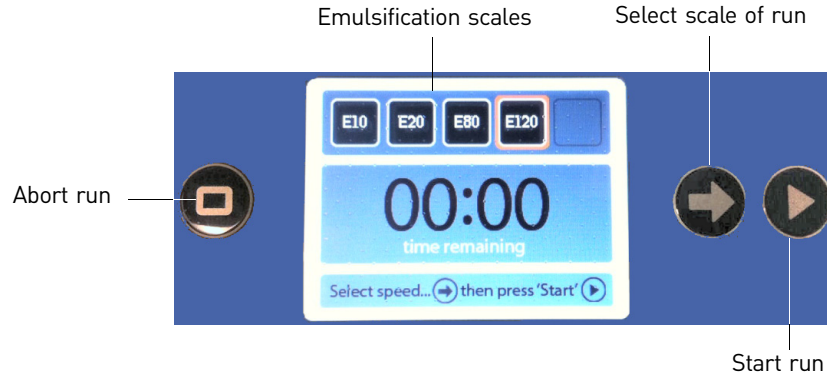


Emulsifier AQ Tube    Emulsifier Tubing in pump cassette    Emulsifier Jar

Instrument front panel

Figure 4 shows the front panel of the Emulsifier.

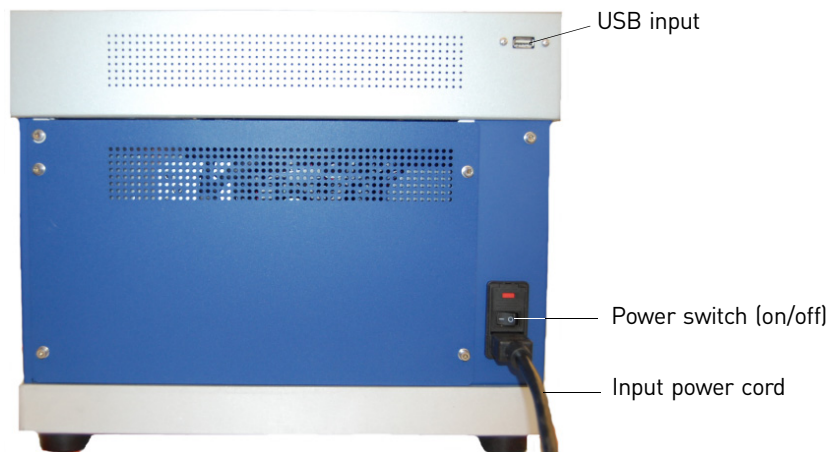
Figure 4 Emulsifier front panel



Connections to the power outlet

Figure 5 shows the Emulsifier connections to the power outlet input.

Figure 5 Connections to the power outlet



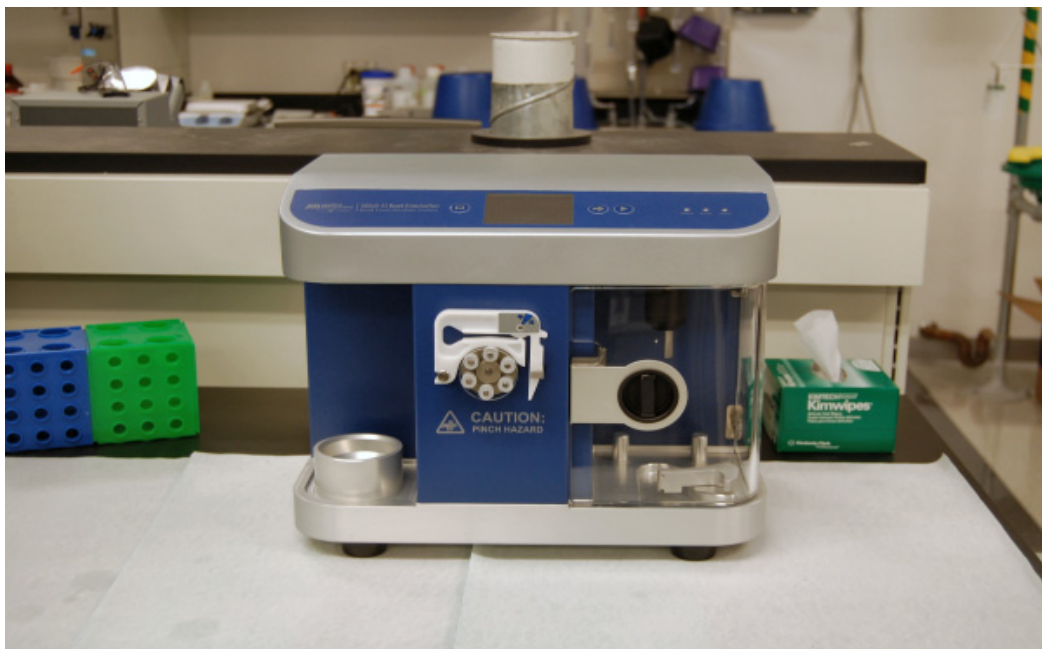
⚠ **IMPORTANT!** USB input is for service use only. Do not plug anything into the USB drive unless you are authorized Life Technologies personnel.

Layout requirements

Figure 6 shows a typical layout and some basic layout considerations for the Emulsifier. For details on the Emulsifier space requirements, see [“Space requirements” on page 10](#).

⚠ **IMPORTANT!** To prevent contamination, *do not* install the Emulsifier in the same room as the SOLiD EZ Bead Amplifier and SOLiD EZ Bead Enricher.

Figure 6 Layout requirements (not to scale)



Dimensions and weights

The table below indicates dimensions and weights of the Emulsifier and Covaris® S2 System. Ensure that the installation site (floor space and/or bench space) can accommodate the dimensions and support the weights.

Component	Width	Length	Height	Weight
Emulsifier crate	39.6 cm (15.6 in.)	50.8 cm (20 in.)	45.4 cm (17.9 in.)	18.1 kg (40 lbs)
Emulsifier	28 cm (11 in.)	40 cm (15.75 in.)	33 cm (13 in.)	15.8 kg (35 lbs)
Covaris S2 System	84 cm (33 in.)	33.5 cm (13.2 in.)	46 cm (18 in.)	~15 kg (~33 lbs)

Required clearances

Clearance on all sides

At least 50 cm (20 in.) of clearance for ventilation and cable routing. Allow space to move the instrument for easy access to the back and sides.

Vertical clearance


At least 50 cm (20 in.) of unobstructed vertical clearance above the top of the Emulsifier to allow the top to be lifted during service.

## Environmental requirements

**Altitude** This Emulsifier is for indoor use only and for altitudes not exceeding 2000 m (6,562 ft.) above sea level.

**Temperature and humidity requirements** Ensure that the installation site is maintained under the following conditions:

Condition	Acceptable Range
Temperature	15 °C to 30 °C (59 °F to 86 °F)
Humidity	20% to 80% relative humidity, noncondensing

 **IMPORTANT!** The Emulsifier is for indoor use only

Avoid placing the system adjacent to heaters, cooling ducts, or in direct sunlight. Fluctuations between day and night temperatures can cause system instability.

**Pollution** The Emulsifier has a Pollution Degree rating of 2. It may be installed in an environment that has nonconductive pollutants only, such as dust particles or wood chips. Typical environments with a Pollution Degree 2 rating are laboratories and sales and commercial areas.

## Ventilation and waste collection requirements

**Ventilation requirements** At least 100 cm (40 in.) of clearance around the instrument for ventilation.

**Cleaning or decontaminating the instrument** Refer to the *Applied Biosystems SOLiD EZ Bead Emulsifier Getting Started Guide* (PN 4441486) for information on how to clean or decontaminate the instrument.

Wear appropriate protection, including gloves, laboratory goggles, and coat whenever you work with the fluids used on this instrument, or parts that may come into contact with these fluids.

Use only the cleaning agents as described in the *Applied Biosystems SOLiD EZ Bead Emulsifier Getting Started Guide* (PN 4441486). Use of cleaning agents not described in this manual can impair the instrument. Contact your local Life Technologies sales office if you have any questions.

Wipe off any liquid on or around the instrument using a lint-free tissue.

Clean off any build-up crystals on the instrument, including the tube connections, with deionized water and lint-free tissue.

Clean the reagent racks with deionized water, or presaturated Isopropyl Alcohol (IPA) wipes, and lint-free tissue.

## Electrical requirements

Disconnecting power

In case of emergency, you must be able to immediately disconnect the main power supply to the instrument. Allow adequate space between the wall and the instrument so that the power cord can be disconnected in case of emergency.

Power connectors and receptacles

The Emulsifier is shipped to customers in North American with NEMA 5-15 power connectors. These connectors require NEMA 5-15 electrical receptacles (standard 10 A wall receptacles) with proper grounding.



**WARNING!** Protective earthing of all devices is required. Ensure each device is properly grounded via the ground pin of each cordset.



**WARNING!** Do not use extension cords.

System electrical requirements

The Emulsifier is configured to use voltages of 100-240 VAC at 50 or 60 Hz. [Table 2](#) provides electrical specifications for the Emulsifier. For all indicated input voltages, a 10 A circuit is required.

**Table 2** Electrical specifications

Input Voltage (VAC)	Frequency (Hz)	Nominal Current Draw (A)
100-240	50-60	2

Power line regulator

In areas where the supplied power is subject to voltage fluctuations exceeding  $\pm 10\%$  of the nominal value, a power line regulator may be required. High or low voltages can adversely affect the electronic components of the instrument.



**Note:** Applied Biosystems recommends an uninterrupted power supply to ensure that samples are not damaged or lost because of power fluctuations.

## Safety and materials

Safety practices



**IMPORTANT!** The site must not be designated BioSafety Level 3 (BSL-3) or BioSafety Level 4 (BSL-4). Applied Biosystems does not install, service, or repair Applied Biosystems instruments in areas designated BSL-3 or BSL-4.



**IMPORTANT!** A safety representative from your facility must ensure that:

- Personnel establish and follow all applicable safety practices and policies to protect laboratory personnel from potential hazards.
- All applicable safety devices and equipment are available at all times.

Required safety equipment

Your laboratory has specific safety practices and policies designed to protect laboratory personnel from potential hazards that are present. Applied Biosystems expects that you will follow all applicable safety-related procedures at all times.

The following safety protection and equipment must be available at the installation site:

- Protection from any sources of hazardous chemicals, radiation (for example, lasers, radioisotopes, radioactive wastes, and contaminated equipment), and potentially infectious biological material that may be present in the area where the Applied Biosystems service representative will work.
- Appropriate fire extinguisher:
  - You are responsible for providing an appropriate fire extinguisher for use on or near Applied Biosystems equipment.
  - The types and sizes of fire extinguishers shall be suitable for use on electrical and chemical fires as specified in current codes, regulations, and/or standards, and with approval of the Fire Marshall or other authority having jurisdiction.
  - The installation of appropriate fire extinguishers shall be in addition to other fire-protection systems and not as a substitute or alternative to them.
- Eyewash.
- Safety shower.
- Eye and hand protection.
- Adequate ventilation, including vent line/fume hood, if applicable.
- First-aid equipment.
- Spill cleanup equipment.
- Applicable SDSs.

Materials for general installation

Provide the following materials for the installation:

- Safety glasses
- Lab coats
- Chemical-resistant, disposable gloves (powder-free)

Materials for routine operation

The supplies and consumables listed in [Table 3](#), [Table 4](#), and [Table 5](#) are necessary for routine operation of the Emulsifier. Before the system is installed, contact the Applied Biosystems sales representative to order these additional supplies. For details, refer to the *Applied Biosystems SOLiD EZ Bead Emulsifier Getting Started Guide* (PN 4441486).

**Table 3** Required equipment

Product name	Vendor and part number
Applied Biosystems SOLiD EZ Bead Emulsifier	Applied Biosystems 4448419
Covaris® S2 System	Applied Biosystems: 4387833 (110 V) or Applied Biosystems 4392718 (220 V)
6-Tube Magnetic Stand	Applied Biosystems Ambion AM10055
Pipet-Aid	Major Laboratory Supplier (MLS)



**Table 3** Required equipment

Product name	Vendor and part number
Scale	MLS
Scale, 250-g capacity	MLS
Vortexer	MLS
Picofuge	MLS
Pipettors, 20 µL	MLS
Pipettors, 200 µL	MLS
Pipettors, 1000 µL	MLS
Ice bucket	MLS


**Table 4** Optional equipment

Product name	Vendor and part number
Applied Biosystems SOLiD EZ Bead Amplifier	Applied Biosystems 4448418
Applied Biosystems SOLiD EZ Bead Enricher	Applied Biosystems 4448420

**Table 5** Required kits<sup>†</sup>

Description	Part number
SOLiD EZ Bead Emulsifier E10 Reagent Kit	4452720
SOLiD EZ Bead Emulsifier E10 Accessories Kit	4453065
SOLiD EZ Bead Emulsifier E20 Reagent Kit	4452721
SOLiD EZ Bead Emulsifier E20 Accessories Kit	4453076
SOLiD EZ Bead Emulsifier E80 Reagent Kit	4452722
SOLiD EZ Bead Emulsifier E80 Accessories Kit	4453070
SOLiD EZ Bead Emulsifier E120 Reagent Kit	4465555
SOLiD EZ Bead Emulsifier E120 Accessories Kit	4465569
SOLiD EZ Bead Emulsifier Oil Pack Kit	4457185

<sup>†</sup> Each kit contains other components. For details, refer to the *Applied Biosystems SOLiD EZ Bead Getting Started Guide* (PN 4441486).

 **IMPORTANT!** For the storage conditions, see the package label or product insert.

## Receive and inspect the system

Shipped contents	The SOLiD EZ Bead Emulsifier shipment includes the: <ul style="list-style-type: none"> <li>• Emulsifier</li> <li>• USB drive</li> <li>• Software</li> <li>• Power cable</li> <li>• <i>Applied Biosystems SOLiD® EZ Bead™ Emulsifier Getting Started Guide</i> (PN 4441486) and <i>Applied Biosystems Applied Biosystems SOLiD® EZ Bead™ Emulsifier Quick Reference Card</i> (PN 4441487)</li> </ul>
Shipping list	Verify that the items shown on the shipping list are the same items that you ordered.
Inspect shipping containers for damage	Carefully inspect the shipping containers and report any damage to the Applied Biosystems service representative. Record any damage or mishandling on the shipping documents.

## Move the crated instrument to the laboratory

Move schedule	Before the date of installation: <ul style="list-style-type: none"> <li>• Clear the installation site of all unnecessary materials.</li> <li>• Move the crated Emulsifier from the receiving area to the installation site. See <a href="#">“Required tools” on page 10</a>.</li> <li>• Move the other shipping containers from the shipping area to the installation site.</li> </ul>
Required building clearances	To move the Emulsifier shipment crate to the installation site, verify that the building clearances allow passage of the following crate dimensions:

Crate Dimension	Minimum Building Clearance
Height	45.4 cm (17.9 in.)
Width	39.6 cm (15.6 in.)
Length	50.8 cm (20 in.)
Weight	18.1 kg (40 lbs.)

Instrument weight	The instrument weighs approximately 15.8 kg (35 lbs).
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**WARNING! PHYSICAL INJURY HAZARD.** Do not attempt to lift the crated Emulsifier. Move the crate with a pallet jack. Moving the crate requires at least two persons.

Move and lift the instrument



**CAUTION! PHYSICAL INJURY HAZARD.** Do not attempt to lift or move the instrument without the assistance of others, the use of appropriate moving equipment, and proper lifting techniques. Improper lifting can cause painful and permanent back injury. Depending on the weight, moving or lifting an instrument may require two or more persons.

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**CAUTION!** Do not tip the crate on end. Tipping damages the hardware and electronics.

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## 2

## Checklists

This chapter includes the following topics:

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■ Personnel checklist .....	22
■ Space and layout checklist .....	22
■ Environmental checklist .....	22
■ Ventilation and waste collection checklist .....	23
■ Electrical checklist .....	23
■ Safety checklist .....	23
■ Materials checklist .....	24
■ System receipt and inspection checklist .....	24
■ Moving the crated instrument checklist .....	25

## Overview

Before using the checklists, read all previous sections in this guide.

Use the checklists in this chapter to ensure that you have made all preparations for installing the system.

In the following checklists, date each item after verifying its completion.

## Personnel checklist

For more information, see [“Assign personnel” on page 9](#).

Date Verified	Designated Personnel
	Site Preparation/Installation coordinator
	Laboratory safety representative
	Laboratory personnel: <ul style="list-style-type: none"> <li>To ensure that customer-supplied materials are on hand</li> </ul>
	Facilities personnel: <ul style="list-style-type: none"> <li>To provide environmental, electrical, and computer site-preparation requirements</li> <li>Verify that at least two people are available for uncrating</li> </ul>

## Space and layout checklist

For more information, see [“Space requirements” on page 10](#).

Date Verified	Requirements
	Location accommodates the dimensions and weights specified in <a href="#">“Dimensions and weights” on page 13</a> .
	Location meets the requirements specified in <a href="#">“Required clearances” on page 13</a> .

## Environmental checklist

For more information, see [“Environmental requirements” on page 14](#).

Date Verified	Requirement
	The altitude does not exceed 2000 m (6,562 ft) above sea level.
	The conditions specified in <a href="#">“Temperature and humidity requirements” on page 14</a> have been met.
	Pollution Degree 2 – Only nonconductive pollutants, if any, are present.

## Ventilation and waste collection checklist

For more information, see [“Ventilation and waste collection requirements” on page 14](#).

Date Verified	Requirement
	The cleaning, or decontaminating, the instrument conditions specified in <a href="#">“Cleaning or decontaminating the instrument” on page 14</a> have been met.

## Electrical checklist

For more information, see [“Electrical requirements” on page 15](#).

Date Verified	Requirement
	The main power supply to the instrument can be immediately disconnected.
	Appropriate grounded power receptacles are available (see <a href="#">“Electrical requirements” on page 15</a> ).
	The main power supply to the instrument can accommodate the length of the instrument’s power cord.

## Safety checklist

For more information, see [“Safety practices” on page 15](#).

Date Verified	Requirement
	The site is not designated BioSafety level 3 (BSL-3) or BioSafety level 4 (BSL-4).
	Safety practices and policies to protect laboratory personnel from potential hazards are in place and are followed.
	Protection from any sources of hazardous chemicals that may be present in the area.
	Appropriate fire extinguisher is available.
	Eye and hand protection are provided.
	Eyewash is provided.
	Safety shower is available.
	First-aid equipment is available.
	Spill cleanup equipment is available.
	SDSs readily available and accessible.

## Materials checklist

For more information, see [“Safety and materials” on page 15](#).

Date Verified	Requirement
Materials for General Installation	
	Safety glasses
	Lab coats
	Chemical-resistant disposable gloves (powder free)
Materials for Routine Operation	
	Materials for routine operation after the installation are available or have been ordered (see <a href="#">“Materials for routine operation” on page 16</a> ).

## System receipt and inspection checklist


For more information, see [“Receive and inspect the system” on page 18](#).

Date Verified	Action
	Verified that items on the packing list are those that were ordered. Otherwise, reported discrepancies in the packing list to Applied Biosystems.
	Received the system and inspected the shipping containers for mishandling or damage.
	Reported to the Applied Biosystems service representative: any damage to the shipping containers



## Moving the crated instrument checklist

For more information, see [“Move the crated instrument to the laboratory”](#) on page 18.


Date Verified	Item
	The measured building clearances can accommodate the SOLiD <sup>®</sup> EZ Bead <sup>™</sup> Emulsifier crate and pallet jack (see <a href="#">“Required clearances”</a> on page 13).
	<p>Moved all the <i>crated</i> equipment to the laboratory before the date of the scheduled installation.</p> <p> <b>WARNING! PHYSICAL INJURY HAZARD.</b> Incorrect lifting can cause painful and sometimes permanent back injury. Use proper lifting techniques when lifting or moving items. At least two people must be available to move the instrument.</p>
	Cleared the installation site of all unnecessary materials.





# Safety









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 **WARNING! GENERAL SAFETY.** Using this product in a manner not specified in the user documentation may result in personal injury or damage to the instrument or device. Ensure that anyone using this product has received instructions in general safety practices for laboratories and the safety information provided in this document.





- Before using an instrument or device, read and understand the safety information provided in the user documentation provided by the manufacturer of the instrument or device.
  - Before handling chemicals, read and understand all applicable Safety Data Sheets (SDSs) and use appropriate personal protective equipment (gloves, gowns, eye protection, etc). To obtain SDSs, see the “Documentation and Support” section in this document.
- 




## Symbols on this instrument

Symbols may be found on the instrument to warn against potential hazards or convey important safety information. In this document, the symbol is used along with user attention words described in the “About This Guide” section to highlight important safety information. The following table gives the meaning of these symbols.

Symbol	English	Français
	Caution, risk of danger Consult the manual for further safety information.	Attention, risque de danger Consulter le manuel pour d'autres renseignements de sécurité.
	Caution, risk of electrical shock	Attention, risque de choc électrique
	Caution, piercing hazard	Attention, danger de perforation
	On	On (marche)
	Off	Off (arrêt)
	On/Off	On/Off (marche/arrêt)
	Standby	En attente
	Earth (ground) terminal	Borne de (mise à la) terre




Symbol	English	Français
	Protective conductor terminal (main ground)	Borne de conducteur de protection (mise à la terre principale)
	Terminal that can receive or supply alternating current or voltage	Borne pouvant recevoir ou envoyer une tension ou un courant de type alternatif
	Terminal that can receive or supply alternating or direct current or voltage	Borne pouvant recevoir ou envoyer une tension ou un courant continu ou alternatif
	Do not dispose of this product in unsorted municipal waste  To minimize negative environmental impact from disposal of electronic waste, do not dispose of electronic waste in unsorted municipal waste. Follow local municipal waste ordinances for proper disposal provision and contact customer service for information about responsible disposal options.	Ne pas éliminer ce produit avec les déchets usuels non soumis au tri sélectif.  Pour minimiser les conséquences négatives sur l'environnement à la suite de l'élimination de déchets électroniques, ne pas éliminer ce déchet électronique avec les déchets usuels non soumis au tri sélectif. Se conformer aux ordonnances locales sur les déchets municipaux pour les dispositions d'élimination et communiquer avec le service à la clientèle pour des renseignements sur les options d'élimination responsable.

Conformity mark	Description
	Indicates conformity with safety requirements for Canada and U.S.A.
	Indicates conformity with European Union requirements for safety and electromagnetic compatibility.
	Indicates conformity with Australian standards for electromagnetic compatibility.



## Safety alerts on this instrument

The SOLiD® EZ Bead™ Emulsifier contains safety warnings on the following areas:

- The  label is to the right of the pump head.
- The remaining labels are near the power input.

Additional text may be used with one of the symbols described above when more specific information is needed to avoid exposure to a hazard. See the following table for safety alerts found on the instrument.




English	French translation
 <b>CAUTION! Hazardous chemicals.</b> Read the Safety Data Sheets (SDSs) before handling.	<b>ATTENTION! Produits chimiques dangereux.</b> Lire les fiches signalétiques (FS) avant de manipuler les produits.
 <b>CAUTION! Hazardous waste.</b> Refer to SDS(s) and local regulations for handling and disposal.	<b>ATTENTION! Déchets dangereux.</b> Lire les fiches signalétiques (FS) et la réglementation locale associées à la manipulation et à l'élimination des déchets.


## Instrument safety

### General

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 **CAUTION! Do not remove instrument protective covers.** If you remove the protective instrument panels or disable interlock devices, you may be exposed to serious hazards including, but not limited to, severe electrical shock, laser exposure, crushing, or chemical exposure.


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 **CAUTION! Solvents and Pressurized Fluids.** Wear eye protection when working with any pressurized fluids. Use caution when working with any polymeric tubing that is under pressure:

- Extinguish any nearby flames if you use flammable solvents.
- Do not use polymeric tubing that has been severely stressed or kinked.
- Do not use polymeric tubing with tetrahydrofuran or nitric and sulfuric acids.
- Be aware that methylene chloride and dimethyl sulfoxide cause polymeric tubing to swell and greatly reduce the rupture pressure of the tubing.
- Be aware that high solvent flow rates (~40mL/min) may cause a static charge to build up on the surface of the tubing and electrical sparks may result.

---

### Physical injury

 **CAUTION! Moving and Lifting Injury.** The instrument is to be moved and positioned only by the personnel or vendor specified in the applicable site preparation guide. Improper lifting can cause painful and permanent back injury. Things to consider before lifting or moving the instrument or accessories:

- Depending on the weight, moving or lifting may require two or more persons.
- If you decide to lift or move the instrument after it has been installed, do not attempt to do so without the assistance of others, the use of appropriate moving equipment, and proper lifting techniques.
- Ensure you have a secure, comfortable grip on the instrument or accessory.
- Make sure that the path from where the object is to where it is being moved is clear of obstructions.
- Do not lift an object and twist your torso at the same time. Keep your spine in a good neutral position while lifting with your legs.



- Participants should coordinate lift and move intentions with each other before lifting and carrying.
- For smaller packages, rather than lifting the object from the packing box carefully tilt the box on its side and hold it stationary while someone else slides the contents out of the box.

Electrical



**WARNING! ELECTRICAL SHOCK HAZARD.** Severe electrical shock can result from operating the SOLiD® EZ Bead™ Emulsifier without its instrument panels in place. Do not remove instrument panels. High-voltage contacts are exposed when instrument panels are removed from the instrument.



**WARNING! Ensure appropriate electrical supply.** For safe operation of the instrument:

- Plug the system into a properly grounded receptacle with adequate current capacity.
- Ensure the electrical supply is of suitable voltage.
- Never operate the instrument with the ground disconnected. Grounding continuity is required for safe operation of the instrument.



**WARNING! Power Supply Line Cords.** Use properly configured and approved line cords for the power supply in your facility.



**WARNING! Disconnecting Power.** To fully disconnect power either detach or unplug the power cord, positioning the instrument such that the power cord is accessible.

Cleaning and decontamination



**CAUTION! Cleaning and Decontamination.** Using a cleaning or decontamination method not specified by the manufacturer may result in damage to the equipment. For the protection of others, ensure the instrument is properly decontaminated prior to having the instrument serviced at your facility or before sending the instrument for repair, maintenance, trade-in, disposal, or termination of a loan. Decontamination forms may be requested from customer service.

## Safety and electromagnetic compatibility (EMC) standards

The instrument design and manufacture complies with the standards and requirements for safety and electromagnetic compatibility as noted in the following table:

Safety

Reference	Description
EU Directive 2006/95/EC	European Union "Low Voltage Directive"
UL 61010-1	<i>Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements</i>



## EMC

Reference	Description
Directive 2004/108/EC	European Union "EMC Directive"
EN 61010-1:2001	<i>Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements</i>
FCC Part 18 (47 CFR)	U.S. Standard "Industrial, Scientific, and Medical Equipment"
AS/NZS 2064	<i>Limits and Methods of Measurement of Electromagnetic Disturbance Characteristics of Industrial, Scientific, and Medical (ISM) Radiofrequency Equipment</i>
ICES-001, Issue 3	<i>Industrial, Scientific and Medical (ISM) Radio Frequency Generators</i>

Environmental  
design

Reference	Description
Directive 2002/96/EC	European Union "WEEE Directive" – Waste electrical and electronic equipment

## Chemical safety



**WARNING! GENERAL CHEMICAL HANDLING.** To minimize hazards, ensure laboratory personnel read and practice the general safety guidelines for chemical usage, storage, and waste provided below, and consult the relevant SDS for specific precautions and instructions:

- Read and understand the Safety Data Sheets (SDSs) provided by the chemical manufacturer before you store, handle, or work with any chemicals or hazardous materials. To obtain SDSs, see the "Documentation and Support" section in this document.
- Minimize contact with chemicals. Wear appropriate personal protective equipment when handling chemicals (for example, safety glasses, gloves, or protective clothing).
- Minimize the inhalation of chemicals. Do not leave chemical containers open. Use only with adequate ventilation (for example, fume hood).
- Check regularly for chemical leaks or spills. If a leak or spill occurs, follow the manufacturer's cleanup procedures as recommended in the SDS.
- Handle chemical wastes in a fume hood.
- Ensure use of primary and secondary waste containers. (A primary waste container holds the immediate waste. A secondary container contains spills or leaks from the primary container. Both containers must be compatible with the waste material and meet federal, state, and local requirements for container storage.)
- After emptying a waste container, seal it with the cap provided.
- Characterize (by analysis if necessary) the waste generated by the particular applications, reagents, and substrates used in your laboratory.
- Ensure that the waste is stored, transferred, transported, and disposed of according to all local, state/provincial, and/or national regulations.





**WARNING! HAZARDOUS WASTE (from instruments).** Waste produced by the instrument is potentially hazardous. Follow the guidelines noted in the preceding General Chemical Handling warning.

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**WARNING! Chemical Hazard.** All chemicals in the instrument, including liquid in the lines, are potentially hazardous. Always determine what chemicals have been used in the instrument before changing reagents or instrument components. Wear appropriate eyewear, protective clothing, and gloves when working on the instrument.

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**WARNING! 4L Reagent and Waste Bottle Safety.** Four-liter reagent and waste bottles can crack and leak. Each 4-liter bottle should be secured in a low-density polyethylene safety container with the cover fastened and the handles locked in the upright position.

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**WARNING! Chemical Storage Hazard.** Never collect or store waste in a glass container because of the risk of breaking or shattering. Reagent and waste bottles can crack and leak. Each waste bottle should be secured in a low density polyethylene safety container with the cover fastened and the handles locked in the upright position. Wear appropriate eyewear, clothing, and gloves when handling reagent and waste bottles.

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# Documentation and Support

## Related documentation

The following related documents are shipped with the system:

Document	Part number	Description
<i>Applied Biosystems SOLiD® EZ Bead™ Enricher Getting Started Guide</i>	4441486	Describes the SOLiD® EZ Bead™ Enricher hardware and software and provides information on preparing, maintaining, and troubleshooting the system. Also describes how to perform emulsion break and enrichment using the SOLiD® EZ Bead™ Enricher.
<i>Applied Biosystems SOLiD® EZ Bead™ Enricher Quick Reference Card</i>	4441487	The document is designed to help you quickly learn to use the SOLiD® EZ Bead™ Enricher.

**Note:** For additional documentation, see [“Obtaining support”](#).

## Obtaining SDSs

Safety Data Sheets (SDSs) are available from [www.appliedbiosystems.com/sds](http://www.appliedbiosystems.com/sds)

**Note:** For the SDSs of chemicals not distributed by Applied Biosystems, contact the chemical manufacturer.

## Obtaining support

For the latest services and support information for all locations, go to:

[www.appliedbiosystems.com](http://www.appliedbiosystems.com)

At the website, you can:

- Access worldwide telephone and fax numbers to contact Technical Support and Sales facilities
- Search through frequently asked questions (FAQs)
- Submit a question directly to Technical Support
- Search for user documents, SDSs, vector maps and sequences, application notes, formulations, handbooks, certificates of analysis, citations, and other product support documents
- Obtain information about customer training
- Download software updates and patches



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