

# aramexbio

## Packing Manual

IATA DGR 57<sup>th</sup> – March 2017





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# Introduction

This manual is designed to help healthcare professionals efficiently prepare, pack, label and mark biological samples according to IATA's international regulations for safe transportation and handling.

All biological samples fall under one of the following categories: Exempt Specimen, Category B and Category A.

It is important to keep in mind that all biological samples must be triple packed with watertight primary receptacles wrapped in an absorbent material, watertight secondary packaging, and a sturdy outer packaging to ensure safe handling.

Packing the shipment to meet international safety standards is ultimately the shipper's responsibility, and Aramex has the right to refuse any package that does not meet those standards.



# Temperature Controlled Shipping

The use of temperature-controlled packaging is necessary to maintain the integrity of temperature-sensitive biological samples. Aramex provides specialized temperature-controlled packages (Aramax Bio), however if you choose to use your own, please refer to your supplier's instructions.

Aramex Bio packages come in two different specifications and sizes, the following table will help you decide which Aramax Bio package is appropriate for your shipment:

Box	Capacity	External Dimensions	Controlled Temperature Maximum Duration	Temperature Available	Cooling Packs
<b>B10</b>	10.4 Liter	356 X 305 X 303 mm	72 Hours	Freezing	Dry ice
				Cold	4 Cooling packs filled up to 800 grams line
				Controlled ambient	3 cooling packs with one filled up to 800 grams and two up to 600 grams line
<b>B06</b>	3.9 Liter	260 X 260 X 220 mm	48 Hours	Cold	2 Cooling packs
				Controlled ambient	1 Cold pack

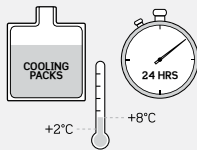


# Aramex Bio B10:

Fill an adequate number of cooling packs with room temperature water as indicated on page 7.

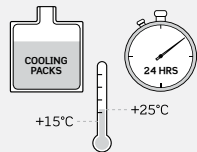
Please follow instructions written on the cooling pack for how to properly fill it with water. Seal the cooling pack as shown in the instructions and place it on a flat surface for 15 minutes.

## Cold Shipments

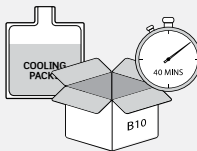


- To maintain **cold temperatures** (+2C to +8C) you need to pre condition an adequate number of cooling packs by placing them in a **freezer** on a horizontal and flat surface for a minimum of 24 hours.

## Controlled Ambient Shipments



- To maintain **controlled ambient** (+15C to +25C) you need to pre condition an adequate number of cooling packs by placing them in a **refrigerator** on a horizontal and flat surface for a minimum of 24 hours.

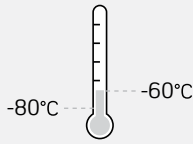


Prior to collection time, place cooling packs outside the Aramex Bio package approximately for 40 minutes at ambient room temperature of +25°C before assembly.

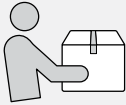
Please refer to section 3 for specimen packing steps before sealing the package.



### Freezing Shipments



DRY ICE

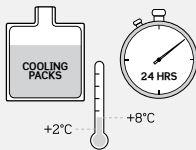


For **freezing temperatures** (-80 to -60) containing dry ice, you need to

- Place dry ice inside the Aramex Bio package to surround triple packing.
- Shipper needs to contact Aramex Account Manager for the “Collection Request” within a certain timeframe as stated in the offer.
- If needed, Aramex courier can provide dry ice to the shipper prior to collection time.
- Aramex Courier will collect the sealed Aramex Bio box and drive directly to the airport.

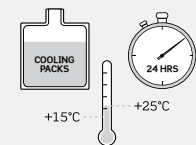
## Aramex Bio B06:

### Cold Shipments

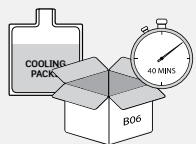


- To maintain **cold temperatures** (+2C to +8C) you need to pre-condition an adequate number of cooling packs by placing them in a **freezer** on a horizontal and flat surface for a minimum of 24 hours.

### Controlled Ambient Shipments



- To maintain **controlled ambient** (+15C to +25C) you need to pre-condition an adequate number of cooling packs by placing them in a **refrigerator** on a horizontal and flat surface for a minimum of 24 hours.



Prior to collection time, place the adequate number of cooling packs into the Aramex Bio package and leave it open approximately for 40 minutes at ambient room temperature of +25°C before assembly.

Please refer to section 3 for specimen packing steps before sealing the package.

# 3

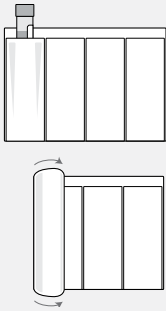
## Packaging, Labeling and Marking

# 3.1 Exempt Specimen

The “Exempt Specimen” category refers to any human or animal sample that needs to be transported for diagnostic purposes; not due to the patient being ill or suspected of being ill. These samples include but not limited to excreta, secreta, blood and its components, tissue and tissue fluids.

## Packing the specimen:

Step 1

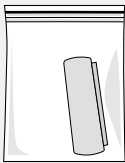


### ➔ Step 1 - Primary receptacle

Place the specimen in a primary receptacle and wrap it with a suitable absorbent material, such as cotton balls, cellulose wadding or paper towels.

- Liquid specimens must be less than 1 liter.
- Solid substances must be less than 1 kilogram.

Step 2



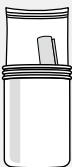
### ➔ Step 2 - Sealing the receptacle

Place the wrapped receptacle in a sealed plastic bag.

### ➔ Step 3 - Secondary package

Place the sealed receptacle in a secondary packaging, which should be a leak-proof/sift-proof plastic container of an adequate strength.

Step 3



If the data logger is available, please insert it inside the plastic container next to the sealed receptacle.

Please note that the packaging should be strong enough; plastic bags and paper envelopes are not accepted as outer containers.

## ➔ Step 4 - Maintaining optimum temperature

If the samples require a temperature-controlled medium, please refer to (Section 2-Temperature Controlled Shipping).

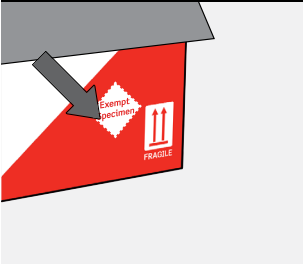
Step 5



## ➔ Step 5 - Final package

Insert secondary packaging along with the adequate amount of cooling packs into the Aramex Bio package.

Marking and Labeling



## Marking and labeling the final package

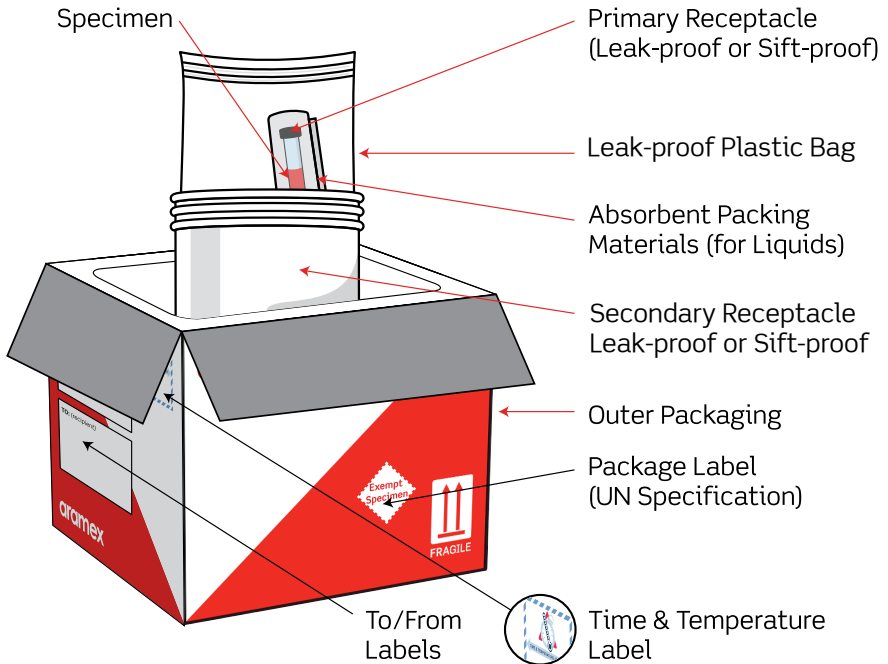
Once you have packed your specimen according to the guidelines, you must seal the package tightly and attach the needed documentation (Please refer to **section 4 - Shipment Documentation**).

Write down the following details on the outer package:

1. Temperature in the designated area (e.g. +2°C to +8°C).
2. Destination city, waybill number, and pickup date.
3. Attach the Aramex waybill in the designated area.
4. Add Exempt Specimen label

It is important to ensure the **Exempt Specimen** label is visible at all times.

# Exempt Specimen Package



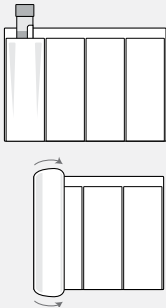
# 3.2 Category B “Biological Substances”

Specimens that fall under Category B are infectious substances but do not meet the criteria for Category A; not in a form generally capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals when exposure to them occurs.

These specimens carry the proper shipping name **Biological Substance, Category B** under the United Nations identification number **UN3373**.

## Packing the specimen:

Step 1

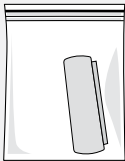


### ➔ Step 1 - Primary receptacle

Place the specimen in a primary receptacle and wrap it with a suitable absorbent material, such as cotton balls, cellulose wadding or paper towels.

- Liquid substances must be less than 1 liter.
- Solid substances must be less than 1 kilogram.
- Primary receptacles must endure temperatures between  $-40^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .
- Outside pressure should be above 95 kPa (0.95 bar).

Step 2



### ➔ Step 2 - Sealing the receptacle

Place the wrapped receptacle in a sealed plastic bag.

### ➔ Step 3 - Secondary package

Insert the sealed plastic bag in a secondary packaging, which should be leak-proof/sift-proof plastic container with the following specifications:

### Step 3



- Secondary packaging must endure temperatures between  $-40^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .
- Outside pressure should be above 95 kPa (0.95 bar).

If the data logger is available, insert it inside the plastic container next to the sealed plastic bag.

If you wish to pack more than one specimen; you must use an over pack, making sure that specimens are placed in separate inner packaging to prevent them from reacting dangerously with each other.

### Step 4

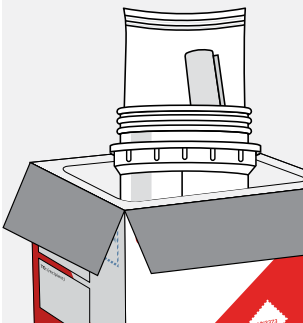


### ➔ Step 4 - Identify the specimen

Write down the specimen record on the secondary package as shown below:



### Step 5



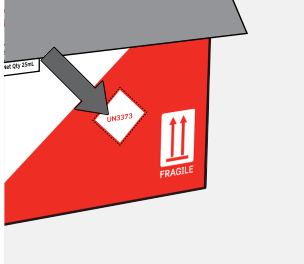
### ➔ Step 5 - Maintaining optimum temperature

If the samples require temperature control, refer to **(Section 2 - Temperature Controlled Shipping)**.

Add the cooling packs or dry ice inside the Aramex Bio package to surround secondary packaging, before Aramex courier arrives.

- Outer package's dimensions should not be less than 100mm.
- The outer packaging must not contain more than 4 liters.

Note: If your shipment contains dry ice, the use of interior support is required such as a u-shaped cardboard. The interior support should surround the secondary packaging to maintain the sample's original position during transit.



## Marking and labeling the final package

Seal the package and attach the needed documentation (refer to **section 4 - Shipment Documentation**)

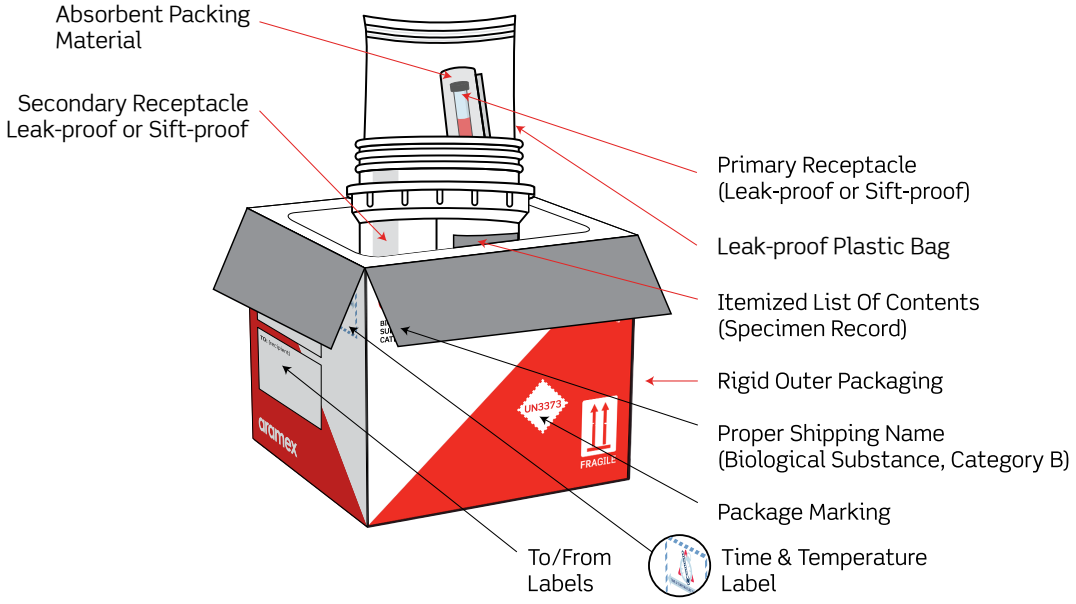
Your package should have clear durable labels and markings to identify the substances inside it.

Write down the following details on the outer package:

1. Temperature in the designated area (e.g. +2°C to +8°C).
2. Destination city, waybill number, and pickup date.
3. Attach the Aramex waybill in the designated area.
4. Write down on the package “Biological Substance, Category B” in a visible location.
5. Add UN3373 label.
6. Add Arrow Up label for liquid specimens.
7. If you are using dry ice, add dry ice label (UN1845 Class 9) on the package and specify the weight of the dry ice on the label (in kilograms).



# Category B Package



## 3.3 Category A

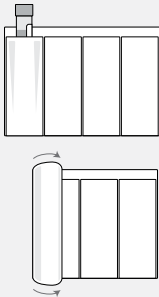
Category A infectious substances are capable of causing permanent disability, life threatening or fatal disease to humans or animals when exposure to them occurs.

For shipping purposes, you must clearly label these substances as:

- Infectious Substance affecting humans: **UN2814**
- Infectious Substance affecting only animals: **UN2900**

### Packing the specimen:

Step 1

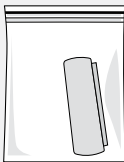


#### ➔ Step 1 - Primary receptacle

Place specimen in a primary receptacle and wrap it with a suitable absorbent material such as cotton balls, cellulose wadding or paper towels.

- Liquid substances must be less than 1 liter.
- Solid substances must be less than 1 kilogram. Primary receptacles must endure temperatures between  $-40^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .
- Outside pressure should be above 95 kPa (0.95 bar).

Step 2



#### ➔ Step 2 - Sealing the receptacle

Place the wrapped receptacle in a sealed plastic bag.

#### ➔ Step 3 - Secondary package

Insert the sealed plastic bag in a secondary packaging, which should be leak-proof/sift-proof plastic container with following specifications:

- Secondary packaging must endure temperatures between  $-40^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .
- Outside pressure should be above 95 kPa (0.95 bar).

### Step 3



If the data logger is available, insert it inside the plastic container next to the sealed plastic bag.

If you wish to pack more than one specimen; you must use an over pack, making sure you place the specimens in separate inner packaging to prevent them from reacting dangerously with each other.

Please note that if you have Category A and Category B specimens, use separate Aramex Bio packages for each category.

### Step 4

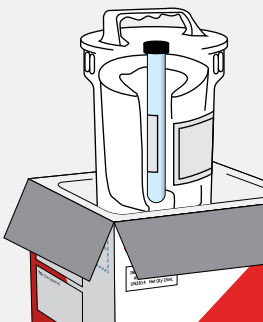


## ➔ Step 4 - Identify the specimen

Write down the specimen record on the secondary package as shown below.



### Step 5



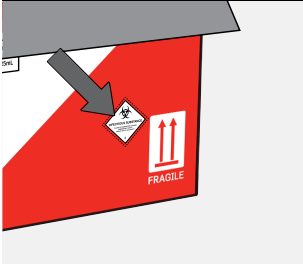
## ➔ Step 5 - Maintaining optimum temperature

If the samples require temperature control, refer to (**Section 2 - Temperature Controlled Shipping**).

Add the cooling packs or dry ice inside the Aramex Bio package to surround the outer packaging, before Aramex courier arrives.

- Please note that the outer package's dimensions should not be less than 100mm

Note: If your shipment contains dry ice, the use of interior support is required such as a u-shaped cardboard. The interior support should surround the secondary packaging to maintain the sample's original position during transit.



## Marking and labeling the final package:

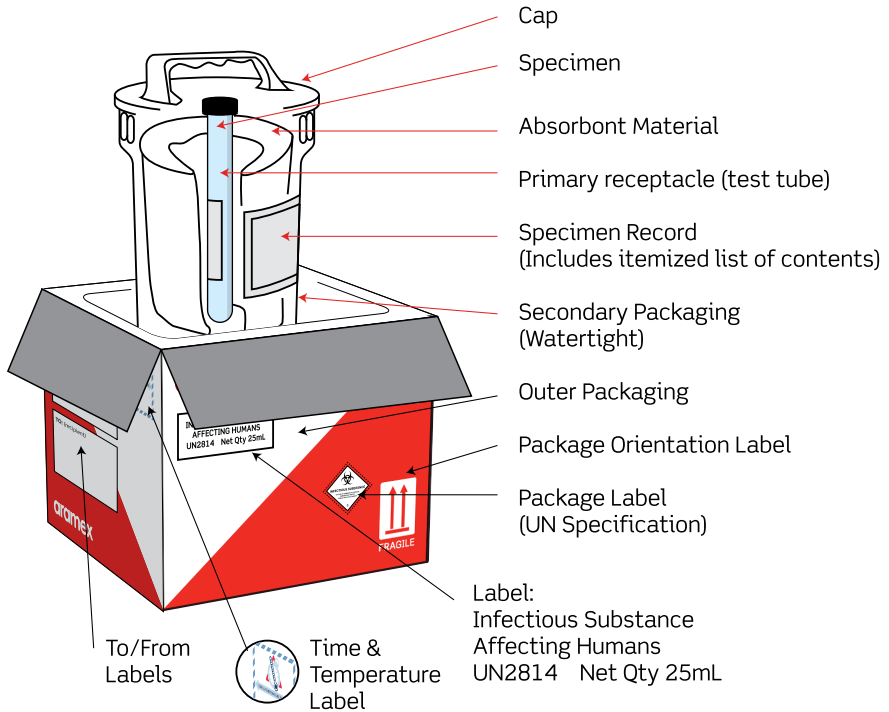
Seal the package and attach the needed documentation. (Refer to **section 4 - Shipment Documentation**)

Your package should have clear durable labels and markings on both sides to identify the substances inside it.

Write down the following details on the outer package:

1. Temperature in the designated area (e.g. +2°C to +8°C).
2. Destination city, waybill number, and pickup date.
3. Attach the Aramex waybill in the designated area.
4. UN number, net quantity of infectious substances, and the name and telephone number of the person responsible for the shipment.
5. Use the “Cargo Aircraft Only” label when shipping over 50 ml or 50 g.
6. Add Arrow Up label for liquid substances.
7. If the package contains dry ice, add dry ice label (UN1845 Class 9) on the package and write the weight of the dry ice on the label (in kilograms).

# Category A Package





# Shipment Documentation

You must provide all the necessary documents when the Aramex courier arrives to collect the shipment. Here is a list of the needed documents:

## 1) Aramex Air Waybill

This document must include the details of the shipper and the consignee in clear and readable format. If needed, Aramex courier can help you in filling this form.

- **Note:** dry ice shipments will require a different Air Waybill.

## 2) Declaration Forms

### For Exempt Specimen

Declaration forms must be printed on your company's letterhead stating: non-infectious and non-hazardous sample for diagnostic testing packed in sealed primary receptacle and secondary protective packages for in vitro diagnostic testing.

By signing this form, you declare that the samples enclosed in the package are safe to move and are classified, packaged, marked and labeled according to international and government regulations.

### For Dangerous Specimens

This document must describe the content of the package and the type of the sample. By signing this, you declare that the shipment is classified, packaged, marked and labeled according to international and government regulations.

- **Note:** when using dry ice, you must mention it in the declaration of dangerous materials form with all appropriate details, and the net weight of dry ice used must be marked on the package.

## 3) Customs Invoice

Complete a customs invoice printed on your company's letterhead, describing the content in details, including volume and weight of shipment where applicable.

Important Note: Other documents may be required (such as documents from the Ministry of Health) depending on which country you are importing from or exporting to. For more details, please ask your Aramex representative.



# Health and Safety



## **Handling biological samples can be hazardous and infectious.**

### **Please follow these safety guidelines:**

- Always wear protective clothing and special gloves.
- Avoid direct contact with biological samples.
- Use appropriate packages designed for biological samples.
- Never reuse a package designed for a single use.
- Use proper labels and markings.
- If wet ice is used, it should be in a leak-proof container and in a leak-proof outer package.

### **Important safety precautions when handling dry ice:**

- Always obtain dry ice just before shipping, never store dry ice in a freezer.
- Never touch dry ice without wearing protective material.
- Use specially designed boxes that allow the release of carbon dioxide gas.
- Never place dry ice inside the primary or secondary receptacle because of the risk of explosions.



## Useful Links

- 6.1.** WHO: Interactive handbook Identifying shipment category
- 6.2.** WHO Interactive labeling and marking guideline
- 6.3.** CDC Informational Sheet for in-lab packing steps and safety standards

**aramexbio**

For more information please contact us at:  
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