



## **WFCC Information Resource on International Postal Regulations for Shipping Biological Materials The current UPU regulations and their background**

### **The Universal Postal Union**

At the invitation of the Swiss government the first plenipotentiary conference was held in 1874 in Berne, resulting in the signing of the 1874 Treaty of Berne establishing the first collective Convention governing international postal services. The central office (International UPU Bureau) is still located in Berne. There are two kinds of UPU regulations, the Convention itself and the Detailed Regulations. The Convention has a rather broad wording (relevant here: Article 16 on acceptable dangerous goods in international mail) whereas the Detailed Regulations describe e.g. packaging requirements (relevant here: Articles RL129/RL130). UPU is a specialised agency of the UN and one of the essential features is that it is universal (global), serving the public world-wide. UPU cooperates with several international organizations for example IATA (International Air Transport Association), WCO (World Customs Organization), ISO (International Standard Organization). The UPU Congress Supreme Authority meets regularly, not later than five years after the previous congress. Currently, UPU has 191 member countries. The official postal language is French. **The UPU regulations resemble international law enforcement.** Website: <http://www.upu.int/>

### **Background**

The **“Letter Post Regulations”** are based on the **UPU 2004 Bucarest Convention**, published by the UPU International Bureau, Berne, 2006. UPU is the **Universal Postal Union**. UPU constantly updates information as submitted by national postal services of the member States. The new Compendium contains detailed lists divided into three categories **“Basic Services”**, **“Optional Supplementary Services”** and **“Other Information”**. Admittance of biological materials is published under **“Optional Supplementary Services”**; the national postal administrations still have different regulations in place with respect to transport of biological materials. The information given here has been drawn together mainly on the basis of the updated UPU 2004 Convention.

### **Responsibilities of the Shipper of biological materials**

Before offering biological substances for transport by any means, shippers must familiarise themselves with export restrictions (dual-use or customs legislation), import permits, quarantine regulations and other possible restrictions according to relevant national and international bio-legislation. Postal transport is usually quick, reliable and cheap. This possibility should not be misused. Breakage of packages has created fear among postal employees and therefore it is necessary to have strict rules in place for safe and efficient transport. For transport of biological materials, it is advisable to choose a mode of transport allowing the shipment to be tracked. The need for tracking the location of a shipment and documentation on route is very important in deciding the service needed when transporting biological materials.

The service offered by private carriers is undoubtedly an advantage as a registered postal letter only guarantees tracking to a lesser extent. It is important to note that domestic postal mail transport is regulated by the resp. national authorities and this is not discussed in this information resource.

## Article 16 UPU, on admissible radioactive and biological materials taken from the 2004 Convention and its updates

**2 Biological materials** shall be admitted in letter-post items under the following conditions:

**2.1** Perishable biological substances, infectious substances and solid carbon dioxide (dry ice) when used as refrigerant for infectious substances may be exchanged through mail only between officially recognized qualified laboratories. These dangerous goods may be acceptable in mail for air carriage, subject to national legislation and current Technical Instructions of the International Civil Aviation Organization (ICAO) and as reflected in the IATA Dangerous Goods Regulations.

**2.2** Perishable biological substances and infectious substances made up and packed in accordance with the respective provisions of the Regulations shall be subject to the tariff for priority items or to the tariff for registered letters. An additional charge for the handling of these items is allowed.

**2.3** Admission of perishable biological substances and infectious substances shall be restricted to those member countries whose postal administrations have declared their willingness to admit such items, whether reciprocally or in one direction only.

**2.4** Such substances or materials shall be forwarded by the quickest route, normally by air, subject to the payment of the corresponding air surcharges and shall be given priority in delivery.

### The main premise behind Article 16, UPU

- an exchange of biological substances using postal services should be limited to qualified laboratories assuming trained personnel are employed and legal requirements are fulfilled
- IATA Dangerous Goods Regulations re. transport by air may apply
- The tariff is a special one (priority items, registered letters)
- Using postal services for shipping biological materials is exclusively possible within and between countries willing to admit such items. National and trans-border (UPU) postal regulations are in place. The countries lists provided below refer to international transport
- Biological materials shall be transported by the quickest route, fulfilling the main and original mission and essential feature of the world's postal services and meeting the needs of the scientific community

Terminology and list position for shipment of biological materials as mentioned in the UPU Compendium under: "Optional Supplementary Services":

**Position 11: perishable biological substances** (whether admitted or not, dispatch and receipt)

*Note: these are non-infectious biological substances shipped in such a manner that requires fast transport, e.g. "active cultures" or preparations*

**Position 12: infectious materials** (whether admitted or not, dispatch and receipt)

*Note: these are all biological materials allocated to the Risk Groups 2 – 4 acc. to the WHO definition*

### Postal transport of genetically engineered microorganisms (GEMs)

The UPU Compendium has not foreseen or mentioned transport of GEMs; therefore, national postal regulations must be observed. It is most likely that many national postal administrations don't accept GEMs for transport. Trans-border shipments of GEMs should be performed exclusively according to the ICAO/IATA DGR regulations. GEMs might fall under UN2814, UN2900, UN3373 or UN3245, respectively (IATA DGR 2007, 3.6.2 and 3.9) or, they might not be regulated as dangerous goods and can be shipped like Risk Group 1 organisms if the definition applies. There are numerous GEMs of safety level 1 that are not able to alter any other living (micro-)organisms and therefore they are not regulated as dangerous goods,

this is the majority of e.g. *E. coli* K-12, *Bacillus subtilis* etc. derivatives carrying vectors or similar genetically engineered plasmids. Be aware that all other GEMs fall under regulations for dangerous goods transport (above UN numbers). See WFCC Information Resource on international regulations for transport of GEMs.

### **Customs requirements**

International shipments containing biological substances are usually subject to custom clearance. They usually require the green custom declaration label for postal mail. It should be affixed close to the address label. The type and number of material/receptacles and the value should be entered on the label (e.g., 4 bacterial cultures). Declare "No commercial value" only in case of free exchange. The wording "harmless, non-infectious, for research exchange purposes" can speed up customs clearance.

### **Packagings and labels**

For transporting biological substances by postal mail services, packaging requirements must be carefully observed because minimum safety is given only if the **triple containment principle** is taken into consideration. This principle is internationally agreed and comprises

- 1.) a leak-proof primary receptacle bearing the biological material
- 2.) a leak-proof secondary packaging (usually screw-capped plastic tubes); if liquids are sent: sufficient absorbant material able to take the whole liquid is inserted between the primary and secondary containment. The secondary packaging must retain its physical integrity during transport.
- 3.) an outer packaging/carton box of sufficient strength and size able to withstand usual mechanical stress during transport and carrying all required labels: sender's and recipient's addresses, green customs label if applicable and biological substances label.

Ready-to-use packaging systems for UN 3373: usually cheap in contrast to the slightly more expensive UN combination packagings for shipping infectious substances, UN2814 or UN2900; all these packaging systems are offered by many suppliers. Such packaging systems are tested by national authorities, fulfilling Packing Instruction PI650 requirements and are permitted for the following range of items

- biological substances that are non-infectious (Risk Group 1)
- infectious substances Category B, UN3373; these are organisms that do not meet the criteria for inclusion in Category A (most Risk Group 2 organisms can be transported under Category B, UN3373 )
- diagnostic specimens if not containing Category A materials. Please note Category A includes organisms capable of causing permanent disability, life-threatening or fatal disease to humans or animals.

**Consequently, PI650 is a versatile packaging system and the internationally agreed minimum packaging standard for biological materials bearing no or a low hazard.** The preferred information source for detailed packaging and postal transport regulations are the national postal authorities' homepages, they also present illustrations on packaging. Any self-made packaging systems should NOT be used for transport. PI 650 packaging is usually quite flat in one dimension (30 mm) and can be sent as "maxi letters" in several countries (having nothing in common with usual "letters"!).

In contrast, PI602 packagings for Category A shipments (highly pathogenic materials,

UN2814, UN2900) must have rigid outer boxes with a minimum external dimension not less than 100 mm. Postal services have to refuse transport of such highly pathogenic materials as IATA prohibits such transport via air mail, see below. Transport as (air) freight is performed by courier services.

**Dangerous Goods in Air Mail, IATA DGR 2008, 49<sup>th</sup> edition:**

- 2.4.1 The Universal Postal Union Convention forbids the carriage of dangerous goods in the mail except as permitted in 2.4.2. National postal authorities should ensure that the provisions of the UPU Convention are complied with in relation to the transport of dangerous goods by air.
- 2.4.2 The dangerous goods listed in this subsection may be accepted in mail for air carriage subject to the provisions of the national postal authorities concerned and the parts of these Regulations which relate to such materials...
- (b) Infectious substances, assigned to Category B (UN3373) only, when packed in accordance with the requirements of Packing Instruction 650...

*Concluding note: All infectious substances including substances allocated to Risk Group 2, are by definition **dangerous goods**, Class 6, Division 6.2, UN classification system. Most Risk Group 2 substances can be classified as Category B, UN3373 and can be transported under deregulated conditions: a Shipper's Declaration form for dangerous goods is not required and Packing Instruction PI650 applies. However, UN3373 substances might be shipped in PI602 combination packagings having much higher quality and strength making transport even safer, especially over long distances (trans-border, trans-continental). Shippers are free to choose a PI602 packaging and a courier for UN3373 transports within their country as an alternative to using PI650 packagings and postal services if possible.*

*To make it clearer: a UN-certified PI 602 packaging system can be used for transport of all the a.m. biological materials as it is the safest and strongest containment system whereas PI 650 packagings are the most versatile ones for the majority of all shipments excluding Category A and UN 3245. For all transport, the correct applicable labels are vital.*

Whenever infectious substances are offered for shipment by air, the ICAO/IATA DGR requirements must be followed. A trained shipper has to sign the Shipper's Declaration form if required (it is not required for UN3373) and a certified UN combination packaging has to be used (see PI650 or PI602, resp). Furthermore, regulations for road transport (**ADR** in Europe), **RID** (railway transport) and **IMO** (International Maritime Organization) are in place.

**What does "perishable biological substance" mean**

(Freeze-) dried biological substances are not considered "perishable" in the sense of quick postal transportation. With regard to safety aspects, (freeze-) dried non-infectious biological materials should be packed in the same way as "perishable" non-infectious substances in order to provide adequate mechanical protection during transport. The only difference: material for absorbing liquids is not required between primary and secondary receptacles.

The following countries lists are based on the information taken from the 2004 UPU Convention. There are several countries (missing from the lists) whose postal administrations did not reply to the

questionnaire annexed to circular letter 0417 (DOT.PC)1313 of August 2005. **The following information is with regard to international mail exchange only, not for domestic mail services:**

**List of UPU member countries whose postal administrations admit dispatch and receipt of perishable biological substances and infectious materials in mail:**

Armenia  
Austria  
Botswana  
Costa Rica  
Croatia  
Czech Rep  
France (excluding infectious materials in risk category 4, class 6.2 (IATA))  
-Gibraltar  
Greece  
Hungary (Rep)  
Ireland  
Japan  
Kenya  
Luxembourg  
Netherlands (Position 11. on bilateral agreement only)  
Nigeria  
Norway  
Portugal  
Russian Federation  
Singapore  
Slovakia  
Slovenia  
South Africa  
Sweden  
Thailand  
Turkey  
United States of America  
Zambia

**List of UPU member countries whose postal administrations admit dispatch and receipt of perishable biological substances in mail:**

Australia  
Barbados  
-Hongkong, China (perishable non-infectious biological substances may be sent in registered air letter packets by and to officially recognised laboratories and subject to special packing conditions and special labels)  
-Macao, China  
Colombia  
Denmark  
-Faroe Islands  
-Greenland  
Great Britain  
Israel  
Italy  
Malawi  
Malaysia  
Oman  
Switzerland  
Tanzania (United Rep)  
Trinidad and Tobago

**List of UPU member countries whose postal administrations do not admit dispatch or receipt of biological substances in mail:**

Afghanistan

Angola  
Argentina  
Azerbaijan  
Bahamas  
Bangladesh  
Belarus  
Belize  
Bolivia  
Bosnia & Herzegovina  
Brunei Darussalam  
Bulgaria (Rep)  
Burkina Faso  
Burundi  
Canada  
Cape Verde  
Central African Rep  
Chile  
China (People's Rep)  
Cote d'Ivoire (Rep)  
Cyprus  
Ecuador  
Egypt  
El Salvador  
Estonia  
Fiji  
Finland  
-New Caledonia  
Georgia  
Germany  
Ghana  
-Cayman Islands  
Guinea  
Jordan  
Kazakhstan  
Kuwait  
Lithuania  
Madagascar  
Maldives  
Malta  
Mauritius  
Moldova  
Mozambique  
Myanmar  
-Aruba  
-Netherlands Antilles  
New Zealand  
Pakistan  
Paraguay  
Peru  
Philippines  
Poland  
Qatar  
Romania  
Rwanda  
St Christopher (St Kitts) and Nevis  
Seychelles  
Sierra Leone  
Spain

Sudan  
Swaziland  
Syrian Arab Rep

Tajikistan  
The former Yugoslav Rep of Macedonia  
Turkmenistan  
Uganda  
Ukraine  
Uruguay  
Uzbekistan  
Vatican  
Venezuela  
Viet Nam  
Yemen  
Zimbabwe

**Countries whose postal administrations have placed special requirements other than in the above lists on dispatch or receipt of biological substances:**

Iran (Islamic Rep)  
Iraq  
Saudi Arabia  
Togo

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