

The logo features the text "24x7x365" in a stylized, metallic, 3D font. The background is a red and orange gradient with a faint world map and abstract circular patterns.

Clinical Sample Transportation

What the regulations say *this*
year!

Which regulation is which?

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- UN Committee of Experts on Dangerous Goods (Orange Book)
- ICAO - Technical Instructions Air (IATA DGR)
- ADR - Road
- RID - Rail
- IMDG - Sea
- ADN Inland Waterways

UK only

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- DfT have chosen to allow classification for road transport within the UK to be made in accordance with the 2007 ADR / RID regulations.
i.e. the same as IATA / ICAO

Clinical sample shipments

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- UN 2814 Infectious Substances affecting humans
- UN 2900 Infectious Substance affecting animals
- UN 3373 Diagnostic Specimens, Category B Biological Substance, Clinical Specimens
- UN 1845 Dry ice / Carbon Dioxide, solid

Previous Classification

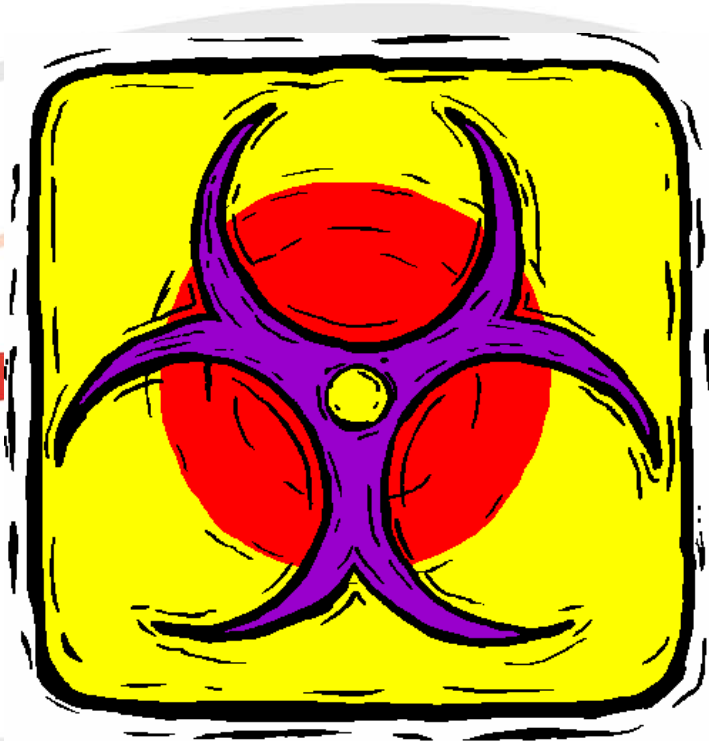
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- Based on WHO Risk Groups
- Not really applicable for transport
- Risk assessment done by the WHO for all infectious agents



NEW Classification

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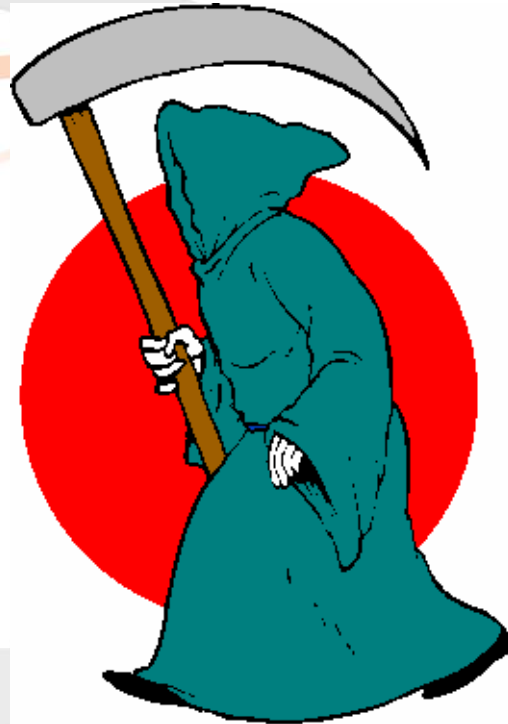
Category A infectious substances

- UN 2814
- UN 2900
- Packing instruction 602 or 620
- An infectious substance which is carried in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease to humans or animals.

UN 2814 Infectious Substance
affecting Humans

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UN 2900 Infectious Substance
affecting Animals



Or materials not on the table which have the same criteria

UN2814 Infectious Substance Affecting Humans

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Bacillus anthracis (cultures only)
Brucella abortus (cultures only)
Brucella melitensis (cultures only)
Brucella suis (cultures only)
Burkholderia mallei - Pseudomonas mallei - Glanders (cultures only)
Burkholderia pseudomallei - Pseudomonas pseudomallei (cultures only)
Chlamydia psittaci - avian strains (cultures only)
Clostridium botulinum (cultures only)
Coccidioides immitis (cultures only)
Coxiella burnetii (cultures only)
Crimean-Congo hemorrhagic fever virus
Dengue virus (cultures only)
Eastern equine encephalitis virus (cultures only)
Escherichia coli, verotoxigenic (cultures only)
Ebola virus
Flexal virus

UN2814 Infectious Substance Affecting Humans

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Francisella tularensis (cultures only)
Guanarito virus
Hantaan virus
Hantaviruses causing haemorrhagic fever with renal syndrome
Hendra virus
Hepatitis B virus (cultures only)
Herpes B virus (cultures only)
Human immunodeficiency virus (cultures only)
Highly pathogenic avian influenza virus (cultures only)
Japanese Encephalitis virus (cultures only)
Junin virus
Kyasanur Forest disease virus
Lassa virus
Machupo virus
Marburg virus
Monkeypox virus
Mycobacterium tuberculosis (cultures only)
Nipah virus

UN 2814 Infectious Substance affecting humans

The header features a red and orange gradient background with a stylized globe and the text 'UN 2814 Infectious Substance affecting humans' in large, bold, red letters. A metallic, 3D-style 'UN 2814' logo is positioned in the upper right corner.

Omsk hemorrhagic fever virus

Poliovirus (cultures only)

Rabies virus

Rickettsia prowazekii (cultures only)

Rickettsia rickettsii (cultures only)

Rift Valley fever virus

Russian spring-summer encephalitis virus (cultures only)

Sabia virus

Shigella dysenteriae type 1 (cultures only)

Tick-borne encephalitis virus (cultures only)

Variola virus

Venezuelan equine encephalitis virus

West Nile virus (cultures only)

Yellow fever virus (cultures only)

Yersinia pestis (cultures only)

UN 2900 Infectious substance affecting animals

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African swine fever virus (cultures only)

Avian paramyxovirus Type 1 - velogenic Newcastle disease virus (cultures only)

Foot and mouth disease virus (cultures only)

Lumpy skin disease virus (cultures only)

Mycoplasma mycoides - Contagious bovine pleuropneumonia (cultures only)

Peste des petits ruminants virus (cultures only)

Rinderpest virus (cultures only) Sheep-pox virus

Sheeppox virus (cultures only)

Swine vesicular disease virus (cultures only)

Vesicular stomatitis virus (cultures only)

UN 3373 Diagnostic Specimens

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- **Category B** - an infectious substance which does not meet the criteria for inclusion in Category A.
- Clinical Specimens / Diagnostic Specimens / Category B Biological Substance
- Packing instruction 650



Permissable Quantities



UN Number	Class	Packing Inst Road/Air	Road Quantity Limit	Passenger Aircraft Limit	Cargo Aircraft Limit	Special Provisions
UN 2814	6.2	620/602	No Limit	50 mL / g	4L / Kg	A81, A140
UN 2900	6.2	620/602	No Limit	50 mL / g	4L / Kg	A81, A140
UN 3373	6.2	650	No Limit	4L / Kg 1L per inner	4L / Kg 1L per inner	A 141

Exemptions

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- Material that does not contain pathogens
"650 light" \approx 'Category C' routine test samples.
- Substances unlikely to cause disease
- Blood/blood components prepared for transfusion of blood products
- Tissue or organs intended for transplant
- Foodstuffs, water, soil, and dust samples
- Biological Material which has been processed to remove all possible pathogens

Exempt Packaging



- (a) The packaging must consist of three components:
 - (i) a leak-proof primary receptacle(s);
 - (ii) a leak-proof secondary packaging; and
 - (iii) an outer packaging of adequate strength for its capacity, mass and intended use, and with at least one surface having minimum dimensions of 100 mm × 100 mm;
- (b) For liquids, absorbent material in sufficient quantity to absorb the entire contents must be placed between the primary receptacle(s) and the secondary packaging so that, during transport, any release or leak of a liquid substance will not reach the outer packaging and will not compromise the integrity of the cushioning material;
- (c) When multiple fragile primary receptacles are placed in a single secondary packaging, they must be either individually wrapped or separated to prevent contact between them..

Examples (1)



- 1. A blood sample known or reasonably suspected to contain EBOLA VIRUS.
Appropriate classification: Infectious substances, affecting humans UN 2814.
- 2. A culture of FOOT AND MOUTH DISEASE.
Appropriate classification: Infectious substances, affecting animals, UN 2900.
- 3. A blood sample taken from a patient known or suspected to have a category B pathogen, such as HEPATITIS B or HIV.
Appropriate classification: Biological substance, category B*, UN 3373.
- 4. Culture of BOVINE TUBERCULOSIS.
Appropriate classification: Biological substance, category B*, UN 3373.
- 5. Laboratory stock culture of a pathogen in category B, e.g. INFLUENZA VIRUS.
Appropriate classification: Biological substance, category B*, UN 3373.

Examples (2)



- 6. Specimen containing a category A or B infectious substance, treated so as to inactivate or neutralise the pathogens such that they no longer pose a health risk.

Appropriate classification: Not subject to the transport requirements for dangerous goods, unless meeting the criteria for another class or division.

- 7. Patient specimens other than those known or reasonably suspected to contain a category A infectious substance e.g. those sent for testing for Cholesterol (blood), diabetes (urine), bowel cancer (faecal).

Appropriate classification: this will depend on professional judgment, i.e.:

- (i) If a professional judgment is made that there is only a minimal likelihood that pathogens are present, the specimen is not subject to the provisions of the DGR, provided they are packed in accordance with the provisions detailed under "Packaging for Exempt Patient Specimens" in this Guidance Document;
- (ii) If no professional judgment is made, the specimen must be classified as UN3373.

** The shipping names 'Diagnostic Specimens' or 'Clinical Specimens' may be used until December 31, 2006.*

Biological Products



- Derived from living organisms
- Manufactured/distributed in accordance with national governmental authorities and are used for:
 - Prevention/Treatment or Diagnosis
 - Experimental/Investigational use
- The transport of such materials is no longer regulated by IATA (effective January 1, 1999)

Clinical Waste

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- Derived from medical treatment of humans or animals or from bio-research
- Low probability of infectious substance present or decontaminated waste
- UN 3291 Packing Instruction 622

Dry Ice

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- UN1845 - Dry Ice or Carbon dioxide, solid
- Dangerous Good
- Packing instruction 904
- Never put dry ice in a sealed container!
- Shippers declaration only if shipping as a refrigerant for a dangerous good that requires the declaration

Other Class 9

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- **UN3335/UN3334** - any material which has narcotic, noxious, irritating, or other properties such that in the event of spillage or leakage on an aircraft, could cause extreme annoyance or discomfort to crew members. Material must not meet the definition of any of the other 8 classes

Genetically Modified Micro-organisms and organisms

- Micro-organisms & organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally



GMMOs Continued



- If definition of infectious substances is met they must be sent as such under division 6.2
- Those that do not meet the definition of infectious substances but which are capable of altering animals, plants or micro-biological substances in a way that is not normally the result of natural reproduction must be classified in class 9 and assigned to UN3245

Operator Variations

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- Filed by LH AF KL SQ etc.

Most prevent UN3373 being sent, check prior to shipping.



Summary



- Check appropriate regulation for mode of transport especially if going into mainland Europe.
- Check operation variations if sending by air.