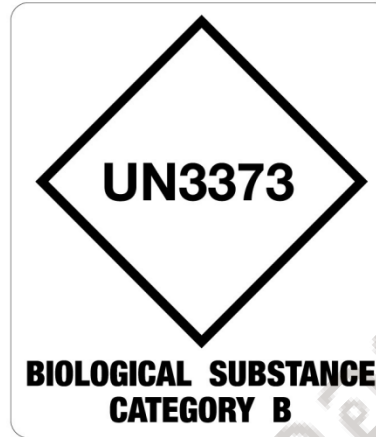




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Marking and Labeling



สุภาพร สุภารักษ์

สถาบันวิจัยวิทยาศาสตร์สาธารณสุข

กรมวิทยาศาสตร์การแพทย์





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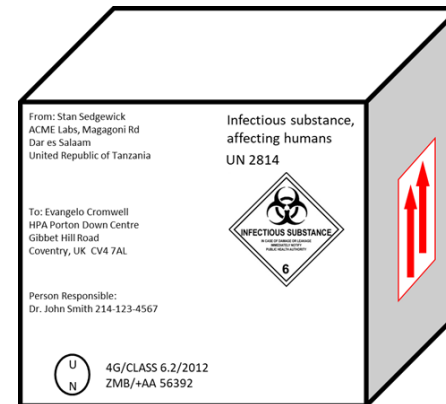
Marking and Labeling

OBJECTIVES

- Properly mark and label when shipping dangerous goods
- Developing/following local guidelines

Responsibilities:

The shipper is responsible for all necessary marking and labeling of each package of dangerous goods in compliance with the Regulations.





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Classification Dangerous goods

The 9 UN Hazard Classes



Infectious substances (class 6.2)

Category A

UN 2814 Infectious substance, affecting humans; or UN 2900 Infectious substance, affecting animals (as appropriate)

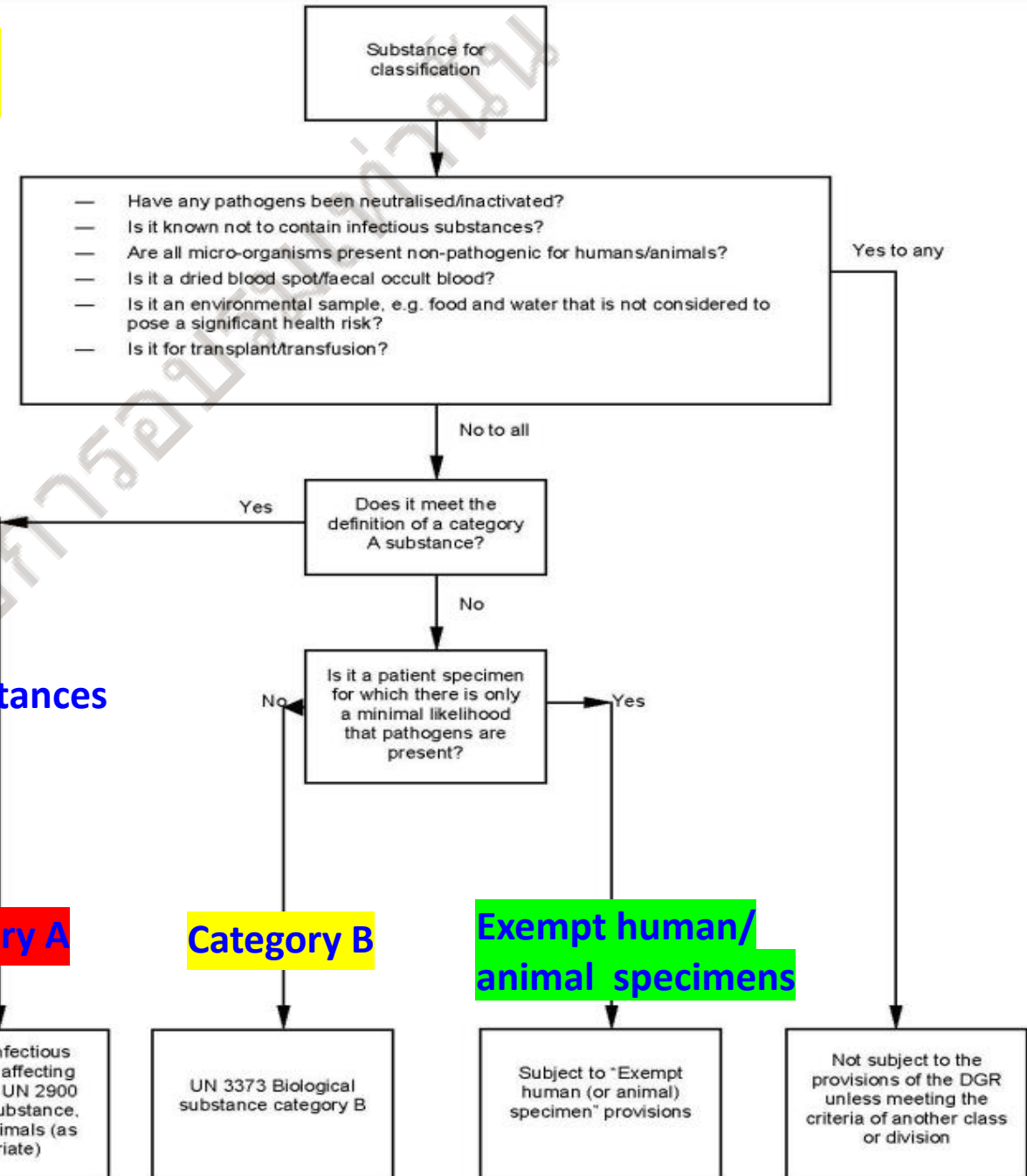
Category B

UN 3373 Biological substance category B

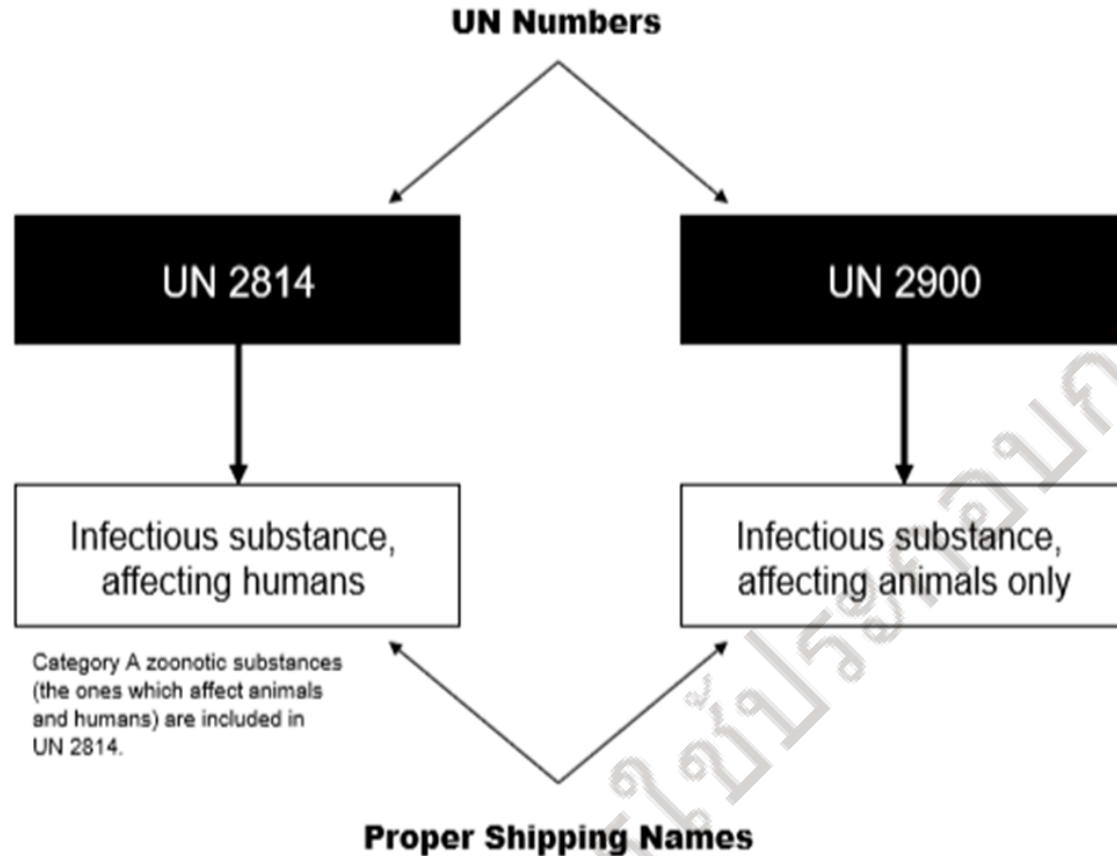
Exempt human/ animal specimens

Subject to "Exempt human (or animal) specimen" provisions

Not subject to the provisions of the DGR unless meeting the criteria of another class or division



Category A Definition



An infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals.





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Examples: Category A – infectious substances

TABLE 3.3.A
Indicative Examples of Infectious Substances Included in Category A in Any Form
Unless Otherwise Indicated (3.3.2)

UN Number and Proper Shipping Name	Micro-organism
UN 2814 Infectious substances affecting humans	<i>Bacillus anthracis</i> (cultures only)
	<i>Brucella abortus</i> (cultures only)
	<i>Brucella melitensis</i> (cultures only)
	<i>Brucella suis</i> (cultures only)
	<i>Burkholderia mallei</i> – <i>Pseudomonas mallei</i> –Glanders (cultures only)
	<i>Burkholderia pseudomallei</i> – <i>Pseudomonas pseudomallei</i> (cultures only)
	<i>Chlamydia psittaci</i> –avian strains (cultures only)
	<i>Clostridium botulinum</i> (cultures only)
	<i>Coccidioides immitis</i> (cultures only)
	<i>Coxiella burnetii</i> (cultures only)
	Crimean-Congo hemorrhagic fever virus
	Dengue virus (cultures only)
	Eastern equine encephalitis virus (cultures only)
	<i>Escherichia coli</i> , verotoxigenic (cultures only)
	Ebola virus
	Flexal virus
	<i>Francisella tularensis</i> (cultures only)
	Guanarito virus
	Hantaan virus
	Hantavirus causing hemorrhagic 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
	<i>Mycobacterium tuberculosis</i> (cultures only)
	Nipah virus
	Omsk hemorrhagic fever virus
	Poliovirus (cultures only)
	Rabies virus (cultures only)



Infectious Substances Shipping Guidelines

TABLE 3.3.A
Indicative Examples of Infectious Substances Included in Category A in Any Form
Unless Otherwise Indicated (3.3.2) (Cont'd)

UN Number and Proper Shipping Name	Micro-organism
UN 2900 Infectious substances affecting animals	<i>Rickettsia prowazekii</i> (cultures only)
	<i>Rickettsia rickettsii</i> (cultures only)
	Rift Valley fever virus (cultures only)
	Russian spring-summer encephalitis virus (cultures only)
	Sabia virus
	<i>Shigella dysenteriae</i> type 1 (cultures only)
	Tick-borne encephalitis virus (cultures only)
	Variola virus
	Venezuelan equine encephalitis virus (cultures only)
	West Nile virus (cultures only)
	Yellow fever virus (cultures only)
	<i>Yersinia pestis</i> (cultures only)
	African swine fever virus (cultures only)
	Avian paramyxovirus Type 1–Velogenic Newcastle disease virus (cultures only)
	Classical swine fever virus (cultures only)
	Foot and mouth disease virus (cultures only)
	Lumpy skin disease virus (cultures only)
	<i>Mycoplasma mycoides</i> –Contagious bovine pleuropneumonia (cultures only)
	Peste des petits ruminants virus (cultures only)
	Rinderpest virus (cultures only)
	Sheep-pox virus (cultures only)
	Goatpox virus (cultures only)
	Swine vesicular disease virus (cultures only)
	Vesicular stomatitis virus (cultures only)



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UN Numbers & Proper Shipping Names

- The United Nations publishes a list of internationally standardized PSN with corresponding four digit “UN” identification numbers

Infectious substances (class 6.2)

Category A

UN 2814

Infectious substance,
affecting humans

UN 2900

Infectious substance,
affecting animals only

Category B

UN 3373

Biological substance,
Category B

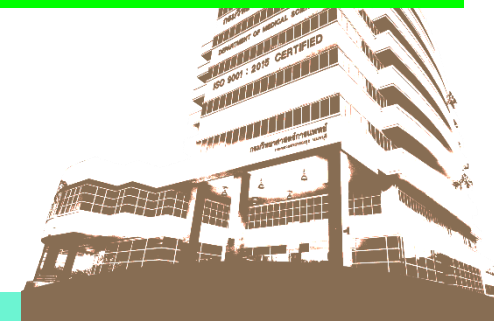
Exempt specimen

NO UN Number

**Exempt human specimen/
Exempt animal specimen**

Proper Shipping Name (PSN)

Every dangerous good must be assigned and have only one PSN





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Exercise Categorization and Identification

Situation/ Microorganism	Categorization	Proper shipping name	UN number
Human, Nasopharyngeal swab for covid-19 testing			
Human serum specimen for covid-19 testing			
Culture of SARS -CoV-2			



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Exercise Categorization and Identification

Situation/ Microorganism	Categorization	Proper shipping name	UN number
Human, Nasopharyngeal swab for covid-19 testing	Category B	Biological substance, Category B	UN 3373
Human serum specimen for covid-19 testing	Category B	Biological substance, Category B	UN 3373
Culture of SARS -CoV-2	Category A	Infectious substance, affecting humans	UN 2814



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Exercise Categorization and Identification

Situation/ Microorganism	Categorization	Proper shipping name	UN number
Ebola virus			
Sheep-pox virus (cultures)			
Human blood for drug testing, minimal likelihood of pathogen			



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Exercise Categorization and Identification

Situation/ Microorganism	Categorization	Proper shipping name	UN number
Ebola virus	Category A	Infectious substance, affecting humans	UN 2814
Sheep-pox virus (cultures)	Category A	Infectious substances , affecting animals only	UN 2910
Human blood for drug testing, minimal likelihood of pathogen	Exempt	Exempt human specimen

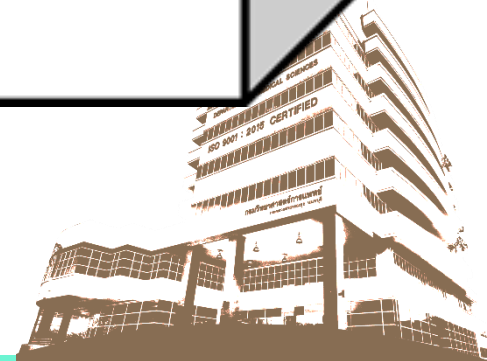
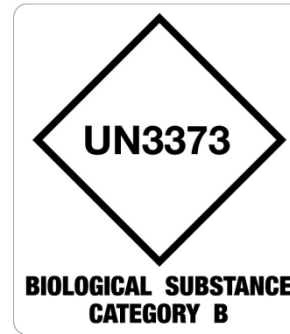
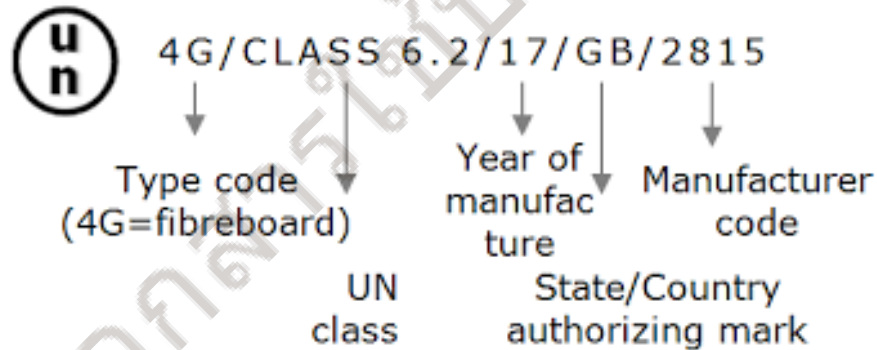


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Marking

- ✓ Proper shipping name
- ✓ UN Number
- ✓ Shipper address
- ✓ consignee address
- ✓ Responsible person, name and phone
- ✓ Package specification marking

Standardized UN certification



Labeling

Hazard Label

- required for **most dangerous goods**
- Diamond shape **9 class Hazard Label**

Handling Label

- required for some dangerous goods
- Various shapes



Explosives



Gases



Flammable Liquids



Flammable Solids



Oxidizers and Organic Peroxides



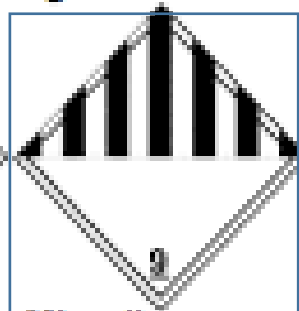
Poison and Infectious Substances



Radioactive

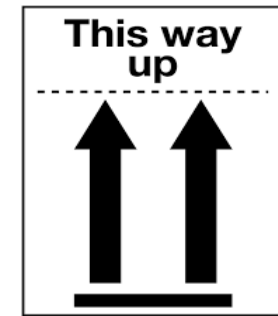


Corrosive



Miscellaneous

UN 1845, dry ice





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Marking & Labeling

- Addresses of shipper and consignee
- Name and Phone number of person responsible
- Applicable Hazard label for each dangerous good
- Proper shipping name
- UN Number
- Quantity of Dry Ice

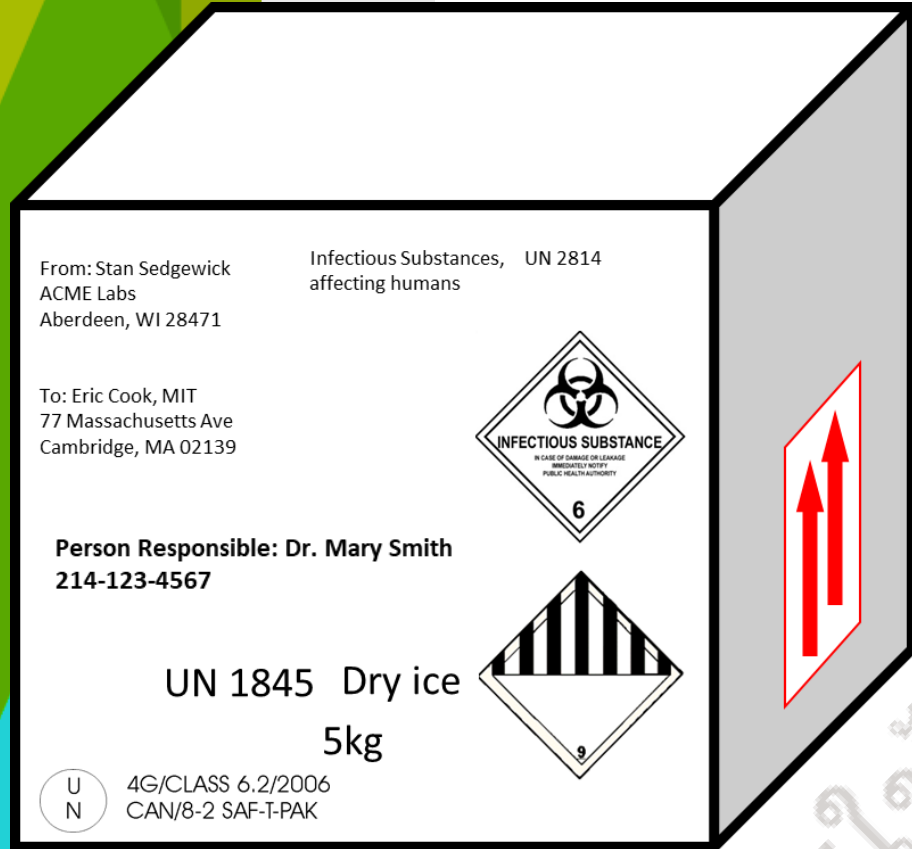


Ref: Eric Cook slide



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Marking & Labeling for Category A shipment



UN Number: UN 2814

Proper shipping name : Infectious substances, affecting humans

Infectious substance
Hazard label
required



Class 6.2 Infectious Substance

Require Package specification marking
Standardized UN certification





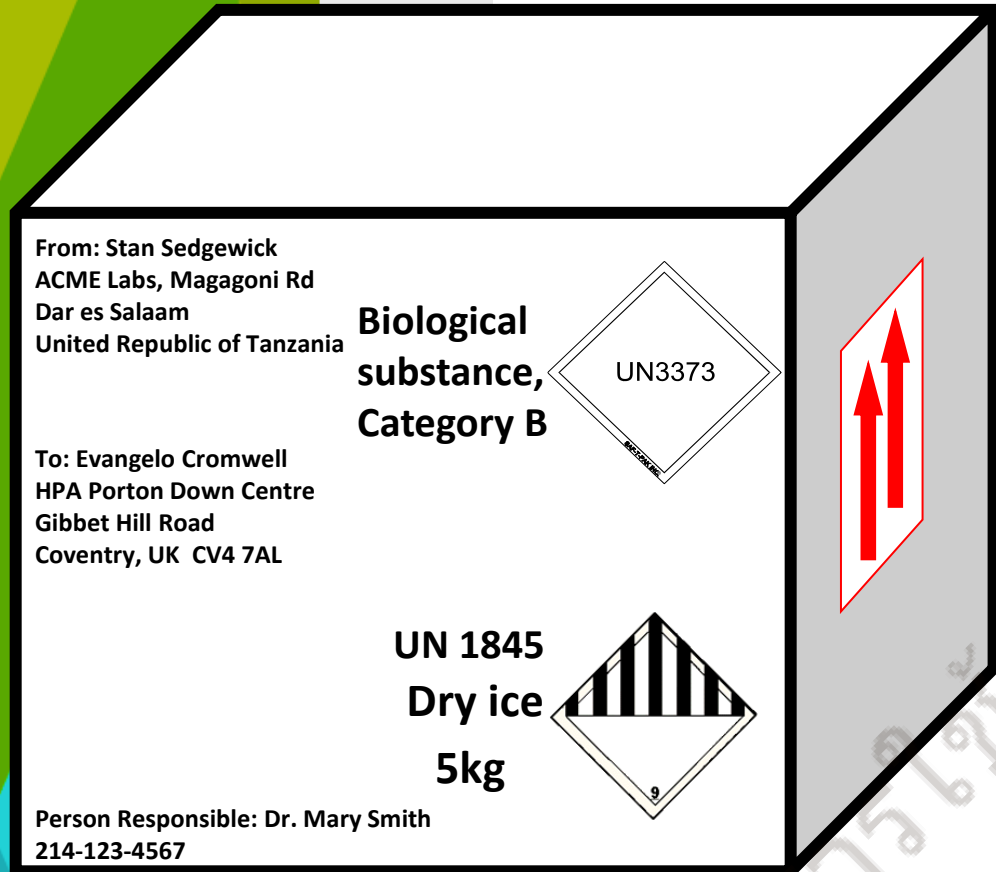
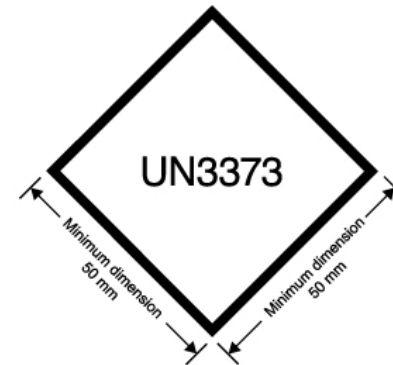
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Marking & Labeling for Category B shipment

UN Number : UN 3373

Proper shipping name : Biological substance, category B

a 50 mm sided diamond-on-point



Covid-19 human serum samples
are Biological Substances, Category B

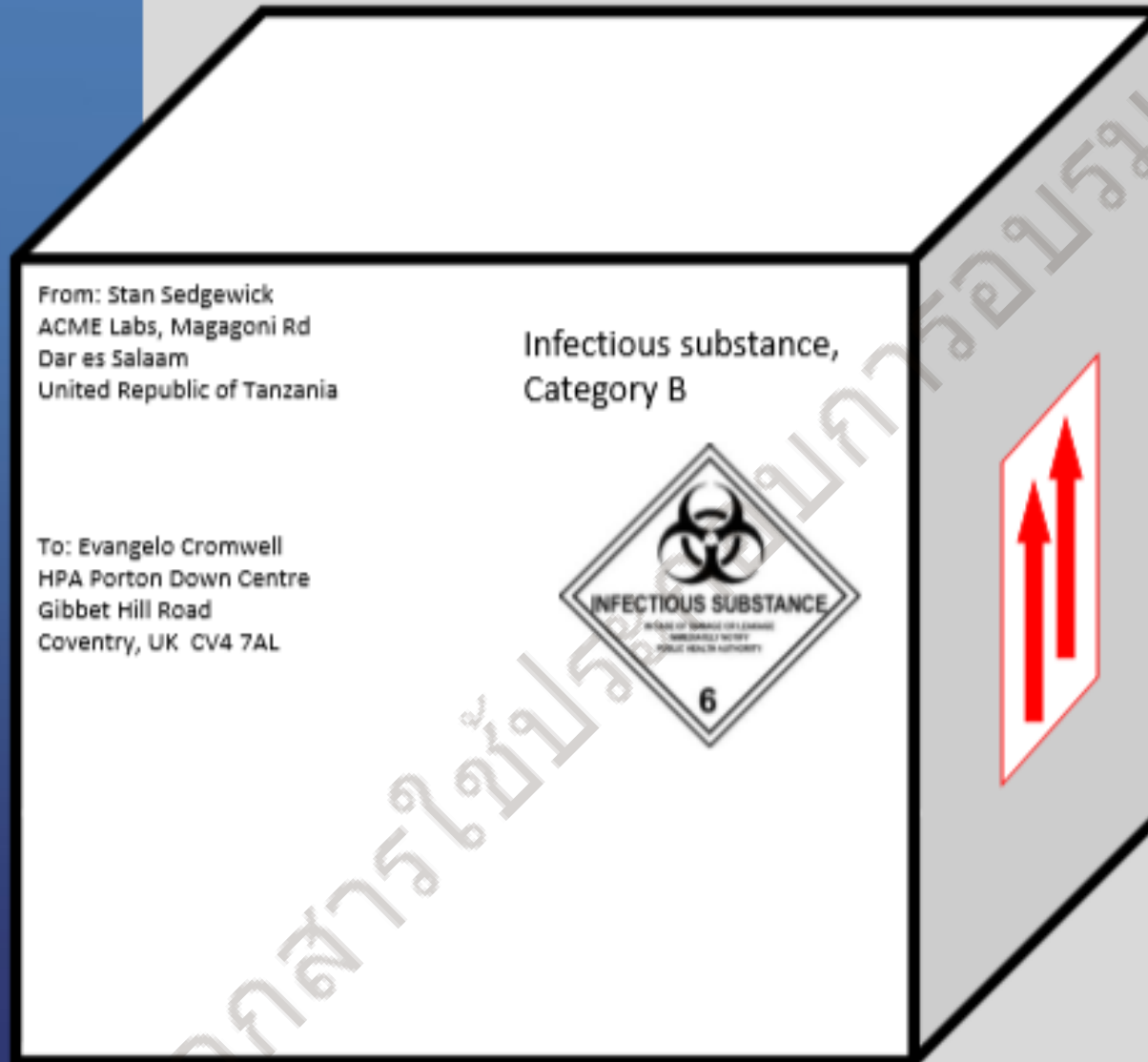




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Comprehension Check

How many marks, markings, or labels are missing from this Covid19 package?



- A. I don't see anything missing. This looks good to go
- B. There is one thing missing or incorrect
- C. There are two things missing
- D. There are three or more things missing or incorrect

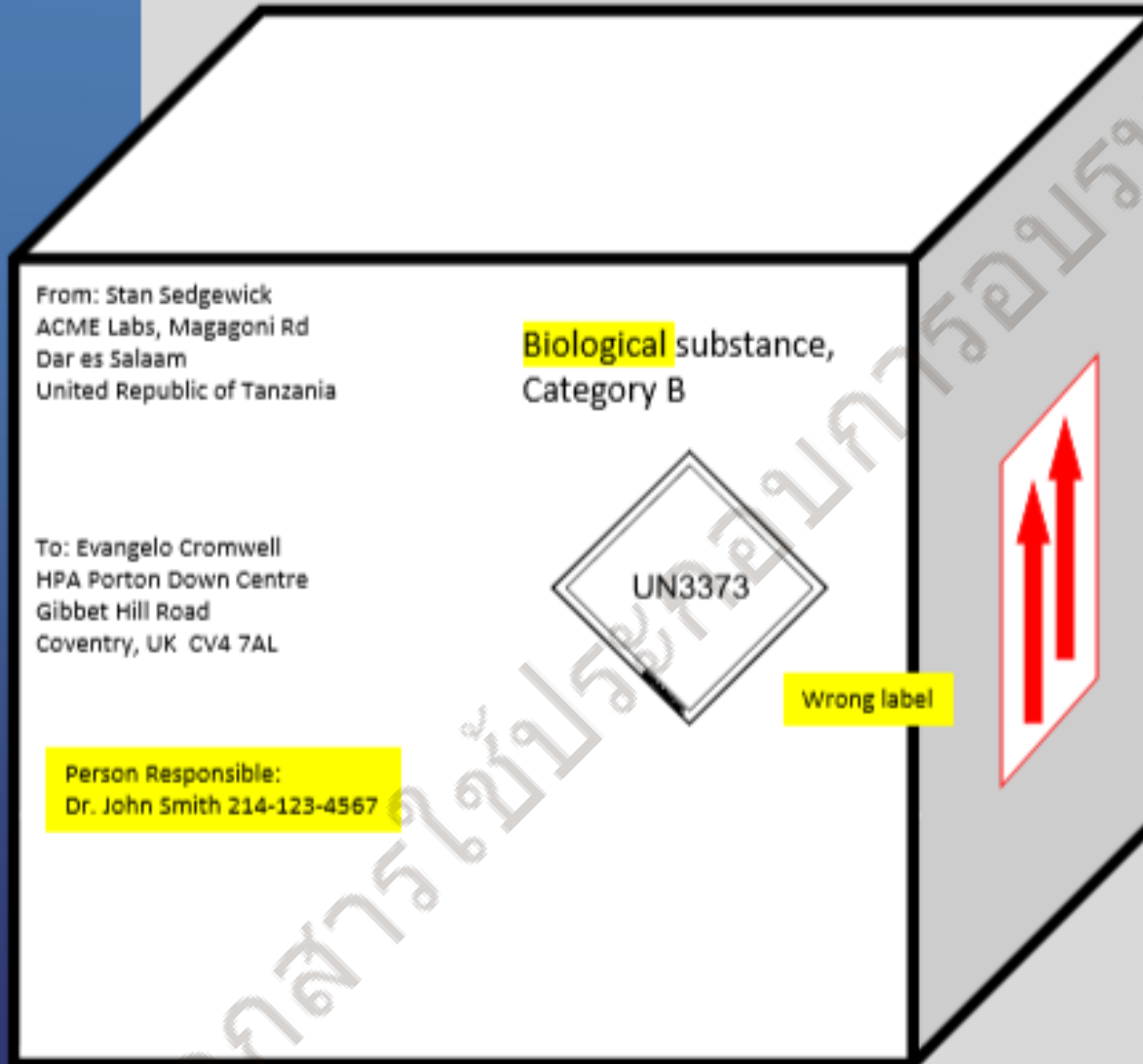
Ref: Eric Cook slide



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Comprehension Check

How many marks, markings, or labels are missing from this Covid19 package?



- A. I don't see anything missing. This looks good to go
- B. There is one thing missing or incorrect
- C. There are two things missing
- D. There are three or more things missing or incorrect





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Marking and Labeling Exempt Specimen on Dry ice



No UN number

Proper Shipping Name

**Exempt human specimen or
Exempt animal specimen**

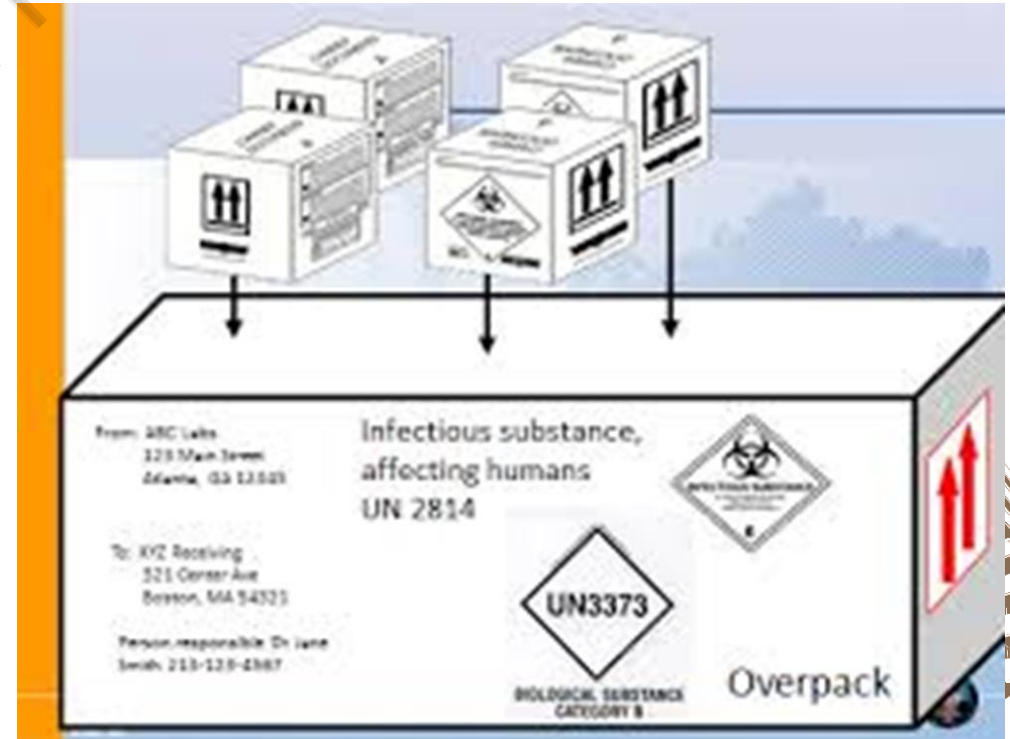
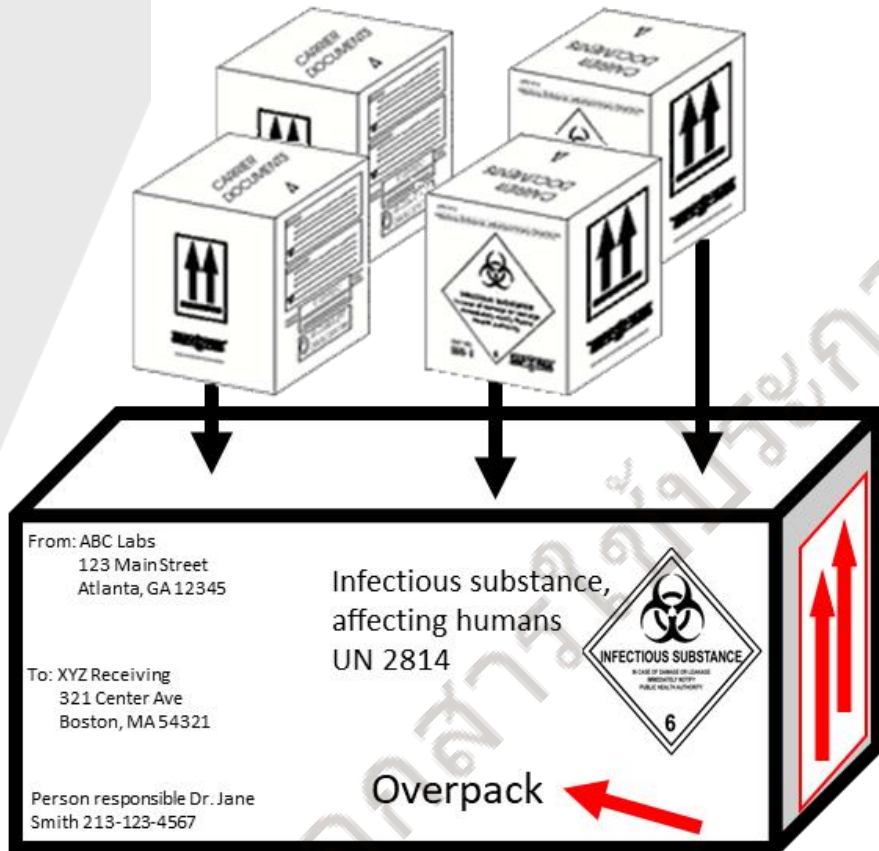




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Overpacks

Each package placed into an overpack must be individually marked, labeled and addressed as if it were being shipped independently. Once packages are placed in the overpack, the marks, labels and other information has to be reproduced on the overpack.



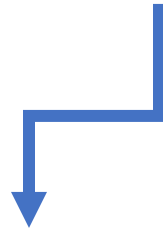
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การขนส่งตัวอย่างติดเชื้อทางรก



การขนส่งตัวอย่างติดเชื้อทางรก

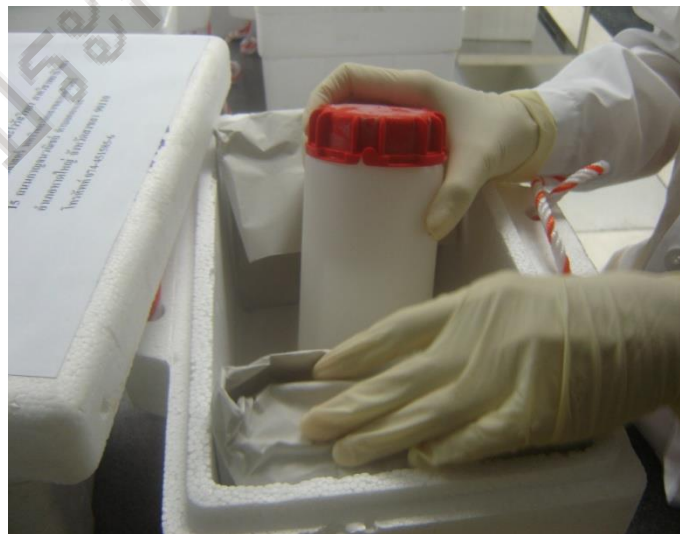


การขนส่งทางรถ





การขนส่งทางรถ
อุณหภูมิเย็น





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Marking and Labeling Questions

