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Module VI
Shipping Infectious Substances
with Dry Ice

August 2011



Overview

- ☒ Proper Packaging
- ☒ Markings and Labels
- ☒ Required Documentation
- ☒ Exercise: Packaging with dry ice



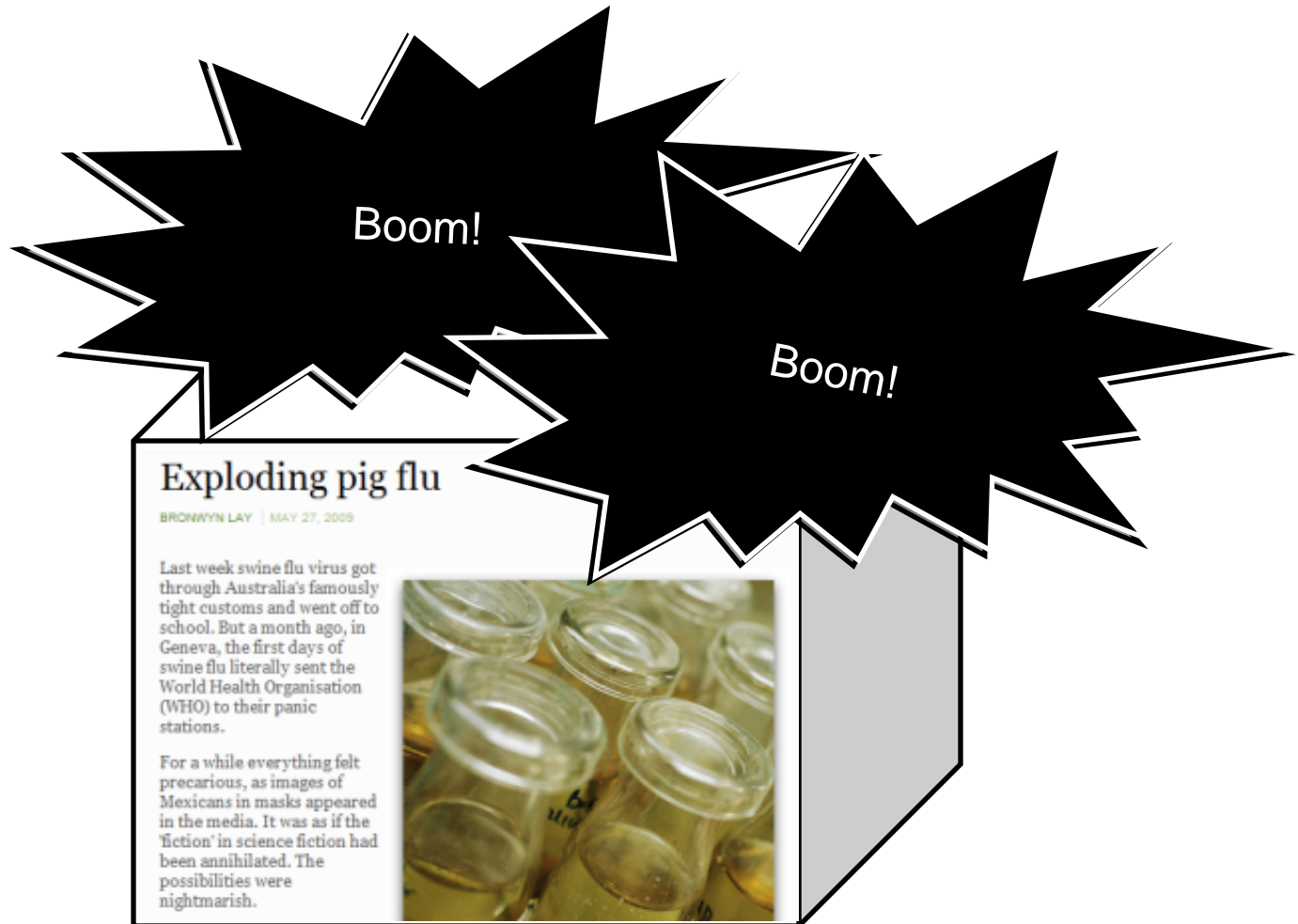
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What happens when someone packs
dry ice in a sealed container?



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Not a Good Idea!



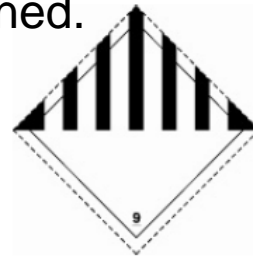


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Important issues when shipping with dry ice

Shipping with Dry Ice

- ☠ Samples which need to be kept frozen at $-70\text{ }^{\circ}\text{C}$ can be shipped using dry ice.
- ☠ Dry ice is a dangerous good.
- ☠ Shippers using dry ice (Carbon dioxide, solid) must be trained.
- ☠ When shipping with dry ice, the miscellaneous dangerous goods label is required.
- ☠ Shippers must properly mark and label the outside of packages containing dry ice.
- ☠ Appropriate documentation should discuss the presence of dry ice (for Category A this information will be included in the Dangerous Goods Declaration. For Category B and Exempt packages this information should be provided on the Air Waybill).



Shipping with Dry Ice (continued)

- ⚠ The very low temperature (-79 °C) of dry ice can cause severe burns to skin upon direct contact.
- ⚠ Packages containing dry ice must be designed and constructed so as to prevent the build up of pressure and allow the release of gas which could rupture the packaging.
- ⚠ Substances shipped with dry ice are packaged in primary receptacles and secondary packagings capable of maintaining their integrity at such low temperatures
- ⚠ Samples being shipped with dry ice will need to be packaged in a manner which keeps the secondary packaging in its original position after the ice has dissipated.



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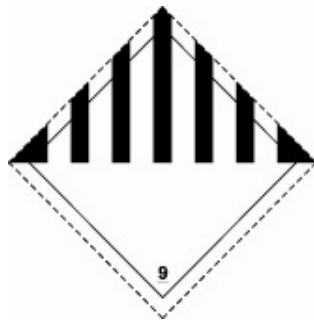
What markings and labels are needed
when shipping with dry ice?



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Marking and Labelling Frozen Shipments Containing Carbon Dioxide, Solid (dry ice)

Packages containing dry ice must be properly marked and labelled for all who may come in contact with the package during the shipping process.



Dry ice (Carbon dioxide, solid) label

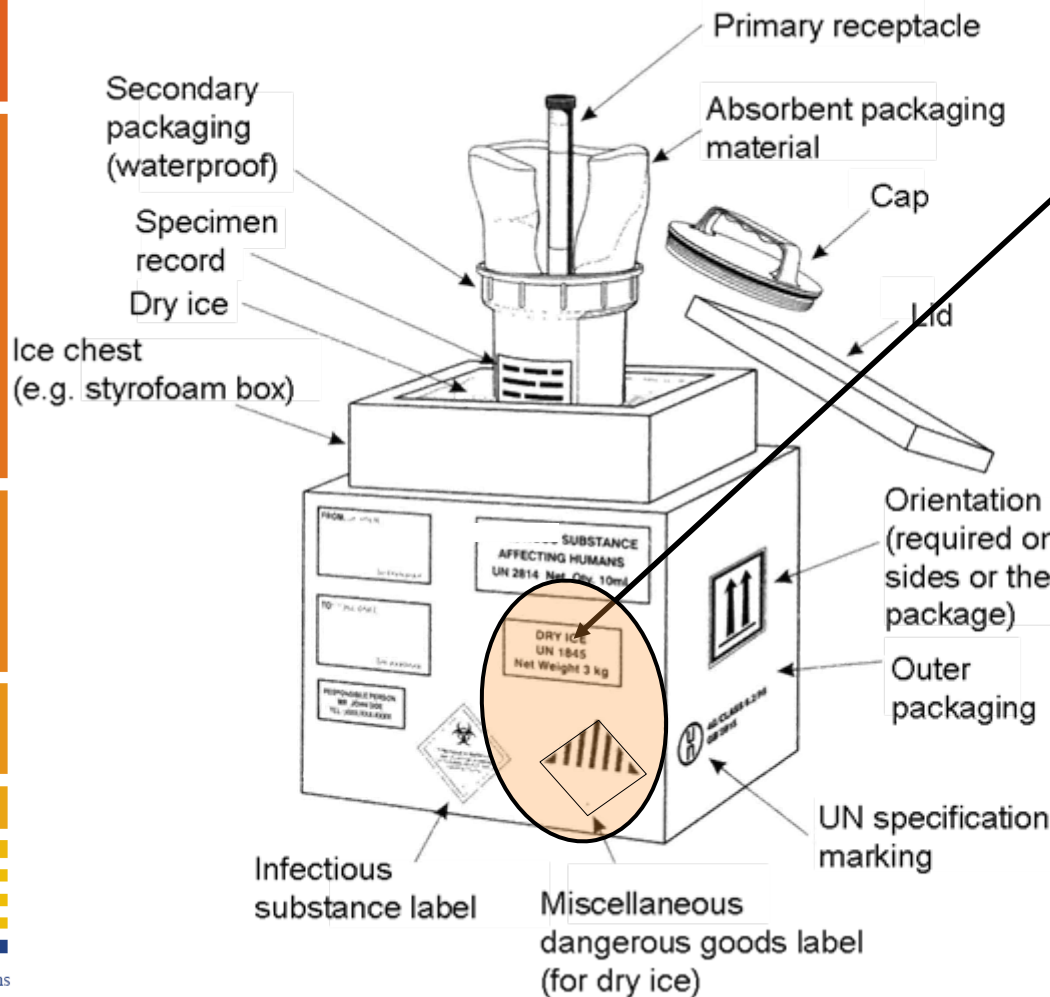
This label should be placed on the outside of any package containing dry ice.

UN1845 dry ice
Net quantity ____ kg

Dry ice (Carbon dioxide, solid) marking

The net weight of the dry ice must be marked on the outside of any package containing dry ice.

Markings and Labels for Dry Ice



When dry ice is used to refrigerate Category A, Category B, or exempt human/animal specimens, these markings and labels must be applied.





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What documentation is needed when
shipping with dry ice?

Air Waybill or DGD?

- ⚠ For Category A shipments, the presence of dry ice is listed on the DGD. No additional information is needed on the Air Waybill
- ⚠ For Category B or exempt shipments, the presence of dry ice must be mentioned on the Air Waybill



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Air Waybill (Exempt)

When shipping exempt specimens the Dangerous Goods Declaration is not required. Shippers must provide the following information in the "Nature and Quantity of Goods" box:

1. Exempt specimens
2. Proper shipping name (dry ice)
3. Class
4. UN number
5. Weight

LETTRE DE TRANSPORT AÉRIEN Non négociable Entree par Not negotiable AIR WAYBILL Issued by Les exemplaires 1, 2 et 3 de cette lettre de transport aérien sont originaux et ont la même validité Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity.			
Il est convenu que les marchandises décrites dans le présent document sont acceptées pour le transport en leur état apparent (sauf annotation contraire) et que le transport est soumis aux conditions du contrat qui énumère les marchandises qui peuvent être transportées par tout autre moyen, y compris par route ou par tout autre transporteur à moins que des instructions contraires précises, à ce sujet, ne soient données par l'expéditeur. Et l'expéditeur accepte que les marchandises soient ACHIMINÉES VIA DES POINTS D'ARRÊT INTERMÉDIAIRES, QUE LE TRANSPORT AURA LIEU APPROPRÉMENT. L'ATTENTION DE L'EXPÉDITEUR EST ATTIRÉE SUR L'AVIS CONCERNANT LA LIMITATION DE RESPONSABILITÉ DU TRANSPORTEUR. L'expéditeur peut augmenter cette limitation de responsabilité en déclarant une valeur pour le transport plus élevée et en payant des frais supplémentaires s'il y a lieu. It is agreed that the goods described herein are accepted in apparent good order and condition for carriage SUBJECT TO THE CONDITIONS OF CONTRACT OR THE REVERSE THEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND SHIPPER ACCEPTS THAT THE SHIPMENT MAY BE CARRIED VIA IMMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.			
Renseignements comptables Accounting Information			
N° de Référence Reference Number		Informations supplémentaires (facultative) Additional Shipping Information	
par by	Monnaie Currency	Valeur déclarée pour le transport Declared Value for Carriage	Valeur déclarée pour la douane Declared Value for Customs
Montant de l'assurance Amount of Insurance		ADDITIONNELLE: Si le transporteur propose une assurance et que l'expéditeur en fait la demande conformément aux présentes conditions, indiquer le montant à assurer en chiffres dans la case "Montant de l'assurance" INSURANCE: If Carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Montant (Charge)		SC1	
Total (Total)		Nature et quantité des marchandises (y compris dimensions ou volumes) Nature and Quantity of Goods (including dimensions or volumes)	
Part payé Prepaid		Part de Collect	
Taxation au poids Weight Charge		Autres frais Other Charges	
Taxation à la valeur Valuation Charge			
Taxes Tax			
Total des autres frais dus à l'agent Total Other Charges Due Agent			
Total des autres frais dus au transporteur Total Other Charges Due Carrier			
Total port payé Total Prepaid		Total port de Total Collect	
Taux conversion monnaie Currency Conversion Rates		Port de en monnaie du pays de destination Charges in local currency	
Réservé au transporteur à destination For Carrier's Use only at Destination		Frais à l'arrivée Charges at Destination	
		Total de Total Collect, Charges	
L'expéditeur certifie que les indications portées sur le présent document sont exactes et que, dans la mesure où une partie quelconque de l'expédition contient des marchandises dangereuses, cette partie d'expédition est correctement dénommée et bien préparée pour le transport par air conformément à la réglementation applicable. Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods regulations.			
Signature de l'expéditeur ou de son agent Signature of Shipper or his Agent			
Signature de l'expéditeur, à l'usage de son agent Signature of Issuing Carrier or his Agent			

O.D. 5071
 56 g (1.96 oz)
 En vente à: Boutique
 L.C.I., 10, avenue d'Ile de France, 93183 PARIS CEDEX 16
 Vente par correspondance
 CMI
 CMI Phosvit, 106 avenue Georges Clemenceau, 94306 BOULVARRE



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Samples classified as Category B or Exempt do not require the Shipper's Declaration for Dangerous Goods...

even when dry ice is used for refrigeration!



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What additional information needs to be provided on the Shipper's Declaration for Dangerous Goods when shipping Category A samples with dry ice?

Dangerous Goods Declaration (Category A)



SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper Dr XY Orange Children's hospital 4, Splendid Street 12345 Beautycity Nicecountry Tel 07 89 456 123		Air Waybill No. 543 7864 9876 Page 1 of 1 Pages Shipper's Reference Number (optional)				
Consignee Dr AB Normal Virusculturing Laboratories 6, Many Way 98765 Myplace Yourcountry Tel 03210 987 456						
<i>Two completed and signed copies of this declaration must be handed to the operator.</i>						
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (Delete non-applicable)		WARNING Failure to comply in all aspects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.				
Airport of Departure: Amleaving		Shipment Type (Delete non-applicable) <input type="checkbox"/> NON-RADIOACTIVE <input checked="" type="checkbox"/> RADIOACTIVE				
Airport of Destination: Willgetthere		PASSENGER AND CARGO AIRCRAFT <input checked="" type="checkbox"/> AIRCRAFT ONLY				
NATURE AND QUANTITY OF DANGEROUS GOODS						
Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group	Quantity and Type of Packing	Packing Inst.	Authorization
UN 2814	Infectious substance, affecting humans (Ebola virus)	6.2		50 ml	620	
UN 1845	Dry ice	9		20 kg	954	
				All packed in one fibreboard box		

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				All packed in one fibreboard box		

Additional Handling Information:
Emergency contacts

I hereby declare that the contents are accurately described above, classified, packaged, marked and labeled in accordance with the applicable international and national regulations.

Summary of Requirements for Shipping Samples with Dry Ice

Category A (PI620) UN 2814 - Infectious Substance affecting Humans UN 2900 - Infectious Substance affecting Animals Only	Category B (PI650) UN 3373 - Biological Substance, Category B	Exempt Exempt Human Specimens Exempt Animal Specimens
PI620 + PI954	PI650 + PI954	Minimal triple packaging + PI954
Shipper must be trained (dry ice is a dangerous good)	Shipper must be trained (dry ice is a dangerous good)	Shipper must be trained (dry ice is a dangerous good)
Markings and labels	Markings and labels	Markings and labels
Shipper's Declaration for Dangerous Goods	-----	-----
Air waybill for air transport	Air waybill for air transport (Name and Tel of a responsible person to be placed on box or on air waybill)	Air waybill for air transport
Import/export permit (if required)	Import/export permit (if required)	Import/export permit (if required)
Weight and volume limitations for infectious substances, Category A and for dry ice	Weight and volume limitations for biological substances, Category B and for dry ice	Weight and volume limitations for dry ice





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Exercise VI

Packaging Infectious Substances with Dry Ice

Provided Supplies

- ☣ Gloves
- ☣ 2 Category A samples in primary containers
- ☣ Secondary container
- ☣ Rubber bands
- ☣ Dry ice
- ☣ Absorbent material
- ☣ Inner lining
- ☣ Cushioning material
- ☣ Outer container
- ☣ Disinfectant
- ☣ Itemized list of contents



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SOP for Packaging with Dry Ice

Step	Practice
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	





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Questions and comments