2021-02 – Transportation of the COVID-19 Vaccine

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Summary

As of December 2020, the COVID-19 vaccine is being distributed throughout North America and will take months to complete. Commercial motor vehicle inspectors may encounter vaccine shipments. This bulletin provides information regarding transportation of the vaccine and addresses specific concerns. This guidance applies specifically to the COVID-19 vaccine, which requires extreme cold temperatures for storage and transport. Shipping requirements for other vaccines may vary.

The COVID-19 vaccine is temperature sensitive. Every effort should be made to get the vaccine to its destination. Shipments should not be held up for an inspection, unless there is an obvious serious violation that is an imminent hazard.

Background

The COVID-19 vaccine is kept cold using **dry ice** (carbon dioxide, solid) (UN1845), which poses several potential hazards to inspectors and first responders. Those hazards include:

- An unsafe oxygen-deficient atmosphere as it is a simple asphyxiant and displaces oxygen.
- Severe thermal burns to your skin due to the extremely cold temperatures.
- Buildup of pressure in storage containers if they are not properly vented.

On Nov. 23, 2020, the International Association of Fire Chiefs (IAFC) Hazardous Materials Committee released a white paper on dry ice (carbon dioxide) response. It covers the hazards associated with dry ice and gives first responders additional information to protect themselves, the general public and other emergency personnel.

The COVID-19 vaccine packages may also contain lithium-ion batteries (UN3481). The lithium batteries are used to power data loggers tracking the temperatures inside the vaccine package.

Regulatory Information

It is important for roadside inspectors to remember dry ice is **not** regulated by highway as a hazardous material/dangerous good. It is only regulated by air (A) and water (W). See column 1 in the hazardous materials table (U.S.) and column 5 in the Transportation of Dangerous Goods (TDG) Regulations Schedule 1 referencing Special Provision 18 (CDN) on the following page.

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Hazardous Materials Table – U.S.

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	PG	Label Codes	Special provisions (§172.102)	(8) Packaging (§173.***) Exceptions	(8) Packaging (§173.***) Non-bulk	(8) Packaging (§173.***) Bulk	(9) Quantity limitations (see §§173.27 and 175.75) Passenger aircraft/rail	(9) Quantity limitations (see §§173.27 and 175.75) Cargo aircraft only	(10) Vessel stowage Location	(10) Vessel stowage Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
A W	Carbon dioxide, solid *or* Dry ice	9	UN1845		None		217	217	240	200 kg	200 kg	C	40
	Lithium ion batteries contained in equipment	9	UN3481		9	181, 388, 422, A54	185	185	185	5 kg	35 kg	A	

Dangerous Goods Schedule 1 – Canada

Col.1 UN Number	Col.2 Shipping Name and Description	Col.3 Class	Col.4 Packing Group / Category	Col.5 Special Provisions	Col.6a Explosive Limit and Limited Quantity Index	Col.6b Excepted Quantities	Col.7 ERAP Index	Col.8 Passenger Carrying Vessel Index	Col.9 Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index
UN1845	CARBON DIOXIDE, SOLID; or DRY ICE	9		18	0	E0			200 kg

Special Provision Number	Regulation Description and Applicable UN Numbers
18	**Regulation Description:** These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to UN1845, CARBON DIOXIDE, SOLID, or DRY ICE that is in a means of containment that is transported by a road vehicle or a railway vehicle if the means of containment is designed and constructed to permit the release of carbon dioxide in order to prevent the build-up of pressure that could rupture the means of containment.

The packaging section for lithium-ion batteries contained in equipment are found in Title 49 Code of Federal Regulations (CFR) §173.185 – Lithium cells and batteries. The lithium batteries contained in the COVID-19 vaccine shipments meet the requirements found in 49 CFR §173.185(c) and are exempt from subparts C through H of Part 172 when shipped in accordance with this section. The COVID-19 vaccine packages will be marked with the lithium battery mark described in 49 CFR §173.185(c)(3).

Similarly, in Canada, Special Provision (SP) 34 provides an exemption from the TDG Regulations, except for Part 1 and Part 2. Lithium batteries shipped in compliance with SP 34 will display the appropriate lithium battery mark in accordance with TDG 4.24.

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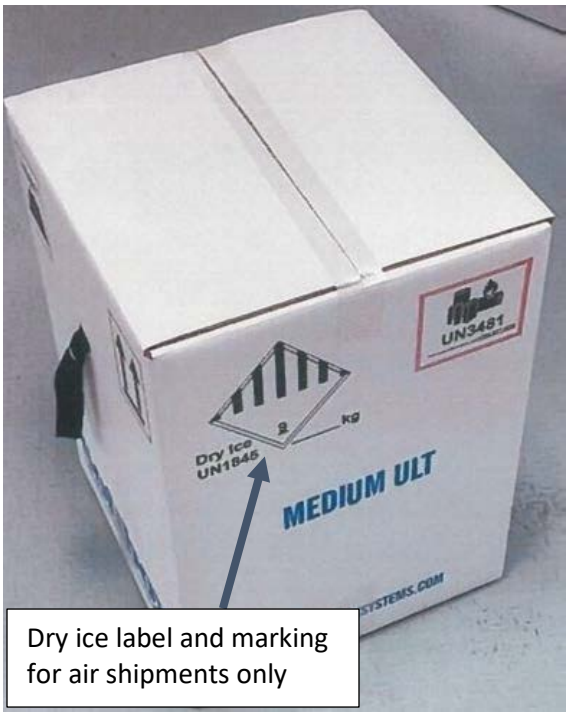

Lithium Battery Mark

No other hazard/danger communications or markings are required, including shipping papers, labels, placards, other markings or emergency response information; just the lithium battery marking.

Due to dry ice not being regulated by highway, none of the hazardous materials/dangerous goods regulations apply. The package may be marked and labeled if the vaccine is/was shipped by air either before or after the highway shipment.

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Emergency Response

If a shipment of the COVID-19 vaccine is involved in a crash or other incident, follow your jurisdiction's emergency response plans and standard operating procedures (SOPs).

- Do not do anything that exceeds the first responder training you have received.
- Request assistance from the fire department, hazardous materials/dangerous goods team or other appropriate response agency.
- Use the IAFC white paper as a guidance document and follow all suggested safety precautions.
- Use your 2020 U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA)/Transport Canada (TC) Emergency Response Guidebook as an emergency response resource. Dry ice directs you to Guide 120 and lithium batteries contained in equipment directs you to Guide 147. Use the most restrictive guide based on the situation.
- Use other emergency response resources you may have available to you. Examples include the Wireless Information System for Emergency Responders (WISER) program and the National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards.

Inspection Guidance

First and foremost, always follow your agency's and/or jurisdiction's policies and standard operating procedures.

COVID-19 vaccines should not be unnecessarily delayed unless the commercial motor vehicle driver and/or vehicle equipment pose an imminent hazard to the public.

Dry ice is not regulated by highway. If lithium batteries are present, the lithium battery marking will be on the package. No other hazard/danger communication is required.

In the case of a crash or other hazmat/dangerous goods incident, follow your local standard operating procedures and use the resources you have available to you.