

Restricted / Prohibited Dangerous Goods



Summary

OSFS Approved Dangerous Goods

Class 1.4S – Ammunition
Class 2.1 – Aerosols (Hairspray, Cologne)
Class 2.1 – Lighter
Class 2.2 – Fire Extinguisher
Class 2.2 – Life Vests with Gas Cartridges
Class 3 – Alcohol
Class 4.1 – Safety Matches
Class 6.1 – Light Bulbs with Mercury
Class 9 – Dry Ice
Class 9 – Lithium Batteries

OSFS NOT Approved Dangerous Goods

All Class 5, 7, 8
All Class 1-9 not specifically named as approved by OSFS
Class 2.1 – Propane Tanks
Class 4.1 – Strike anywhere Matches
Class 1.4S – Lighter Fluid
Class 9 – Lithium Ion Batteries over 100wh, Lithium Metal over 2g

The following UN Numbers are approved by OSFS for transport of Dangerous Goods as carried by passenger or crew baggage:
UN - 0012, 0014, 1057, 1950, 1044, 3065, 1944, 1845, 2809, 3480 and 3481

Did You Know?

Lithium Batteries are Dangerous Goods?

- Lithium batteries are dangerous goods, much like gasoline, propane, and sulphuric acid.
- Lithium batteries are used in many electronic devices such as cameras, cell phones, laptop computers, medical equipment and power tools.



Cause for Concern

While most lithium batteries are safe, some have overheated and caught fire. Once ignited, they can cause any nearby batteries to overheat and catch fire. These fires are difficult to put out and produce toxic and irritating fumes.

Recent reports of incidents involving the failure of lithium batteries include:

- **Computer batteries have heated up and caused fires on cargo and passenger aircraft.**
- **A charging lithium ion battery exploded on a mini-submarine designed to carry U.S. Navy SEALs to shore.**
- **A passenger's camera batteries began smoking at the boarding gate.**
- **Two large battery packs in a checked baggage began smouldering. The bag burst into flames when an airline agent picked it up.**
- **During a flight, crew found a flashlight's counterfeit lithium metal battery overheating and giving off a strong odour. The damaged battery burned the inside of the flashlight.**

Lithium Ion vs Lithium Metal

A **lithium metal battery** is usually non-rechargeable, contains metallic lithium and features a higher energy density than other non-rechargeable batteries. Lithium metal batteries are often used in calculators, pacemakers, remote car locks and watches, to name a few.



A **lithium ion battery** is rechargeable, does not contain metallic lithium and features high energy density. A lithium polymer battery is considered a type of lithium ion battery. Lithium ion batteries are used in consumer products such as cell phones, electric vehicles, laptop computers, power tools and tablets.



Contained In Equipment

vs

Packed With Equipment

- A lithium ion or metal battery **contained in equipment** means that the battery is fitted or joined to the actual device. Examples include a calculator, laptop computer or watch—with an integrated lithium battery.
- A lithium ion or **metal battery packed** with equipment is not fitted or joined to the device. An example would be a power tool packed alongside a spare battery.
- A lithium battery inside equipment is protected from short circuit because it is secured in the actual device and cannot move around during transport. Make sure no switches or power buttons can be accidentally turned on during transport.

Short Circuit Protection

- Preventing lithium batteries from short circuit is very important to keep them from overheating and catching fire. Always keep lithium batteries isolated from metal objects (e.g. jewellery, keys) or other conductive materials by enclosing each one separately and insulating terminals with a non-conductive material (e.g. electrical tape). Pack them so they cannot shift during transport.



OSFS Approved Dangerous Goods

Ammunition

UN Number	Shipping Name
UN0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE, or CARTRIDGES, SMALL ARMS
UN0014	CARTRIDGES FOR WEAPONS, BLANK, or CARTRIDGES, SMALL ARMS, BLANK

- **(d)** the calibre of cartridges with the UN number UN0012 or UN0014 is
 - **(i)** less than 50 calibres, in the case of cartridges for rifles or pistols, or
 - **(ii)** greater than or equal to 8 gauge, in the case of cartridges for shotguns;
- **(e)** the gross mass of each means of containment is less than or equal to 25 kg;
- **(f)** the explosives are placed in an inner means of containment that is a box, in metal or plastic clips or in partitions that fit snugly in an outer means of containment that is designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety;

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Ammunition

- **g)** the primers are protected from accidental initiation; and
 - **(h)** each of the outer means of containment is marked with the gross mass in kilograms and the words “Explosives — Excepted” or “Explosifs — Exceptés”, in letters at least 25 mm high and in a colour that contrasts with the background colour of the means of containment.
- **(2)** Despite paragraph “...” of Part 8, Provisions Concerning Passengers and Crew, of the ICAO Technical Instructions, ammunition, or ammunition loaded in a firearm, “...” may be transported on board an aircraft by a peace officer as defined in section 3 of the “Canadian Aviation Security Regulations, 2012” or by an in-flight security officer. *SOR/2014-152*

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
14) Securely packaged cartridges in Division 1.4S (UN 0012 or UN 0014 only);	Yes	No	No	Yes	No	a) no more than 5 kg gross mass per person for that person's own use; b) must not include ammunition with explosive or incendiary projectiles; and c) allowances for more than one person must not be combined into one or more packages.

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Survival Kits containing Dangerous Goods

- While the CARs don't mention protection from bugs, bears and other wild creatures when describing survival kits, [Section 1.27](#) of the TDG Regulations exempts many dangerous goods on board a means of transport that people need for their safety.
- **This means that:**
- Aircraft survival kits that are carried for the safety of persons onboard are exempted from the TDG Regulations. The kit may contain "explosives" such as the actuating cartridges (cartridges, power device of Division 1.4C and 1.4S) used to inflate an article such as a dingy, or signal devices such as smoke and illumination signal flares.
- **NOTE:** Even though Subsection 1.27(2) of the TDG Regulations states that ammunition cannot be transported under this exemption, there is a provision under Part 8 of the International Civil Aviation Organization (ICAO) Technical Instructions that allows a person to transport onboard an aircraft up to 5 kg of cartridges (i.e. ammunition classified as UN0012 or UN0014) provided certain conditions are met.

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Matches & Lighter

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
15) Small packet of safety matches	No	No	Yes	No	No	a) no more than one per person; and b) intended for use by an individual.
"Strike anywhere" matches	No	No	No	n/a	n/a	Forbidden.
Small cigarette lighter	No	No	Yes	No	No	a) no more than one per person; b) intended for use by an individual; and c) does not contain unabsorbed liquid fuel (other than liquefied gas).
Lighter fuel and lighter refills	No	No	No	n/a	n/a	Forbidden.

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Aerosols – (Hairspray, Cologne)

Items or articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked baggage	Carry-on baggage	On the person			
Articles used in dressing or grooming						
10) Toiletry articles (including aerosols)	Yes	Yes	Yes	No	No	a) the term "toiletry articles (including aerosols)" is intended to include such items as hair sprays, perfumes and colognes; b) no more than 0.5 kg or 0.5 L total net quantity per single article; c) release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents; and d) no more than 2 kg or 2 L total net quantity of all articles mentioned in 3), 10) and 13) (e.g. four aerosol cans of 500 mL each) per person.

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Alcohol

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
12) Alcoholic beverages containing more than 24 per cent but not more than 70 per cent alcohol by volume	Yes	Yes	Yes	No	No	a) must be in retail packagings; b) no more than 5 L per individual receptacle; and c) no more than 5 L total net quantity per person for such beverages. <i>Note.— Alcoholic beverages containing not more than 24 per cent alcohol by volume are not subject to any restrictions.</i>

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Life Vests

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
≠ 18) Small cartridges fitted into a self-inflating personal safety device such as a life-jacket or vest	Yes	Yes	Yes	Yes	No	<ul style="list-style-type: none"> a) no more than one personal safety device per person; b) the personal safety device must be packed in such a manner that it cannot be accidentally activated; c) limited to carbon dioxide or another suitable gas in Division 2.2 without subsidiary risk; d) must be for inflation purposes; e) the device must be fitted with no more than two small cartridges; and f) no more than two spare cartridges.

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Fire Extinguishers

- **Fire Extinguishers**
- **(8)** When dangerous goods are UN1044, FIRE EXTINGUISHERS, Class 2.2, they must
 - **(a)** be in compliance with section 5.10 of Part 5, Means of Containment;
 - **(b)** have a capacity less than or equal to 18 L when they are transported on board a passenger carrying aircraft; and
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 - **(c)** be packed in accordance with Packing Instruction 213 of Chapter 4, Class 2 – Gases, of Part 4, Packing Instructions, of the ICAO Technical Instructions.
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Dry Ice

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
21) Dry ice	Yes	Yes	No	Yes	No	<ul style="list-style-type: none"> a) no more than 2.5 kg per person; b) used to pack perishables that are not subject to these Instructions; c) the package must permit the release of carbon dioxide gas; and d) when carried in checked baggage, each package must be marked: <ul style="list-style-type: none"> — "DRY ICE" or "CARBON DIOXIDE, SOLID"; and — the net weight of dry ice or an indication that the net weight is 2.5 kg or less.

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Light Bulbs Containing Mercury

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
# 24) Energy efficient lamps	Yes	Yes	Yes	No	No	a) when in retail packaging; and b) intended for personal or home use.

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Lithium Batteries – Contained in Equipment

Part 8

	<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
		<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
#	Portable electronic devices (including medical devices) containing lithium metal or lithium ion cells or batteries (articles containing lithium metal or lithium ion cells or batteries the primary purpose of which is to provide power to another device must be carried as spare batteries in accordance with the item below)	Yes	Yes	Yes	No	No	<ul style="list-style-type: none"> a) carried by passengers or crew for personal use; b) should be carried as carry-on baggage; c) each battery must not exceed the following: <ul style="list-style-type: none"> — for lithium metal batteries, a lithium content of not more than 2 grams; or — for lithium ion batteries, a Watt-hour rating of not more than 100 Wh; d) if devices are carried in checked baggage, measures must be taken to prevent unintentional activation; and e) batteries and cells must be of a type which meets the requirements of each test in the <i>UN Manual of Tests and Criteria</i>, Part III, subsection 38.3.

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Lithium Batteries – As Spares

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Part 8

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
Spare batteries for portable electronic devices (including medical devices) containing lithium metal or lithium ion cells or batteries	No	Yes	Yes	No	No	<p>a) carried by passengers or crew for personal use;</p> <p>b) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);</p> <p>c) each battery must not exceed the following:</p> <ul style="list-style-type: none"> — for lithium metal batteries, a lithium content of not more than 2 grams; or — for lithium ion batteries, a Watt-hour rating of not more than 100 Wh; and <p>d) batteries and cells must be of a type which meets the requirements of each test in the <i>UN Manual of Tests and Criteria</i>, Part III, subsection 38.3.</p>

Watt-hour (Wh) Rating

- The Wh indicates the amount of energy contained in a lithium battery. TDG Regulations regulate lithium ion batteries based on their Wh rating.
- **How do I calculate the Wh rating?**
- The Wh rating must appear on the battery case if it was made on or after January 1, 2009. If it is not there, you can calculate the Wh rating by using one of these formulas:
- If you know the nominal voltage (V) and the capacity in ampere-hours (Ah), then **Wh = (V) x (Ah)**; or
- If you know the nominal voltage (V) and the capacity in milliampere-hours (mAh), then **Wh = (V) x (mAh ÷ 1000)**.
- If you are still not sure what your lithium battery's Wh rating, contact its manufacturer.



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