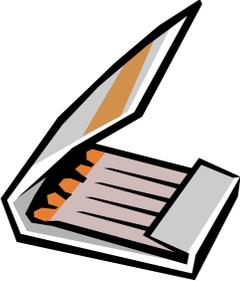


Hazardous Materials Carried by Passengers and Crewmembers

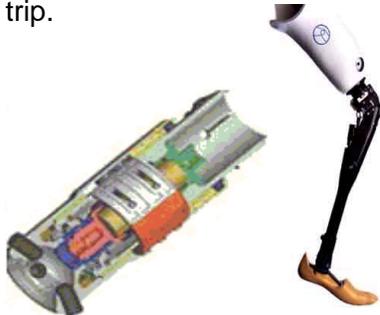
In general, US Department of Transportation (DOT) regulations prohibit passengers and crewmembers from carrying hazardous materials (dangerous goods) aboard commercial aircraft. The table below lists the exceptions that allow passengers and crewmembers to carry a limited amount of personal-use hazardous materials in carry-on and/or checked baggage. Though allowable by DOT regulations (see 49 CFR, section 175.10), some of the items listed here may, at times, be prohibited/limited in the aircraft cabin by Transportation Security Administration (TSA) rules (see <http://www.tsa.gov>). Individual airlines and other nations may also have more restrictive rules on what passengers can carry aboard the aircraft.

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Medicinal and toilet articles (including flammable and nonflammable aerosols)</p>	<p><input checked="" type="checkbox"/> Toilet or medicinal articles that are hazardous materials such as rubbing alcohol, flammable perfume and colognes, nail polish and remover, and aerosols (hairspray, shaving cream, etc.) —<u>in carry-on* or checked baggage.</u></p> <div style="text-align: center;">  </div>	<p><input checked="" type="checkbox"/> Hazardous materials that are not medicinal/toilet articles or described in the other exceptions, such as: spray paints, aerosol laundry starch, insecticides, drain cleaners, camping fuel, etc.</p> <div style="text-align: center;">  </div>	<p>(1) (i) Non-radioactive medicinal and toilet articles for personal use (including aerosols) carried in carry-on and checked baggage. Release devices on aerosols must be protected by a cap or other suitable means to prevent inadvertent release;</p> <p>(ii) Other aerosols in Div. 2.2 (nonflammable gas) with no subsidiary risk carried in checked baggage only. Release devices on aerosols must be protected by a cap or other suitable means to prevent inadvertent release; and</p> <p>(iii) The aggregate quantity of these hazardous materials carried by each person may not exceed 2 kg (70 ounces) by mass or 2 L (68 fluid ounces) by volume and the capacity of each container may not exceed 0.5 kg (18 ounces) by mass or 500 ml (17 fluid ounces) by volume.</p>
<p>Additional nonflammable aerosols that are not medicinal or toilet articles (Nonflammable aerosols are rare.)</p>	<p><input checked="" type="checkbox"/> Non-toiletry aerosols that contain nonflammable & non-toxic gas —<u>in checked baggage only.</u></p> <div style="text-align: center;">  </div>	<p><input checked="" type="checkbox"/> Aerosols without caps or other protective features around the release device/button are not allowed.</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p>*Quantities of liquids, gels, and aerosols in carry-on baggage may be further limited by TSA security rules.</p> </div>

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
Matches and Lighters	<p> <input checked="" type="checkbox"/> One book of safety matches (book matches) may be carried <u>on one's person (e.g., in your pocket) or in carry-on baggage.</u> </p>  <p> <input checked="" type="checkbox"/> One lighter (gas/butane or absorbed liquid/Zippo-style) may be carried <u>on one's person or in carry-on</u> </p> 	<p> <input checked="" type="checkbox"/> Torch lighters, chef's torches, utility lighters. </p>  <p> <input checked="" type="checkbox"/> Strike anywhere matches. </p>  <p> <input checked="" type="checkbox"/> Lighter refills, lighter fluid. </p> 	<p> (2) One packet of safety matches or a lighter intended for use by an individual when carried on one's person or in carry-on baggage only. Lighter fuel, lighter refills, and lighters containing unabsorbed liquid fuel (other than liquefied gas) are not permitted on one's person or in carry-on or checked baggage. </p>
Radioactive and battery-powered devices in the body	<p> <input checked="" type="checkbox"/> Pacemakers or similar battery-powered devices and radiopharmaceuticals contained in the body. </p> 		<p> (3) Implanted medical devices in humans or animals that contain hazardous materials, such as a heart pacemaker containing Class 7 (radioactive) material or lithium batteries; and radiopharmaceuticals that have been injected or ingested. </p>

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Alcoholic beverages</p>	<p>☑ Up to 5 liters of alcoholic beverages with an alcohol content of more than 24% but not more than 70% in unopened retail packages – <u>in carry-on* or checked baggage.</u></p>  <p><i>Note: Alcoholic beverages containing 24% or less alcohol by volume (beer, wine, etc.,) are not subject to the DOT hazardous materials regulations.*</i></p>  	<p>☒ Alcoholic beverages with more than 70% alcohol by volume (more than 140 Proof) including 95% grain alcohol and 151-proof rum.</p> 	<p>(4) Alcoholic beverages containing:</p> <ul style="list-style-type: none"> (i) Not more than 24% alcohol by volume; or (ii) More than 24% and not more than 70% alcohol by volume when in unopened retail packaging not exceeding 5 liters (1.3 gallons) carried in carry-on or checked baggage, with a total net quantity per person of 5 liters (1.3) gallons for such beverages. <div style="border: 1px solid black; padding: 5px; margin-top: 20px;"> <p>*Quantities of alcohol in carry-on baggage may be further limited by TSA security rules.</p> </div>
<p>Duty free perfume and cologne</p>	<p>☑ Flammable perfumes and colognes from the airport / airline duty free shops – <u>on one's person or in carry-on baggage.</u></p>  		<p>(5) Perfumes and colognes purchased through duty-free sales and carried on one's person or in carry-on baggage.</p>

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
Curling iron (cordless)	<input checked="" type="checkbox"/> A curling iron with a flammable gas cartridge installed and safety cover in place. 	<input checked="" type="checkbox"/> Extra flammable gas cartridges. 	<p>(6) Hair curlers (curling irons) containing a hydrocarbon gas such as butane, no more than one per person, in carry-on or checked baggage. The safety cover must be securely fitted over the heating element. Gas refills for such curlers are not permitted <u>in carry-on or checked baggage</u>.</p>
Small mercury thermometer	<input checked="" type="checkbox"/> Small personal mercury thermometer in a protective case. 		<p>(7) A small medical or clinical mercury thermometer for personal use, when carried in a protective case in <u>carry-on or checked baggage</u>.</p>
Small arms ammunition	<input checked="" type="checkbox"/> Small arms ammunition (up to 19.1 mm for rifle and pistol cartridges, any size shotgun shells) for personal use, when securely boxed – <u>in checked baggage only</u> . 	<input checked="" type="checkbox"/> Loose ammunition <input checked="" type="checkbox"/> Loaded firearms <input checked="" type="checkbox"/> Black powder	<p>(8) Small arms ammunition for personal use carried by a crewmember or passenger in checked baggage only, if securely packed in boxes or other packagings specifically designed to carry small amounts of ammunition. Ammunition clips and magazines must also be securely boxed. This paragraph does not apply to persons traveling under the provisions of 49 CFR 1544.219.</p>
Self-defense spray	<input checked="" type="checkbox"/> One small (4-ounce or less) self-defense spray—in <u>checked baggage only</u> .  <p><i>Note: Usually forbidden even in checked baggage outside the U.S.</i></p>		<p>(9) One self-defense spray (see § 171.8 of this subchapter), not exceeding 118 mL (4 fluid ounces) by volume, that incorporates a positive means to prevent accidental discharge may be carried in checked baggage only.</p>

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Dry ice</p>	<p>✔ Small amounts of dry ice in carry-on (2 kg.) or checked baggage (2.3 kg.) in a package that allows venting of carbon dioxide gas.</p> 	<p>✘ Dry ice in air-tight packages.</p>	<p>(10) Dry ice (carbon dioxide, solid), with the approval of the operator:</p> <p>(i) Quantities may not exceed 2.5 kg (5.5 pounds) per person when used to pack perishables not subject to the HMR. The package must permit the release of carbon dioxide gas; and</p> <p>(ii) When carried in checked baggage, each package is marked “DRY ICE” or “CARBON DIOXIDE, SOLID,” and marked with the net weight of dry ice or an indication the net weight is 2.5kg (5.5 pounds) or less.</p>
<p>Self-inflating jacket with gas cartridges</p>	<p>✔ A life jacket containing two nonflammable gas cartridges, plus two spare cartridges.</p> 		<p>(11) A self-inflating life jacket fitted with no more than two small gas cartridges (containing no hazardous material other than a Div. 2.2 gas) for inflation purposes plus no more than two spare cartridges. The lifejacket and spare cartridges may be carried in carry-on or checked baggage, with the approval of the aircraft operator.</p>
<p>Gas cylinders for mechanical limbs</p>	<p>✔ Nonflammable gas cylinders/cartridges in mechanical limbs, plus spare cylinders need for the trip.</p> 		<p>(12) Small compressed gas cylinders of Division 2.2 (containing no hazardous material other than a Division 2.2 gas) worn by the passenger for the operation of mechanical limbs and, in carry-on and checked baggage, spare cylinders of a similar size for the same purpose in sufficient quantities to ensure an adequate supply for the duration of the journey.</p>

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Mercury barometer or thermometer</p>	<p>☑ Larger mercury thermometers and barometers carried by government weather personnel –<u>in carry-on baggage only</u>. Must be in leak-proof, mercury-proof packaging.</p> 		<p>(13) A mercury barometer or thermometer carried as carry-on baggage, by a representative of a government weather bureau or similar official agency, provided that individual advises the operator of the presence of the barometer or thermometer in his baggage. The barometer or thermometer must be packaged in a strong packaging having a sealed inner liner or bag of strong, leak proof and puncture-resistant material impervious to mercury, which will prevent the escape of mercury from the package in any position.</p>
<p>Heat-producing equipment</p>	<p>☑ Diving lamps and other battery-operated extreme heat producing equipment – <u>in carry-on baggage only</u>.</p> 		<p>(14) Electrically powered heat-producing articles (e.g., battery-operated equipment such as diving lamps and soldering equipment) as carry-on baggage only and with the approval of the operator of the aircraft. The heat-producing component, or the energy source, must be removed to prevent unintentional functioning during transport.</p>

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Wheelchairs and mobility devices with <u>nonspillable</u> batteries</p>	<p>☑ Wheelchair or other battery powered mobility device equipped with a nonspillable battery <u>when carried as checked baggage</u>.</p> <div style="text-align: center;">  </div>		<p>(15) A wheelchair or other battery-powered mobility aid equipped with a nonspillable battery, when carried as checked baggage, provided—</p> <ul style="list-style-type: none"> (i) The battery meets the requirements of §173.159a(d) of this subchapter for nonspillable batteries; (ii) Visual inspection including removal of the battery, where necessary, reveals no obvious defects (removal of the battery from the housing should be performed by qualified airline personnel only); (iii) The battery is disconnected and the battery terminals are protected to prevent short circuits, unless the wheelchair or mobility aid design provides an effective means of preventing unintentional activation, and (iv) The battery is— <ul style="list-style-type: none"> (A) Securely attached to the wheelchair or mobility aid; (B) Is removed and placed in a strong, rigid packaging marked “NONSPILLABLE BATTERY” (unless fully enclosed in a rigid housing that is properly marked); or (C) Is handled in accordance with paragraph (a)(16)(iv) of this section.

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Wheelchairs and mobility devices with <u>spillable</u> batteries</p>	<p>☑ Wheelchair or other battery powered mobility device equipped with a spillable battery <u>when carried as checked baggage</u>. Device must be stowed so the battery is upright or the battery must be disconnected and packaged separately.</p> <div style="text-align: center;">  </div>		<p>(16) A wheelchair or other battery-powered mobility aid equipped with a spillable battery, when carried as checked baggage, provided—</p> <ul style="list-style-type: none"> (i) Visual inspection including removal of the battery, where necessary, reveals no obvious defects (however, removal of the battery from the housing should be performed by qualified airline personnel only); (ii) The battery is disconnected and terminals are insulated to prevent short circuits; (iii) The pilot-in-command is advised, either orally or in writing, prior to departure, as to the location of the battery aboard the aircraft; and (iv) The wheelchair or mobility aid is loaded, stowed, secured and unloaded in an upright position, or the battery is removed, and carried in a strong, rigid packaging under the following conditions: <ul style="list-style-type: none"> (A) The packaging must be leak-tight and impervious to battery fluid. An inner liner may be used to satisfy this requirement if there is absorbent material placed inside of the liner and the liner has a leakproof closure; (B) The battery must be protected against short circuits, secured upright in the packaging, and be packaged with enough compatible absorbent material to completely absorb liquid contents in the event of rupture of the battery; and (C) The packaging must be labeled with a CORROSIVE label, marked to indicate proper orientation, and marked with the words “Battery, wet, with wheelchair.”

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Wheelchairs and mobility devices with lithium ion batteries</p>	<p>☑ Wheelchair or other battery powered mobility device equipped with a lithium ion battery (rechargeable lithium battery) carried as checked baggage or, with airline approval, as carry-on if designed to fit in the aircraft cabin (fold up, etc.).</p> <div style="text-align: center;">  </div>	<p>☒ Lithium metal batteries (non-rechargeable lithium batteries) in these devices.</p>	<p>(17) A lithium ion battery-powered wheelchair or other mobility aid as follows:</p> <p>(i) A wheelchair or other mobility aid equipped with a lithium ion battery, when carried as checked baggage, provided—</p> <p>(A) The lithium ion battery must be of a type that successfully passed each test in the UN Manual of Tests and Criteria as specified in §173.185 of this subchapter, unless approved by the Associate Administrator;</p> <p>(B) Visual inspection of the wheelchair or mobility aid reveals no obvious defects;</p> <p>(C) Battery terminals must be protected from short circuits (<i>e.g.</i>, by being enclosed within a battery container that is securely attached to the mobility aid);</p> <p>(D) The pilot-in-command is advised, either orally or in writing, prior to departure, as to the location of the wheelchair or mobility aid aboard the aircraft; and</p> <p>(E) The wheelchair or mobility aid is loaded, stowed, secured and unloaded in an upright position and in a manner that prevents unintentional activation and protects it from damage.</p> <p>(F) A lithium metal battery is forbidden aboard a passenger-carrying aircraft.</p> <p>(ii) A wheelchair or other mobility aid when carried as checked or carry-on baggage, provided—</p> <p>(A) The wheelchair or other mobility aid is designed and constructed in a manner to allow for stowage in either a cargo compartment or in the passenger cabin;</p> <p>(B) The lithium ion battery and any spare batteries are carried in the same manner as spare batteries in paragraph (a)(18) of this section.</p> <p>(C) The lithium ion battery and any spare batteries are carried in the same manner as spare batteries in paragraph (a)(18) of this section.</p>

Passenger Hazmat Exception	Allowed	Not Allowed	Regulatory Text That Allows It 49 CFR 175.10(a)...
<p>Lithium and lithium-ion batteries</p>	<p>✔ Small lithium metal (non-rechargeable) and lithium ion (rechargeable) batteries in personal electronic devices.</p> <p>Spare batteries must be protected from damage and short circuit and placed in carry-on baggage.</p>     	<p>✘ Spare lithium and lithium ion batteries in checked baggage.</p> <p>✘ Loose batteries not protected from short circuit.</p> <p>✘ Larger lithium and lithium ion batteries for industrial use.</p>	<p>(18) Except as provided in §173.21 of this subchapter, portable electronic devices (for example, watches, calculating machines, cameras, cellular phones, lap-top and notebook computers, camcorders, etc.) containing cells or batteries (including lithium cells or batteries) and spare batteries and cells for these devices, when carried by passengers or crew members for personal use. Each spare battery must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, <i>e.g.</i>, by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch) and carried in carry-on baggage only. In addition, each installed or spare battery must not exceed the following:</p> <p>(i) For a lithium metal battery, a lithium content of not more than 2 grams per battery; or</p> <p>(ii) For a lithium-ion battery, an aggregate equivalent lithium content of not more than 8 grams per battery, except that up to two batteries with an aggregate equivalent lithium content of more than 8 grams but not more than 25 grams may be carried.</p>

Passenger Hazmat Exception	Allowed / Not Allowed	Regulatory text that allows it 49 CFR 175.10(a)...
<p>Fuel cells for portable electronic devices</p>	<p> <input checked="" type="checkbox"/> Fuel cells for portable electronics allowed in <u>carry-on baggage only</u>. </p> <p> <input checked="" type="checkbox"/> Two spare fuel cell cartridges allowed in carry-on baggage only, except that cartridges containing only flammable liquid or corrosives may also be carried in checked baggage. </p> <p>The fuels cells must be marked "Approved for carriage in aircraft cabin."</p>  <p> <input checked="" type="checkbox"/> Refilling a fuel cell (other than installing a cartridge) is not allowed on the aircraft. </p> 	<p>(19) Fuel cells used to power portable electronic devices (e.g., cameras, cellular phones, laptop computers and camcorders) and spare fuel cell cartridges when transported personal use under the following conditions:</p> <ul style="list-style-type: none"> (i) Fuel cells and fuel cell cartridges may contain only Division 2.1 liquefied flammable gas, or hydrogen in a metal hydride, Class 3 flammable liquid (including methanol), Division 4.3 water- reactive material, or Class 8 corrosive material; (ii) The quantity of fuel in any fuel cell or fuel cell cartridge may not exceed: <ul style="list-style-type: none"> (A) 200 mL (6.76 ounces) for liquids; (B) 120 mL (4 fluid ounces) for liquefied gases in non-metallic fuel cell cartridges, or 200 mL (6.76 ounces) for liquefied gases in metal fuel cell cartridges; (C) 200 g (7 ounces) for solids; or (D) For hydrogen in metal hydride, the fuel cell cartridges must have a water capacity of 120 mL (4 fluid ounces) or less; (iii) No more than two spare fuel cell cartridges may be carried by a passenger or crew member as follows: <ul style="list-style-type: none"> (A) Fuel cell cartridges containing Class 3 flammable liquid (including methanol) and Class 8 corrosive material in carry-on or checked baggage; and (B) Division 2.1 liquefied flammable gas or hydrogen in a metal hydride and Division 4.3 water-reactive material in carry-on baggage only; (iv) Fuel cells containing fuel are permitted in carry-on baggage only; (v) Fuel cell cartridges containing hydrogen in a metal hydride must meet the requirements in § 173.230(d) of this subchapter; (vi) Refueling of a fuel cell aboard an aircraft is not permitted except that the installation of a spare cartridge is allowed; (vii) Each fuel cell and fuel cell cartridge must conform to IEC/PAS 62282-6-1 (IBR; see § 171.7 of this subchapter) and must be marked with a manufacturer's certification that it conforms to the specification. In addition, each fuel cell cartridge must be marked with the maximum quantity and type of fuel in the cartridge; (viii) Interaction between fuel cells and integrated batteries in a device must conform to IEC/PAS 62282-6-1 (IBR, see § 171.7 of this subchapter). Fuel cells whose sole function is to charge a battery in the device are not permitted; and (ix) Fuel cells must be of a type that will not charge batteries when the consumer electronic device is not in use and must be durably marked by the manufacturer with the wording: "APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY" to indicate that the fuel cell meets this requirement.

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