

# Pack Safe



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## What is a Hazardous Material?

From lithium batteries to aerosol whipped cream, many items used every day at home or work are regulated as hazardous materials (a.k.a. "hazmat" and "dangerous goods"). These products may seem harmless; however, when transported by air they can be very dangerous. Vibrations, static electricity, and temperature and pressure variations can cause items to leak, generate toxic fumes, start a fire, or even explode. Hazardous materials include, but are not limited to: **Explosives, Gases, Flammable Liquids and Solids, Oxidizers, Toxic and Infectious Materials, Radioactive Materials, Corrosives** and many other items that can endanger the traveling public when not handled correctly. The good news is that many of the hazardous materials we can't live without are allowed in our baggage, but only if we follow the rules.

## The Hazmat Rules

The Hazardous Materials Regulations ([HMR](#)) are federal transportation safety rules found in [49 CFR, parts 171-180](#). The FAA enforces the HMR in aviation. Passengers violating the HMR can be fined from \$250 to \$50,000. Those who intentionally violate the regulations are subject to a criminal penalty of up to \$500,000 and/or five years imprisonment. So, it is important to know what items are hazardous materials and whether or not they are allowed in the aircraft cabin or in checked baggage.

*Note: The [Transportation Security Administration](#) also has rules on "prohibited items" that pose a security threat. Though they sometimes overlap, the TSA security rules are separate from the FAA hazmat safety rules discussed here. For the TSA rules on weapons, sharp objects, the "3-1-1" rule on liquids, gels, and aerosols, etc.; go to the [TSA Prohibited Items](#) web page.*

## For a Safe Start, Check the Chart!

Most hazardous materials are forbidden in carry-on and checked baggage. There are a few exceptions for some personal items such as toiletries, medicines, battery powered electronics and assistive devices. The chart below lists common hazardous materials often found in the home and office or used when traveling. Check to see which ones are allowed in checked and/or carry-on baggage and which ones cannot be carried at all. It's also important to read the "Details" section for important information such as packaging requirements and quantity limits. You can use the "Search" box to look up a particular item by name within the active tab.

Remember, this is just a listing of common hazardous materials; if you don't see your item here it doesn't mean it's allowed in baggage. **When in doubt, leave it out!**

Looking for other FAA hazmat information? The [FAA Office of Hazardous Materials Safety](#) web site contains information for airlines, cargo shippers, and passengers.

All	Medicinal & Toiletry	Matches & Lighters	Batteries & Electronics	Assistive Devices	Outdoors	Misc
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Hazardous Material	Checked Bag	Carry On	
 <p><b>Adhesives, flammable</b> Rubber cement, pipe cement, some super glues and other flammable adhesives</p>	✗	✗	<a href="#">Details &gt;</a>
 <p><b>Adhesives, nonflammable</b> School glue, glue sticks, etc.</p>	✓	✓	<a href="#">Details &gt;</a>
 <p><b>Aerosol laundry products, flammable</b> Spray starch, anti-static spray, etc.</p>	✗	✗	<a href="#">Details &gt;</a>
 <p><b>Aerosol mosquito, insect repellent</b></p>	✓	✓	<a href="#">Details &gt;</a>
 <p><b>Aerosol sun block, tanning spray, sunburn treatment</b></p>	✓	✓	<a href="#">Details &gt;</a>
 <p><b>Aerosols flammable</b> Non-toiletry, WD-40, spray paint, spray starch, cooking spray, etc.</p>	✗	✗	<a href="#">Details &gt;</a>
 <p><b>Aerosols non-flammable</b> Non-toiletry, some electronics cleaners, whipped cream</p>	✓	✗	<a href="#">Details &gt;</a>
<p><b>Alcoholic beverages</b></p>	✓	✓	<a href="#">Details &gt;</a>

	In unopened retail packaging, containing more than 24% but not more than 70% alcohol by volume (up to 140 proof)			
	<b>Alcoholic beverages over 140 proof</b> Greater than 70% alcohol by volume (more than 140 proof), including grain alcohol and 151 proof rum	✗	✗	<a href="#">Details &gt;</a>
	<b>Animal spray, repellent</b> Greater than 118 ml (4 fluid ounces), bear spray, animal repellent	✗	✗	<a href="#">Details &gt;</a>
	<b>Avalanche rescue backpack, self-inflating</b>	✗	✗	<a href="#">Details &gt;</a>
	<b>Batteries, wet, nonspillable</b> Gel cell and absorbed electrolyte batteries for portable electronics	✓	✓	<a href="#">Details &gt;</a>
	<b>Biological specimens, non-infectious, in preservative solutions</b> Containing formaldehyde, ethanol, isopropanol, or other alcohols	✓	✓	<a href="#">Details &gt;</a>
	<b>Burning paste, gel</b> Fire starting	✗	✗	<a href="#">Details &gt;</a>
	<b>Camping fuel</b> Propane, white gas, Coleman fuel, Sterno, solid fuels, stoves containing fuel	✗	✗	<a href="#">Details &gt;</a>
	<b>Camping stoves and fuel bottles completely purged of fuel</b>	✓	✓	<a href="#">Details &gt;</a>
	<b>Curling irons (cordless)</b> Cordless curling iron, butane fueled curling irons	✓	✓	<a href="#">Details &gt;</a>
	<b>Dry ice</b> Carbon dioxide, solid, 2.5 kg (5.5 lbs) or less, when used to pack perishables	✓	✓	<a href="#">Details &gt;</a>

	<p><b>Duty free perfume and cologne</b> Perfumes and colognes purchased through airport and airline duty free shops</p>			<a href="#">Details &gt;</a>
	<p><b>Electronic cigarettes, vaping devices</b> Battery-powered E-cigarettes, vaporizers, vape pens, atomizers, electronic nicotine delivery systems</p>	 <i>See Details</i>		<a href="#">Details &gt;</a>
	<p><b>Engine powered equipment completely purged of fuel</b> Chainsaws, generators, trimmers, etc.</p>			<a href="#">Details &gt;</a>
	<p><b>Engine powered equipment with residual fuel</b> Chainsaws, generators, trimmers, etc.</p>			<a href="#">Details &gt;</a>
	<p><b>Fireworks</b> Firecrackers, bottle rockets, poppers, sparklers</p>			<a href="#">Details &gt;</a>
	<p><b>Flat tire repair</b> Nonflammable aerosol</p>			<a href="#">Details &gt;</a>
	<p><b>Formaldehyde solutions, less than 10 percent</b></p>			<a href="#">Details &gt;</a>
	<p><b>Fuel cells containing flammable gases or water-reactive material</b></p>			<a href="#">Details &gt;</a>
	<p><b>Fuel cells containing flammable liquid or corrosive material</b></p>			<a href="#">Details &gt;</a>
	<p><b>Gasoline and flammable fuels</b> Including containers and equipment with residual fuel</p>			<a href="#">Details &gt;</a>
	<p><b>Hand warmers, toe warmers, body warmers</b> Disposable warming pads using carbon, charcoal, and iron compounds. Hot Hands, Little Hotties, etc.</p>			<a href="#">Details &gt;</a>

	<p><b>Heat producing articles</b> Diving lamps, soldering equipment</p>			<a href="#">Details &gt;</a>
	<p><b>Implanted medical device, ingested or injected radiopharmaceuticals</b> Heart pacemakers, radioactive medicines in the body, etc.</p>			<a href="#">Details &gt;</a>
	<p><b>Lighter fluid</b> Lighter refills (liquid or gas), butane</p>			<a href="#">Details &gt;</a>
	<p><b>Lighter, unabsorbed liquid</b> Some desk/table lighters, antique wick lighters</p>			<a href="#">Details &gt;</a>
	<p><b>Lighters, butane or absorbed liquid</b> Personal lighters: butane, disposable (Bic), absorbed liquid (Zippo)</p>			<a href="#">Details &gt;</a>
	<p><b>Liquid nitrogen in a dry shipper</b></p>			<a href="#">Details &gt;</a>
 <p>batteries</p>	<p><b>Lithium ion and lithium metal batteries, spare (uninstalled)</b> Rechargeable and non-rechargeable lithium batteries, cell phone batteries, laptop</p>			<a href="#">Details &gt;</a>
	<p><b>Matches, safety</b> Safety matches, waterproof matches</p>			<a href="#">Details &gt;</a>
	<p><b>Matches, strike-anywhere</b></p>			<a href="#">Details &gt;</a>
	<p><b>Medical-clinical mercury thermometer</b> Small medical thermometer</p>			<a href="#">Details &gt;</a>
	<p><b>Medicinal &amp; toiletry articles</b> Including hairspray, aerosols, rubbing</p>			<a href="#">Details &gt;</a>

	alcohol, inhalers, nail polish and remover, etc.			
	<b>Mercury barometer or thermometer</b> Carried by government weather bureau or similar official agency.	✗	✓	<a href="#">Details &gt;</a>
	<b>Oxygen (compressed or liquid)</b> Medical oxygen, recreational oxygen	✗	✗	<a href="#">Details &gt;</a>
	<b>Paints and solvents, flammable</b> Including thinners, turpentine, MEK, denatured alcohol, acetone, resins, lacquers, varnishes, stains	✗	✗	<a href="#">Details &gt;</a>
	<b>Permeation devices for calibrating air quality monitoring equipment</b>	✓	✗	<a href="#">Details &gt;</a>
	<b>Portable electronic devices, containing batteries</b> Cell phones, laptop, camera, smart phones, PDAs	✓	✓	<a href="#">Details &gt;</a>
	<b>Portable oxygen concentrators (POCs)</b> Inogen One, Sequal Eclipse, Airsep Lifestyle and others approved by the FAA	✓	✓	<a href="#">Details &gt;</a>
	<b>Scuba tanks, pressurized</b>	✗	✗	<a href="#">Details &gt;</a>
	<b>Sealant, waterproofing, flammable</b> Seam sealers for tents	✗	✗	<a href="#">Details &gt;</a>
	<b>Self defense spray</b> Mace, pepper spray not exceeding 118 ml (4 fluid ounces)	✓	✗	<a href="#">Details &gt;</a>
	<b>Self-inflating life jacket</b>	✓	✓	<a href="#">Details &gt;</a>

	Signal flares and road flares	✗	✗	<a href="#">Details &gt;</a>
	Small arms ammunition Cartridges up to 19.1mm, shotgun shells	✓	✗	<a href="#">Details &gt;</a>
	Small compressed gas cylinders and cartridges in or with a device Carbon dioxide (CO2) and other nonflammable, nontoxic gases	✓	✓	<a href="#">Details &gt;</a>
	Small compressed gas cylinders for mechanical limbs	✓	✓	<a href="#">Details &gt;</a>
	Spare batteries, dry cell Alkaline, nickel metal hydride, nickel cadmium	✓	✓	<a href="#">Details &gt;</a>
	Spare fuel cells and cartridges	✗	✓	<a href="#">Details &gt;</a>
	Tire inflation kit Containing small nonflammable gas cylinder cartridges	✓	✓	<a href="#">Details &gt;</a>
	Wheelchairs and mobility devices with lithium ion batteries, collapsible design, battery removed Electric wheelchair, mobility scooter	✗	✓	<a href="#">Details &gt;</a>
	Wheelchairs and mobility devices with lithium ion batteries, normal design, battery installed Electric wheelchair, mobility scooter	✓	✗	<a href="#">Details &gt;</a>
	Wheelchairs and mobility devices with non-spillable or dry batteries Electric wheelchair, mobility scooter	✓	✗	<a href="#">Details &gt;</a>
	Wheelchairs and mobility devices with spillable batteries Electric wheelchair, mobility scooter	✓	✗	<a href="#">Details &gt;</a>



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**Hazmat Questions?** Contact us at [HazMatInfo@faa.gov](mailto:HazMatInfo@faa.gov). Please allow 1-2 business days for answers to e-mail questions.

**Security Questions?** See the [Transportation Security Administration's information](#) on sharp objects, weapons, the "3-1-1" rule for liquids, gels, and aerosols, etc.

[Hazardous Materials Safety Contacts](#)

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