



Federal Aviation Administration

Pack Safe



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 (Hazardous Materials Regulations)) are federal transportation safety rules found in 49 CFR, parts 171-180 (http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title49/49tab_02.tpl). 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 (<http://www.tsa.gov/>) 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 (<http://www.tsa.gov/traveler-information/prohibited-items>) web page.

For a Safe Start, Check the Chart!

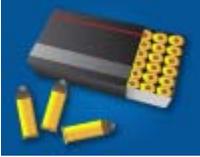
Most hazardous materials are forbidden in carry-on and checked baggage. There are a few exceptions for some personal items such as toiletries, medicines, battery powered electronics and assistive devices. The chart below lists common hazardous materials often found in the home and office or used when 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.

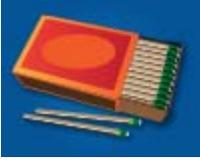
Remember, this is just a listing of common hazardous materials; if you don't see your item here it doesn't mean it's allowed in baggage. **When in doubt, leave it out!**

Looking for other FAA hazmat information? The [FAA Office of Hazardous Materials Safety](http://www.faa.gov/about/office_org/headquarters_offices/ash/ash_programs/hazmat/) (http://www.faa.gov/about/office_org/headquarters_offices/ash/ash_programs/hazmat/) web site contains information for airlines, cargo shippers, and passengers.

All	Medicinal & Toiletry	Matches & Lighters	Batteries & Electronics	Assistive Devices	Outdoors	Misc
Show <input type="text" value="100"/> entries Search: <input type="text"/>						
Hazardous Material		Checked Bag	Carry On			
	Wheelchairs and mobility devices with spillable batteries (more_info/?hazmat=38) Electric wheelchair, mobility scooter	✓	✗	Details (more_info/?hazmat=38)		
	Wheelchairs and mobility devices with non-spillable or dry batteries (more_info/?hazmat=28) Electric wheelchair, mobility scooter	✓	✗	Details (more_info/?hazmat=28)		
	Wheelchairs and mobility devices with lithium ion batteries, normal design, battery installed (more_info/?hazmat=39) Electric wheelchair, mobility scooter	✓	✗	Details (more_info/?hazmat=39)		

Hazardous Material	Checked Bag	Carry On	
 <p>Wheelchairs and mobility devices with lithium ion batteries, collapsible design, battery removed (more_info/?hazmat=40) Electric wheelchair, mobility scooter</p>	✗	✓	<p>Details (more_info/?hazmat=40)</p>
 <p>Tire inflation kit (more_info/?hazmat=51) Containing small nonflammable gas cylinder cartridges</p>	✓	✓	<p>Details (more_info/?hazmat=51)</p>
 <p>Spare lithium metal and lithium ion batteries (more_info/?hazmat=7) Non-rechargeable and rechargeable lithium batteries, cell phone batteries, laptop batteries</p>	✗	✓	<p>Details (more_info/?hazmat=7)</p>
 <p>Spare fuel cells and cartridges (more_info/?hazmat=36)</p>	✗	✓	<p>Details (more_info/?hazmat=36)</p>
 <p>Spare batteries, dry cell (more_info/?hazmat=32) Alkaline, nickel metal hydride, nickel cadmium</p>	✓	✓	<p>Details (more_info/?hazmat=32)</p>
 <p>Small compressed gas cylinders for mechanical limbs (more_info/?hazmat=21)</p>	✓	✓	<p>Details (more_info/?hazmat=21)</p>
 <p>Small compressed gas cylinders and cartridges in or with a device (more_info/?hazmat=11) Carbon dioxide (CO₂) and other nonflammable, nontoxic gases</p>	✓	✓	<p>Details (more_info/?hazmat=11)</p>

Hazardous Material	Checked Bag	Carry On	
 <p>Small arms ammunition (more_info/?hazmat=4) Cartridges up to 19.1mm, shotgun shells</p>	✓	✗	Details (more_info/?hazmat=4)
 <p>Signal flares and road flares (more_info/?hazmat=44)</p>	✗	✗	Details (more_info/?hazmat=44)
 <p>Self-inflating life jacket (more_info/?hazmat=26)</p>	✓	✓	Details (more_info/?hazmat=26)
 <p>Self defense spray (more_info/?hazmat=25) Mace, pepper spray not exceeding 118 ml (4 fluid ounces)</p>	✓	✗	Details (more_info/?hazmat=25)
 <p>Sealant, waterproofing, flammable (more_info/?hazmat=48) Seam sealers for tents</p>	✗	✗	Details (more_info/?hazmat=48)
 <p>Scuba tanks, pressurized (more_info/?hazmat=49)</p>	✗	✗	Details (more_info/?hazmat=49)
 <p>Portable oxygen concentrators (POCs) (more_info/?hazmat=24) Inogen One, Sequal Eclipse, Airsep Lifestyle and others approved by the FAA</p>	✓	✓	Details (more_info/?hazmat=24)
 <p>Portable electronic devices, containing batteries (more_info/?hazmat=23) Cell phones, laptop, camera, smart phones, PDAs</p>	✓	✓	Details (more_info/?hazmat=23)

Hazardous Material	Checked Bag	Carry On	
 <p>Permeation devices for calibrating air quality monitoring equipment (more_info/?hazmat=59)</p>	✓	✗	<p>Details (more_info/?hazmat=59)</p>
 <p>Paints and solvents, flammable (more_info/?hazmat=22) Including thinners, turpentine, MEK, denatured alcohol, acetone, resins, lacquers, varnishes, stains</p>	✗	✗	<p>Details (more_info/?hazmat=22)</p>
 <p>Oxygen (compressed or liquid) (more_info/?hazmat=37) Medical oxygen, recreational oxygen</p>	✗	✗	<p>Details (more_info/?hazmat=37)</p>
 <p>Mercury barometer or thermometer (more_info/?hazmat=56) Carried by government weather bureau or similar official agency.</p>	✗	✓	<p>Details (more_info/?hazmat=56)</p>
 <p>Medicinal & toiletry articles (more_info/?hazmat=29) Including hairspray, aerosols, rubbing alcohol, inhalers, nail polish and remover, etc.</p>	✓	✓	<p>Details (more_info/?hazmat=29)</p>
 <p>Medical-clinical mercury thermometer (more_info/?hazmat=27) Small medical thermometer</p>	✓	✓	<p>Details (more_info/?hazmat=27)</p>
 <p>Matches, strike-anywhere (more_info/?hazmat=30)</p>	✗	✗	<p>Details (more_info/?hazmat=30)</p>
 <p>Matches, safety (more_info/?hazmat=20) Safety matches, waterproof matches</p>	✗	✓	<p>Details (more_info/?hazmat=20)</p>

Hazardous Material	Checked Bag	Carry On	
 <p>Liquid nitrogen in a dry shipper (more_info/?hazmat=55)</p>	✓	✓	<p>Details (more_info/?hazmat=55)</p>
 <p>Lighters, butane or absorbed liquid (more_info/?hazmat=19)</p> <p>Personal lighters: butane, disposable (Bic), absorbed liquid (Zippo)</p>	✗	✓	<p>Details (more_info/?hazmat=19)</p>
 <p>Lighter, unabsorbed liquid (more_info/?hazmat=31)</p> <p>Some desk/table lighters, antique wick lighters</p>	✗	✗	<p>Details (more_info/?hazmat=31)</p>
 <p>Lighter fluid (more_info/?hazmat=9)</p> <p>Lighter refills (liquid or gas), butane</p>	✗	✗	<p>Details (more_info/?hazmat=9)</p>
 <p>Implanted medical device, ingested or injected radiopharmaceuticals (more_info/?hazmat=18)</p> <p>Heart pacemakers, radioactive medicines in the body, etc.</p>	✗	✓	<p>Details (more_info/?hazmat=18)</p>
 <p>Heat producing articles (more_info/?hazmat=15)</p> <p>Diving lamps, soldering equipment</p>	✓	✓	<p>Details (more_info/?hazmat=15)</p>
 <p>Hand warmers, toe warmers, body warmers (more_info/?hazmat=60)</p> <p>Disposable warming pads using carbon, charcoal, and iron compounds. Hot Hands, Little Hotties, etc.</p>	✓	✓	<p>Details (more_info/?hazmat=60)</p>

Hazardous Material	Checked Bag	Carry On	
 <p>Gasoline and flammable fuels (more_info/?hazmat=42) Including containers and equipment with residual fuel</p>	✗	✗	<p>Details (more_info/?hazmat=42)</p>
 <p>Fuel cells containing flammable liquid or corrosive material (more_info/?hazmat=34)</p>	✓	✓	<p>Details (more_info/?hazmat=34)</p>
 <p>Fuel cells containing flammable gases or water-reactive material (more_info/?hazmat=35)</p>	✗	✓	<p>Details (more_info/?hazmat=35)</p>
 <p>Formaldehyde solutions, less than 10 percent (more_info/?hazmat=53)</p>	✓	✓	<p>Details (more_info/?hazmat=53)</p>
 <p>Flat tire repair (more_info/?hazmat=50) Nonflammable aerosol</p>	✓	✗	<p>Details (more_info/?hazmat=50)</p>
 <p>Fireworks (more_info/?hazmat=16) Firecrackers, bottle rockets, poppers, sparklers</p>	✗	✗	<p>Details (more_info/?hazmat=16)</p>
 <p>Engine powered equipment with residual fuel (more_info/?hazmat=17) Chainsaws, generators, trimmers, etc.</p>	✗	✗	<p>Details (more_info/?hazmat=17)</p>
 <p>Engine powered equipment completely purged of fuel (more_info/?hazmat=43) Chainsaws, generators, trimmers, etc.</p>	✓	✗	<p>Details (more_info/?hazmat=43)</p>

Hazardous Material	Checked Bag	Carry On	
 <p>Duty free perfume and cologne (more_info/?hazmat=14) Perfumes and colognes purchased through airport and airline duty free shops</p>	✓	✓	Details (more_info/?hazmat=14)
 <p>Dry ice (more_info/?hazmat=13) Carbon dioxide, solid, 2.5 kg (5.5 lbs) or less, when used to pack perishables</p>	✓	✓	Details (more_info/?hazmat=13)
 <p>Curling irons (cordless) (more_info/?hazmat=12) Cordless curling iron, butane fueled curling irons</p>	✓	✓	Details (more_info/?hazmat=12)
 <p>Camping stoves and fuel bottles completely purged of fuel (more_info/?hazmat=41)</p>	✓	✓	Details (more_info/?hazmat=41)
 <p>Camping fuel (more_info/?hazmat=10) Propane, white gas, Coleman fuel, Sterno, solid fuels, stoves containing fuel</p>	✗	✗	Details (more_info/?hazmat=10)
 <p>Burning paste, gel (more_info/?hazmat=45) Fire starting</p>	✗	✗	Details (more_info/?hazmat=45)
 <p>Biological specimens, non-infectious, in preservative solutions (more_info/?hazmat=54) Containing formaldehyde, ethanol, isopropanol, or other alcohols</p>	✓	✓	Details (more_info/?hazmat=54)

Hazardous Material	Checked Bag	Carry On	
 <p>Batteries, wet, nonspillable (more_info/?hazmat=33) Gel cell and absorbed electrolyte batteries for portable electronics</p>	✓	✓	<p>Details (more_info/?hazmat=33)</p>
 <p>Avalanche rescue backpack, self-inflating (more_info/?hazmat=6)</p>	✗	✗	<p>Details (more_info/?hazmat=6)</p>
 <p>Animal spray, repellent (more_info/?hazmat=8) Greater than 118 ml (4 fluid ounces), bear spray, animal repellent</p>	✗	✗	<p>Details (more_info/?hazmat=8)</p>
 <p>Alcoholic beverages over 140 proof (more_info/?hazmat=52) Greater than 70% alcohol by volume (more than 140 proof), including grain alcohol and 151 proof rum</p>	✗	✗	<p>Details (more_info/?hazmat=52)</p>
 <p>Alcoholic beverages (more_info/?hazmat=5) In unopened retail packaging, containing more than 24% but not more than 70% alcohol by volume (up to 140 proof)</p>	✓	✓	<p>Details (more_info/?hazmat=5)</p>
 <p>Aerosols non-flammable (more_info/?hazmat=2) Non-toiletry, some electronics cleaners, whipped cream</p>	✓	✗	<p>Details (more_info/?hazmat=2)</p>
 <p>Aerosols flammable (more_info/?hazmat=1) Non-toiletry, WD-40, spray paint, spray starch, cooking spray, etc.</p>	✗	✗	<p>Details (more_info/?hazmat=1)</p>

Hazardous Material	Checked Bag	Carry On	
 <p>Aerosol sun block, tanning spray, sunburn treatment (more_info/?hazmat=47)</p>	✓	✓	<p>Details (more_info/?hazmat=47)</p>
 <p>Aerosol mosquito, insect repellent (more_info/?hazmat=46)</p>	✓	✓	<p>Details (more_info/?hazmat=46)</p>
 <p>Aerosol laundry products, flammable (more_info/?hazmat=58) Spray starch, anti-static spray, etc.</p>	✗	✗	<p>Details (more_info/?hazmat=58)</p>
 <p>Adhesives, nonflammable (more_info/?hazmat=57) School glue, glue sticks, etc.</p>	✓	✓	<p>Details (more_info/?hazmat=57)</p>
 <p>Adhesives, flammable (more_info/?hazmat=3) Rubber cement, pipe cement, some super glues and other flammable adhesives</p>	✗	✗	<p>Details (more_info/?hazmat=3)</p>

Showing 1 to 60 of 60 entries

Previous Next

Hazmat Questions? Contact us at HazMatInfo@faa.gov. Please allow 1-2 business days for answers to e-mail questions.

Security Questions? See the [Transportation Security Administration's information](http://www.tsa.gov/traveler-information/prohibited-items) (<http://www.tsa.gov/traveler-information/prohibited-items>) on sharp objects, weapons, the "3-1-1" rule for liquids, gels, and aerosols, etc.

[Hazardous Materials Safety Contacts \(contact/\)](#)

Page last modified: December 31, 2014 9:46:27 AM EST

This page was published at: https://www.faa.gov/about/initiatives/hazmat_safety/