



BATTERIES LITHIUM

ANTICIPER LE RISQUE DE FEU À BORD

— Synthèse des liens et ressources utiles

Au cours des travaux préparatoires au symposium, un état de l'art des ressources utiles existantes sur les batteries lithium a été effectué. Cet état de l'art n'est pas exhaustif. Il a pour unique objectif de rassembler un certain nombre de liens et ressources utiles pouvant servir aux personnes s'intéressant au sujet des batteries lithium dans un aéronef. Afin de faciliter l'exploration dans la liste ci-dessous, les ressources ont été classées dans différentes catégories.

Documents réglementaires ou de bonnes pratiques

ICAO

Doc 10062 Manual on the Investigation of Cabin Safety Aspects in Accidents and Incidents

Doc 9481 (AN/928) Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods

Doc 9284 Technical Instructions for the Safe Transport of Dangerous Goods By Air 2019-2020

Electronic Bulletin 2016/01 DANGEROUS GOODS CARRIED BY PASSENGER AND CREW — SMALL LITHIUM BATTERY POWERED PERSONAL TRANSPORTATION DEVICES INCLUDING HOVERBOARDS

<https://www.icao.int/safety/DangerousGoods/Documents/eb001e.pdf>

Electronic Bulletin EB 2014/074 DANGEROUS GOODS CARRIED BY PASSENGER AND CREW — INCIDENTS RELATED TO ELECTRONIC CIGARETTES

EASA

Safety Information Bulletin 2015-06R1 : Fire Risk of Electronic Cigarettes in Checked Baggage

<https://ad.easa.europa.eu/ad/2015-06R1>

Regulation (EU) No 965/2012 CAT.GEN.MPA.140 Portable electronic device

FAA

Safety alerts

SAFO 22/01/2015 Fire Risk of Electronic Cigarettes (e-cigarettes) in Checked Baggage

https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2015/SAFO15003.pdf

SAFO 08/10/2015 Carriage of Spare Lithium Batteries in Carry-on and Checked Baggage

https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2015/SAFO15010.pdf

SAFO 23/06/2009 Fighting Fires Caused By Lithium Type Batteries in Portable Electronic Devices

https://www.faa.gov/hazmat/resources/lithium_batteries/media/SAFO09013.pdf

– Supplement

https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2009/SAFO09013SUP.pdf

Information for Operators

Info 13010 (2013) Expanding Use of Passenger Portable Electronic Devices (PED)

https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/media/2013/info13010.pdf

Regulation

FAA Part 91 General and operating flight rules - Subpart A §91.21 Portable electronic devices.

DGAC

Guide traitement feu batterie lithium en poste de pilotage

https://www.ecologie.gouv.fr/sites/default/files/Guide_Traitement_feu_batterie_Lithium.pdf

CAA UK

Cargo Aircraft : Lithium battery smoke/fire/fume incident on-board aircraft bowtie

https://www.iata.org/contentassets/05e6d8742b0047259bf3a700bc9d42b9/ukca_-_bowtie_model_carriage_of_lithium_batteries.pdf

IATA

Lithium Battery Risk Assessment Guidance for Operators

https://www.iata.org/contentassets/05e6d8742b0047259bf3a700bc9d42b9/lithium_battery_risk_assessment_guidance_for_operators.pdf

Cabin operations safety Best practices guide

<https://www.skybrary.aero/bookshelf/books/3996.pdf>

- 7.7 Carriage of lithium batteries
- 16.6.8 Lithium Battery Fires
- Appendix A – Cabin Crew Checklist for Fires Involving Batteries and Portable Electronic Devices (PED)

Lithium Batteries Risk Mitigation Guidance for Operators

<https://www.skybrary.aero/bookshelf/books/2938.pdf>

Guidance on the Expanded Use of Passenger Portable Electronic Devices (PEDs)

<https://www.skybrary.aero/bookshelf/books/2855.pdf>

U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration

Safety Alert – Transportation of Hoverboards (Lithium Battery Powered Vehicles)

https://www.faa.gov/hazmat/resources/lithium_batteries/media/Hover_Board_Safety_Alert.pdf

Royal Aeronautical Society

SMOKE, FIRE AND FUMES IN TRANSPORT AIRCRAFT - PAST HISTORY, CURRENT RISKS AND RECOMMENDED MITIGATIONS Part 1: Reference

<https://www.skybrary.aero/bookshelf/books/2330.pdf>

- 5.4 Potential Sources of Smoke and Fire - Lithium batteries
- 9.3 Regulatory Standards for Transport Aeroplanes - Lithium batteries
- Recommendations 1 to 6

SMOKE, FIRE AND FUMES IN TRANSPORT AIRCRAFT - PAST HISTORY, CURRENT RISKS AND RECOMMENDED MITIGATIONS Part 2 : Training

<https://www.skybrary.aero/bookshelf/books/2670.pdf>

- Lithium battery fires



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Boeing

Flight crew response to in-Flight Smoke, Fire, or Fumes

<https://www.skybrary.aero/bookshelf/books/948.pdf>

Airbus

Lithium batteries: safe to fly?

<https://safetyfirst.airbus.com/lithium-batteries-safe-to-fly/>

Rapports d'enquêtes et liste d'événements de sécurité

ATSB

Airbus A320, 18/02/2018, abeam Cooma, Cabin fire

<https://www.atsb.gov.au/publications/occurrence-briefs/2018/aviation/ab-2018-022/>

Airbus A380, 16/05/2016, about 1,500 km WSW of Dallas-Fort Worth Airport, United States, Smoke event

https://www.atsb.gov.au/publications/investigation_reports/2016/air/ao-2016-051/

Boeing 747, 21/06/2016, 500 km WNW of John F. Kennedy International Airport, United States, Personal electronic device fire in-flight

https://www.atsb.gov.au/publications/investigation_reports/2016/air/ao-2016-066/

NTSB

Airbus A320, 10/02/2007, New York, Catastrophic failure of a 9-volt battery from an unknown cause (Overhead Bin fire)

<https://app.nts.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20080409X00446&AKey=1&RType=Final&IType=IA>

Boeing 737, 15/12/2006, Colorado Spring, Ecoquest Fresh Air Buddy Personal Air Purifier

<https://app.nts.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20061219X01807&AKey=1&RType=Final&IType=IA>

McDonnell Douglas DC-8, 07/02/2006, Philadelphia, Inflight Cargo Fire

https://reports.aviation-safety.net/2006/20060208-0_DC87_N748UP.pdf

BEA

Boeing 777, 08/12/2010, Feu en cabine en croisière

<https://www.bea.aero/fileadmin/documents/docspa/2010/f-pk101208/pdf/f-pk101208.pdf>

GCAA UAE

Boeing 747, 03/09/2010, Dubai, Uncontained Cargo Fire Leading to Loss of Control Inflight and Uncontrolled Descent Into Terrain

<https://www.gcaa.gov.ae/en/ePublication/admin/iradmin/Lists/Incidents%20Investigation%20Reports/Attachments/40/2010-2010%20-%20Final%20Report%20-%20Boeing%20747-44AF%20-%20N571UP%20-%20Report%2013%202010.pdf>

ARAIB (Aircraft and Railway Accident Investigation Board) Republic of Korea

Boeing 747, 28/07/2011, International Waters 130 km West Of Jeju Int'l Airport, Crash Into The Sea After An In-Flight Fire

https://reports.aviation-safety.net/2011/20110728-0_B744_HL7604.pdf

AAIB

Boeing 787, 12/07/2013, London Heathrow Airport, Thermal runaway failure of the lithium manganese dioxide battery in the ELT

https://assets.publishing.service.gov.uk/media/55d43f8d40f0b6091a000001/AAIB_2-2015_ET-AOP.pdf



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– Synthèse des liens et des ressources utiles

Fire and Cabin Safety Research Group (former Cabin Safety Research Technical Group) Database

Base de données rassemblant beaucoup de rapports concernant des feux à bord

<https://www.fire.tc.faa.gov/ADB/adb/ADBlist.asp>

FAA

List of EVENTS WITH SMOKE, FIRE, EXTREME HEAT OR EXPLOSION INVOLVING LITHIUM BATTERIES - 2006 to present

https://www.faa.gov/hazmat/resources/lithium_batteries/media/Battery_incident_chart.pdf

Productions à destination des passagers ou des expéditeurs

Passagers

DGAC

AIRBAG / ARTICLES INTERDITS OU RÉGLEMENTÉS DANS LES BAGAGES

<https://airbag.dsac.aviation-civile.gouv.fr/AirBag>

CASA

CASA Safety Video - Travelling safely with lithium batteries

<https://youtu.be/jvxS3-0QzT4>

Is your luggage safe? Brochure

https://www.casa.gov.au/sites/default/files/assets/main/dg/luggage/brochure.pdf?acsf_files_redirect

Before you pack your bags

<https://www.casa.gov.au/safety-management/dangerous-goods/you-pack-your-bags>

Dangerous Goods App

<https://dangerousgoodsapp.casa.gov.au/>

IATA

Passengers travelling with lithium batteries

<https://www.iata.org/contentassets/6fea26dd84d24b26a7a1fd5788561d6e/passenger-lithium-battery.pdf>

CAA UK

Dangerous goods information provided to passengers

<https://www.caa.co.uk/Commercial-industry/Airports/Safety/Dangerous-goods/Dangerous-goods-information-provided-to-passengers/>

Beware! poster - items not allowed in checked or cabin baggage

https://publicapps.caa.co.uk/docs/33/CAP1402A3_DangerousGoods_A3_2018.PDF

EASA

EASA: lithium batteries and other dangerous goods

https://www.youtube.com/watch?v=pwwdH_wNEeo&feature=youtu.be

FAA

Resources for passengers

<https://www.faa.gov/hazmat/packsafe/resources/>

When in doubt leave it out! Poster

https://www.faa.gov/hazmat/packsafe/resources/media/PackSafe_Hazmat_Poster.pdf



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Vapes On A Plane Marketing Kit

https://www.faa.gov/hazmat/packsafe/resources/vapes_marketing_kit/

Transport Security Administration USA

What Can I Bring?

<https://www.tsa.gov/travel/security-screening/whatcanibring/all>

Expéditeurs

IATA

Lithium Battery Guidance Document

<https://www.iata.org/contentassets/05e6d8742b0047259bf3a700bc9d42b9/lithium-battery-guidance-document-2020.pdf>

FAA

Mobile application to prepare lithium battery shipment

iOS: <https://itunes.apple.com/kw/app/shipping-lithium-ion-metal-batteries/id1108590921?mt=8>

Android: <https://play.google.com/store/apps/details?id=serpac.com.libattery>

AIR FRANCE KLM MARTINAIR CARGO

Envoi de batteries lithium

https://www.afklcargo.com/FR/fr/common/cg_content/lithium_batteries.jsp

UPS

Emballage et expédition sécuritaires de piles et de batteries

https://www.ups.com/assets/resources/media/fr_CA/pack_ship_batteries.pdf

DHL

Shipping Lithium Batteries

https://www.dhl.com/en/express/shipping/shipping_advice/lithium_batteries.html

UPU (Universal Postal Union)

Promotion et campagnes – Marchandises dangereuses

<https://www.upu.int/fr/Union-postale-universelle/Promotion-et-campagnes/Marchandises-dangereuses>

La Poste

Réussir l’emballage d’un envoi

<https://www.laposte.fr/courriers-colis/conseils-pratiques/reussir-l-emballage-d-un-envoi>

Comment bien préparer un colis depuis chez vous ?

<https://www.laposte.fr/preparer-colis-maison-comment-faire>

Comment envoyer un colis fragile ?

<https://www.laposte.fr/envoyer/envoyer-colis-fragile>

Comment envoyer un téléphone portable par La Poste ?

<https://www.laposte.fr/envoyer/envoi-telephone-portable>

Document expliquant les restrictions pour les envois de batteries au lithium

https://www.laposte.fr/medias/sys_master/apache_synchronised/h00/he3/11200234946590.pdf



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Productions à destination des personnels cabine/sol et des agents de piste

DGAC

Sécurité des vols, agir ensemble au sol - Mise en soute d'un bagage cabine

<https://www.youtube.com/watch?v=dpOu-GZZ4iA&feature=youtu.be>

CAA UK

Lithium batteries: guidance for crew

<https://www.youtube.com/watch?v=pOiwEW54xL8>

Lithium batteries: guidance for passenger handling staff

https://www.youtube.com/watch?time_continue=351&v=cj7r91IZYOc&feature=emb_title

Lithium batteries: guidance for cargo and ramp personnel

<https://www.youtube.com/watch?v=UmESPM3U5T4>

Autres liens et ressources utiles

DGAC

Articles réglementés ou interdits en avion et en hélicoptère

<https://www.ecologie.gouv.fr/articles-reglementes-ou-interdits-en-avion-et-en-helicoptere>

Skybrary

Passenger Cabin Fire

https://www.skybrary.aero/index.php/Passenger_Cabin_Fire

Aircraft Fire Risk from Battery-powered Items Carried on Aircraft

https://www.skybrary.aero/index.php/Aircraft_Fire_Risk_from_Battery-powered_Items_Carried_on_Aircraft

Personal Electronic Device Fire - Cabin Crew Checklist

https://www.skybrary.aero/index.php/Personal_Electronic_Device_Fire_-_Cabin_Crew_Checklist

CAA UK

Lithium batteries - Guidance for cabin crew and cargo workers

<https://www.caa.co.uk/Commercial-industry/Airports/Safety/Dangerous-goods/Lithium-batteries/>

CASA

Travelling safely with batteries and portable power packs

https://www.casa.gov.au/standard-page/travelling-safely-batteries?WCMS%3ASTANDARD%3A%3Apc=PC_100484

EASA

Dangerous Goods – Lithium batteries

<https://www.easa.europa.eu/easa-and-you/passengers/dangerous-goods>

IATA

Dangerous Goods – Lithium batteries

<https://www.iata.org/en/programs/cargo/dgr/lithium-batteries>

FAA

Lithium Battery Safety Resources

https://www.faa.gov/hazmat/resources/lithium_batteries/



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Fact Sheet – Lithium Batteries in Baggage

https://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=23054

Packsafe for Passengers

<https://www.faa.gov/hazmat/packsafe/>

Batteries Carried by Airline Passengers Frequently Asked Questions

https://www.faa.gov/hazmat/packsafe/resources/media/Airline_passengers_and_batteries.pdf

Operate Safe for Air Carriers

https://www.faa.gov/hazmat/air_carriers/

Fire and Cabin Safety Research Group

<https://www.fire.tc.faa.gov/Cabin>

Portable Electronic Devices

<https://www.faa.gov/about/initiatives/ped/>

Presse

A Virgin Atlantic flight makes an emergency landing in Boston after a cabin fire

<https://edition.cnn.com/2019/07/05/us/virgin-atlantic-flight-fire-diverted/index.html>

Plane fire: Virgin Atlantic flight makes emergency landing

<https://www.bbc.com/news/world-us-canada-48879379>



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