

**Freedom of Information request reference number: 7528.1**

**Date of response: 21 June 2023**

**Request:**

*Please provide information on the number of Lithium-ion battery fires attended by the London Fire Brigade. Please include information on year, month, location (private or public), fire spread, device/vehicle type, cause, battery size, battery chemistry, number of fatalities and number of injuries*

*What is the London Fire Brigades opinion on the different Lithium-ion battery chemistries (LFP, NMC e.t.c) and fire risk?*

**Response:**

I have attached the tables with the most recent figures for the number of fires attended where all types of lithium battery were believed to be the cause. I have also included reports of the data we hold in relation to Lithium Battery Fires including location, source of ignition, property type, number of fatalities and injuries. We do not have a data set regarding the battery size or battery chemistry.

Please note, the data in the tables include incidents that were recorded under a new ignition source for 'e-bike' and 'e-scooter' as well as a free text search (for historical data) on e-bikes, e-scooters, e-cigarettes and other lithium battery devices. As a result of using the free text search, the historical data may not be 100% accurate.

Number of lithium battery related fires		Lithium Device				
Year	Month	e-bike	e-cigarette	e-scooter	Other Lithium Battery	Grand Total
2020	Jan				1	1
	Feb	1	1		1	3
	Mar		1		2	3

	Apr		1		2	3
	May	3			5	8
	Jun	2		3	1	6
	Jul	1		2	1	4
	Aug				3	3
	Sep	1		2	4	7
	Oct	2		6	4	12
	Nov	3		2	2	7
	Dec			3		3
2021	Jan	3	1	2	2	8
	Feb	1		2	4	7
	Mar			3	3	6
	Apr	5		1	5	11
	May	6		4	2	12
	Jun	4	1	1	5	11
	Jul	5		1	3	9
	Aug	8	1	3	2	14
	Sep	3		2	5	10
	Oct	3	1	8	1	13
	Nov	6		3	2	11
	Dec	4			1	5
2022	Jan	7	1	2	3	13
	Feb	4		1	3	8
	Mar	8		1	4	13
	Apr	2		2	2	6

	May	7	1	1	5	14
	Jun	4		2	3	9
	Jul	8	1	6	3	18
	Aug	11	1	4	7	23
	Sep	9	1	3	9	22
	Oct	12		3	2	17
	Nov	10		3	3	16
	Dec	5		1	5	11
2023	Jan	9		2	5	16
	Feb	15		3	1	19
	Mar	11	1	2	4	18
	Apr	9	1	4	9	23
	May	10	1	2	8	21
	Jun	6		1	3	10
Grand Total		<b>221</b>	<b>19</b>	<b>95</b>	<b>170</b>	<b>505</b>

Year	e-bike/e-scooter/Lithium	Number of Fire Injuries	Number of Fire Fatalities
2020	e-bike	9	0
	e-scooter	9	0
2021	e-bike	24	0
	e-scooter	9	0
2022	e-bike	44	0
	e-scooter	12	0
2023	e-bike	26	1
	e-scooter	9	0

Grand Total		142	1
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BoroughName	Number of lithium related fires
Tower Hamlets	40
Newham	26
Brent	23
Haringey	23
Lambeth	23
Southwark	23
Hammersmith and Fulham	22
Croydon	21
Westminster	20
Ealing	18
Greenwich	18
Waltham Forest	18
Camden	17
Hackney	16
Lewisham	14
Bromley	12
Islington	12
Barnet	11
Enfield	11
Hillingdon	11
Bexley	9
Wandsworth	9
Hounslow	8
Barking and Dagenham	7
Havering	7
Redbridge	7
Kensington and Chelsea	6
Kingston Upon Thames	6
Merton	5
Sutton	5
Harrow	4
Richmond Upon Thames	2

PropertyType	LocationFireStarted	Number of fires
Bicycle	Other	31
Other road vehicle	Other	21
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Bedroom	20
House - single occupancy	Bedroom	18
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Corridor/Hall	16
House - single occupancy	Living room	13
Purpose Built Flats/Maisonettes - Up to 3 storeys	Bedroom	11
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Living room	10
House - single occupancy	Kitchen	9
House - single occupancy	Other	9
Converted Flat/Maisonettes - 3 or more storeys	Bedroom	8
House - single occupancy	Corridor/Hall	8
Purpose Built Flats/Maisonettes - Up to 3 storeys	Corridor/Hall	7
Purpose Built Flats/Maisonettes - Up to 3 storeys	Living room	7
Single shop	Shop floor/Showroom/Display hall	7
Private Garden Shed	Other	6
Purpose Built Flats/Maisonettes - Up to 3 storeys	Kitchen	6
Unlicensed House in Multiple Occupation - Up to 2 storeys	Bedroom	6
Bicycle	Not known	5
Bicycle	Wheel/Brakes	5
Other road vehicle	Other inside/Cargo area	5
Prison	Other	5
Converted Flat/Maisonette - Up to 2 storeys	Corridor/Hall	4
Converted Flat/Maisonettes - 3 or more storeys	Kitchen	4
Hotel/motel	Bedroom	4
House - single occupancy	Garage	4
Purpose Built Flats/Maisonettes - 10 or more storeys	Bedroom	4
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Kitchen	4
Car	Driver/Passenger area	3
Converted Flat/Maisonette - Up to 2 storeys	Living room	3
Converted Flat/Maisonettes - 3 or more storeys	Living room	3
Converted Flat/Maisonettes - 3 or more storeys	Stairs	3
Hostel (e.g. for homeless people)	Bedroom	3
House - single occupancy	External structures	3
Licensed House in Multiple Occupation - 3 or more storeys	Bedroom	3
Licensed House in Multiple Occupation - Up to 2 storeys	Bedroom	3
Licensed House in Multiple Occupation - Up to 2 storeys	Kitchen	3

Other road vehicle	Engine	3
Other road vehicle	Not known	3
Private garage	Garage	3
Purpose Built Flats/Maisonettes - Up to 3 storeys	Private balcony	3
Recycling plant	Process/Production room	3
Vehicle Repair Workshop	Other	3
Converted Flat/Maisonette - Up to 2 storeys	Bedroom	2
Converted Flat/Maisonette - Up to 2 storeys	Kitchen	2
Converted Flat/Maisonettes - 3 or more storeys	Corridor/Hall	2
Hostel (e.g. for homeless people)	Bedsitting room	2
House - single occupancy	Under stairs (enclosed, storage area)	2
House in Multiple Occupation - Up to 2 storeys (not known if licensed)	Bedroom	2
House in Multiple Occupation - Up to 2 storeys (not known if licensed)	Corridor/Hall	2
House in Multiple Occupation - Up to 2 storeys (not known if licensed)	Living room	2
House in Multiple Occupation - Up to 2 storeys (not known if licensed)	Other	2
Licensed House in Multiple Occupation - 3 or more storeys	Bedsitting room	2
Licensed House in Multiple Occupation - Up to 2 storeys	Living room	2
Other retail warehouse	Garage	2
Other road vehicle	Wheel/Brakes	2
Private Garden Shed	External structures	2
Private Garden Shed	Garage	2
Purpose Built Flats/Maisonettes - 10 or more storeys	Corridor/Hall	2
Purpose Built Flats/Maisonettes - 10 or more storeys	Living room	2
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Bathroom/Toilet	2
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Private balcony	2
Purpose Built Flats/Maisonettes - Up to 3 storeys	Other	2
Purpose built office	Office	2
Self contained Sheltered Housing	Living room	2
Temporary office (eg portacabin)	Office	2
Unlicensed House in Multiple Occupation - 3 or more storeys	Corridor/Hall	2
Airfield/runway		1
Bicycle	Fuel tank	1
Boarding House/B&B for homeless/asylum seekers	Bedroom	1
Bungalow - single occupancy	Bedroom	1
Bungalow - single occupancy	Corridor/Hall	1
Bus/coach	Wheel/Brakes	1
Car	Boot	1

Car	Not known	1
Central Government Office	Store room	1
Church/Chapel	Meeting room	1
Converted Flat/Maisonette - Up to 2 storeys	Communal balcony/Elevated walkway	1
Converted Flat/Maisonette - Up to 2 storeys	Other	1
Converted Flat/Maisonette - Up to 2 storeys	Private balcony	1
Converted Flat/Maisonette - Up to 2 storeys	Roof space	1
Converted Flat/Maisonettes - 3 or more storeys	Bedsitting room	1
Converted Flat/Maisonettes - 3 or more storeys	External structures	1
Department Store	Office	1
Exhibition Centre	Reception area	1
Garden equipment	Other	1
Hospital	Corridor/Hall	1
Hospital	Other	1
Hostel (e.g. for homeless people)	Corridor/Hall	1
Hostel (e.g. for homeless people)	Store room	1
Hotel/motel	Bedsitting room	1
House - single occupancy	Airing/Drying cupboard	1
House - single occupancy	Bathroom/Toilet	1
House - single occupancy	Dining room	1
House - single occupancy	Utility room	1
House in Multiple Occupation - 3 or more storeys (not known if licensed)	Bedroom	1
House in Multiple Occupation - 3 or more storeys (not known if licensed)	Kitchen	1
House in Multiple Occupation - Up to 2 storeys (not known if licensed)	Kitchen	1
Laboratory/research Establishment	Other	1
Licensed House in Multiple Occupation - 3 or more storeys	Kitchen	1
Licensed House in Multiple Occupation - 3 or more storeys	Living room	1
Licensed House in Multiple Occupation - Up to 2 storeys	Communal balcony/Elevated walkway	1
Licensed House in Multiple Occupation - Up to 2 storeys	Refuse store/Bin room	1
Lorry/HGV	Other	1
Motorcycle	Not known	1
Nurses'/Doctors' accommodation	Bedroom	1
Other agricultural building	Store room	1
Other building/use not known	Other	1
Other bulk storage	Store room	1
Other car park structure	Garage	1
Other Dwelling	Bedroom	1

Other Dwelling	Corridor/Hall	1
Other industrial manufacturing facility	Other	1
Other industrial processing plant	Other	1
Other outdoor equipment/machinery	Other	1
Other outdoor structures	Other	1
Other private non-residential building	Other	1
Other Residential Home	Bedroom	1
Other Residential Home	Corridor/Hall	1
Other retail warehouse	Process/Production room	1
Other road vehicle	Fuel tank	1
Outdoor storage	Other	1
Park		1
Police station	Store room	1
Pre School/nursery	Other	1
Prison	Bathroom/Toilet	1
Private garage	Office	1
Private garage	Parking garage	1
Private Garden Shed	Not known	1
Private Garden Shed	Store room	1
Purpose Built Flats/Maisonettes - 10 or more storeys	Other	1
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Airing/Drying cupboard	1
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Bedsitting room	1
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Communal balcony/Elevated walkway	1
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Dining room	1
Purpose Built Flats/Maisonettes - 4 to 9 storeys	External structures	1
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Other	1
Purpose Built Flats/Maisonettes - 4 to 9 storeys	Stairs	1
Purpose Built Flats/Maisonettes - Up to 3 storeys	Communal balcony/Elevated walkway	1
Purpose built office	Corridor/Hall	1
Purpose built office	Other	1
Railway building - other	Other	1
Recycling plant	Not known	1
Recycling plant	Other	1
Recycling plant	Refuse store/Bin room	1
Restaurant/cafe	Kitchen	1
Road surface/pavement		1
Self contained Sheltered Housing	Bedroom	1
Self contained Sheltered Housing	Stairs	1
Shopping Centre	Shop floor/Showroom/Display hall	1
Single shop	Office	1



Single shop	Roof space	1
Small refuse/rubbish container		1
Student Hall of Residence	Bedroom	1
Takeaway, fast food	Store room	1
Temporary office (eg portacabin)	Other	1
Towing caravan (not on tow or on site)	Other	1
Trailer (not attached to tractor unit)	Other inside/Cargo area	1
Train on Tube network	Passenger area	1
Train station - platform (at ground level or elevated)	Office	1
Unlicensed House in Multiple Occupation - 3 or more storeys	Bedroom	1
Unlicensed House in Multiple Occupation - Up to 2 storeys	Bedsitting room	1
Unlicensed House in Multiple Occupation - Up to 2 storeys	Corridor/Hall	1
Unlicensed House in Multiple Occupation - Up to 2 storeys	Kitchen	1
Van	Other inside/Cargo area	1
Vehicle Repair Workshop	Garage	1
Vehicle Repair Workshop	Process/Production room	1
Warehouse	Not known	1
Warehouse	Office	1
Warehouse	Process/Production room	1
Warehouse	Shop floor/Showroom/Display hall	1

ParentIgnSource	IgnitionSourceGroup	IgnitionSource	Number of fires
Electricity supply	Electrical distribution	Batteries, generators	176
Vehicles only	Vehicle related	E-Bike	98
	Other ignition source	Other	44
Vehicles only	Vehicle related	E-Scooter	34
	Not confirmed	Not known	18
Other domestic style appliance	Electrical distribution	e-Smoking equipment	15
	Other item	Other appliance or equipment	14
Other domestic style appliance	Audio-Visual	Battery charger	13
Vehicles only	Vehicle related	Vehicle electrical fault	7
Electricity supply	Electrical distribution	Wiring, cabling, plugs	5
	Not confirmed		4

Smoking related	Smoking related	Cigarette	4
Electric lighting	Lighting	Other lights	2
Matches and candles	Matches and Candles	Matches	2
Other domestic style appliance	Audio-Visual	Computer equipment (domestic use)	2
Other domestic style appliance	Domestic appliances	Vacuum cleaner	2
Smoking related	Smoking related	Smoking materials	2
	Other item	Spread from secondary fire	1
Heating equipment	Electrical distribution	Power Source	1
Heating equipment	Heating appliances	Other heating equipment	1
Industrial equipment	Other ignition source	Lift	1
Matches and candles	Matches and Candles	Candles/Tea lights - Religious use	1
Matches and candles	Matches and Candles	Candles/Tea lights - Social use	1
Matches and candles	Matches and Candles	Oil/Incense burners	1
Office equipment	Audio-Visual	Telephone/Answering machine/Fax machine	1
Other domestic style appliance	Domestic appliances	Other domestic style appliance	1
Smoking related	Smoking related	Cigarette lighter	1
Vehicles only	Vehicle related	Other non-electrical vehicle fault	1
Vehicles only	Vehicle related	Unknown vehicle fault	1

Please note, the date range used for this data was 01.01.2020 – date (15.06.2023).

In response to the 2<sup>nd</sup> point of your request. Please see published guidance on the National Fire Chiefs website.

<https://www.nationalfirechiefs.org.uk/Emergency-responders-guide-for-alternatively-fuelled-vehicles>

<https://www.nationalfirechiefs.org.uk/E-bikes-and-e-scooters-fire-safety-guidance>

I hope you find the information we have been able to provide of use. Should you have any further questions please do let me know.

We have dealt with your request under the Freedom of Information Act 2000. For more information about this process please see the guidance we publish about making a request [on our website](#)