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Chemicals

A constant flow of innovation

for battery technology

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Battery Technology

All batteries are made up of three major components: a negative electrode (Anode), a positive electrode (cathode) and an electrolyte, a substance that reacts chemically with the anode and cathode. Metals, metal oxides, and solvents are all essential in battery production. Thermo Fisher Scientific offers a range of quality products to support battery research and manufacturing.

Anodes

Fisher Scientific Cat. No.	Description	Available Sizes
AA39724-18	Carbon black, acetylene, >99.9%	250 g, 1 kg, 3 kg
AA45527-30	Carbon black, acetylene, 100% compressed, >99.9%	250 g, 2×500 g
AAH30253-14	Carbon black, Super P™ Conductive, 99+% (metals basis)	25 g, 100 g
AA46311-MD	Fullerene powder, 99% C60	250 mg, 1 g, 5 g
AA11155-06	Germanium(IV) oxide, Puratronic™, 99.999%	5 g, 25 g, 100 g
AA10510-06	Germanium(IV) oxide, White powder/flake/crystalline/beads, etc., 99.9999%	5 g, 25 g, 100 g
AA40798-TA	Graphite powder, synthetic, conducting grade, -325 mesh, 99.9995% (metals basis)	28 g, 113 g, 227 g, 454 g
AA10769-14	Lithium foil, 0.75mm (0.03in) thick × 19mm (0.75in) wide, 99	25 g
AA89709-MD	Silicon(IV) oxide, 99.8% (metals basis)	250 g, 1 kg, 5 kg
AA88777-14	Silicon(IV) oxide, 99.995% (metals basis)	25 g, 100 g
AA10856-14	Silicon(IV) oxide, Puratronic™ 99.999% (metals basis)	100 g
AA12283-22	Tin(IV) oxide, 99.9% (metals basis)	100 g, 500 g, 2 kg
AA10760-18	Zinc shot, 1-6mm (0.04-0.24in), Puratronic™, 99.9999% (metals basis)	50 g, 250 g, 500 g, 1 kg

Binders

Fisher Scientific Cat. No.	Description	Available Sizes
AAL04280-22	Acrylic acid, 99%, stab. with ca 200ppm 4-methoxyphenol	100 g, 500 g
AAJ61887-22	Alginic acid sodium salt, high viscosity	100 g, 250 g, 1 kg

Cathodes

Fisher Scientific Cat. No.	Description	Available Sizes
AA14049-18	Lithium cobalt(III) oxide, 97%	50 g, 250 g, 1 kg
AA42090-14	Lithium cobalt(III) oxide, 99.5% (metals basis)	25 g, 100 g
AA40250-14	Lithium manganese(III,IV) oxide, 99.5% (metals basis)	25 g, 100 g
AA12839-04	Lithium sulfide, 99.9% (metals basis)	2 g, 10 g, 50 g, 250 g
AA10755-09	Sulfur pieces, 99.99% (metals basis), Puratronic™	10 g, 50 g, 250 g
AA43766-36	Sulfur powder, 99.5%	500 g, 2 kg
AA10343-14	Sulphur Pieces, Puratronic™, 99.9995% (metals basis)	25 g, 100 g, 500 g
AA33394-36	Sulphur Powder, sublimed, -100 mesh, 0.995	500 g, 2 kg
AA44263-30	Zinc oxide, 99.9% (metals basis)	250 g, 1 kg, 5 kg

Electrolytes

Fisher Scientific Cat. No.	Description	Available Sizes
AA13408-22	Lithium bromide, anhydrous, 99% min	100 g, 500 g, 2500 g
AA13407-14	Lithium hydroxide, anhydrous, 98%	25 g, 100 g, 500 g
AA13405-14	Lithium nitrate, anhydrous, 99%	25 g, 250 g, 1 kg, 5 kg
AA10804-09	Manganese(II) chloride tetrahydrate, Puratronic™, 99.999% (metals basis)	10 g, 50 g
AAA16199-AD	Potassium hydroxide, flake, 85%	500 g, 2500 g, 10000 g
AAA10552-30	Sodium bromide, 99+% (dry wt.), water <1.0%	250 g, 1000 g, 5000 g
AAH27307-09	Lithium bis(trifluoromethylsulfonyl)imide, 98+%	10 g, 50 g
AA11529-03	Lithium hexafluorophosphate, 98%	1 g, 10 g, 50 g
AA11528-09	Lithium tetrafluoroborate, 98%	10 g, 50 g

Separators

Fisher Scientific Cat. No.	Description	Available Sizes
AA42180-VA	Nafion™ N-117 membrane, 0.180mm thick, ≥0.90 meq/g exchange capacity	15 × 15 cm, 30 × 30 cm
AA42179-VA	Nafion™ N-115 membrane, 0.125mm thick, ≥0.90 meq/g exchange capacity	15 × 15 cm, 30 × 30 cm, 60 × 60 cm
AAA10239-22	Polyethylene powder, low density, 500 micron	100 g, 500 g, 2500 g
AA45176-HB	Polyethylene sheet, High Density, 12.7mm (0.5 in.) thick	300 × 300 mm
AA45175-HB	Polyethylene sheet, Low Density, 3.18mm (0.125 in.) thick	300 × 300 mm
AA45197-HB	Polyethylene sheet, Low Density, 6.35mm (0.25 in.) thick	300 × 300 mm
AA45196-HB	Polypropylene sheet, 3.18mm (0.125mm) thick	300 × 300 mm

Metals- battery components

Fisher Scientific Cat. No.	Description	Available Sizes
AA44332-FI	Aluminum foil, 0.25mm (0.01 in.) thick, annealed, Puratronic™, 99.9995% (metals basis)	50 × 50 mm, 100 × 100 mm, 100 × 500 mm
AA40707-YD	Aluminum foil, 0.5mm (0.02 in.) thick, annealed, Puratronic™, 99.9999% (metals basis)	50 × 50 mm, 100 × 100 mm, 100 × 500 mm
AA43424-FI	Aluminum Magnesium gauze, alloy 5056, 16 mesh woven from 0.24mm (0.0095 in.) dia. wire	75 × 75 mm, 150 × 150 mm
AA42189-FI	Aluminum Magnesium gauze, alloy 5056, 20 mesh woven from 0.23mm (0.009 in.) dia. wire	75 × 75 mm, 150 × 150 mm, 300 × 300 mm
AA46986-YD	Aluminum Ultrathin foil, 0.8 micron thick, 99.1% (metals basis)	30 × 30 mm, 140 × 140 mm
AA41785-H7	Copper foil, 0.025mm (0.001 in.) thick, annealed, uncoated, 99.8% (metals basis)	30 × 30 cm, 30 × 150 cm, 30 × 1000 cm
AA40946-K2	Copper foil, 99.999% (metals basis), Puratronic™	50 × 50 mm, 100 × 100 mm, 100 × 300 mm
AA46579-FL	Magnesium Aluminum Zinc wire, 3.18mm (0.125 in.) dia., 90cm (35 in.) long	5 × 90 cm, 25 × 90 cm, 100 × 90 cm
AA14092-RN	Nickel Wire, 0.15mm (0.006 in.) dia., approx.99%, Nickel 200 (metals basis)	250 m, 1000 m
AA46714-FL	Stainless Steel wire, 0.51mm (0.02 in.) dia., Type 304	50 cm, 150 cm

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Organic solvents/electrolyte components

Fisher Scientific Cat. No.	Description	Available Sizes
AAH27270-06	1-Butyl-2,3-dimethylimidazolium chloride, 99%	50 g
AAA12260-36	1-Methyl-2-pyrrolidinone, 99+%	10000 g
AA19740-04	1-n-Butylpyridinium chloride, 98%	50 g
AAH61502-14	4-Fluoro-1,3-dioxolan-2-one, 98%	25 g, 100 g
AAA12477-AP	Diethyl carbonate, 99+%	2500 ml, 10000 ml
AAA15735-36	Ethylene carbonate, 99%	500 g, 2500 g, 10000 g
AAH61502-14	Fluoroethylene carbonate, 4-Fluoro-1,3-dioxolan-2-one, 98%	100 g
AAA15552-30	Propylene Carbonate, 99%	1000 g, 2.5 kg
AA41963-K2	Trichloroethylene, Electronic Grade, 99.5+%	1 L, 4 L, 4 × 4 L
AAH60822-18	Vinyl ethylene carbonate, 4-Vinyl-1,3-dioxolan-2-one, 99%	50 g, 250 g

Application highlights

Research

The battery chemicals offered from Thermo Fisher Scientific are a great choice for the academic and industrial research laboratories involved in battery research and development.

The metals, metal oxides and selective liquid and solid electrolytes are very popular among the battery researchers.

Electronic devices

The battery chemicals are extensively used in various components for electronics applications. Rechargeable batteries are the common choice for the fast-drain electronic devices such as mobile phones and laptops. Non-rechargeable batteries are preferred in slow-drain devices like clocks and remote controls.

Automobile industry

Rechargeable batteries revolutionized the automobile industry. Continuous development of improvement in battery technologies is evident from recent advancements in electric vehicles. The battery chemicals we offer in our portfolio are very important components of electric vehicles (EV) battery technology.

Browse the complete portfolio of products supporting battery research and manufacturing. For more information visit: **fishersci.com** and **fishersci.ca**

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