Saft primary lithium batteries: applications

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Temperature</th>
<th>Nominal Capacity</th>
<th>Discharge Current</th>
<th>Pulse Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6 V</td>
<td>-40°C to +70°C</td>
<td>2Ah</td>
<td>1200mA</td>
<td>3600A</td>
</tr>
<tr>
<td>3.6 V</td>
<td>-40°C to +70°C</td>
<td>5Ah</td>
<td>3000mA</td>
<td>10000A</td>
</tr>
<tr>
<td>3.6 V</td>
<td>-40°C to +70°C</td>
<td>10Ah</td>
<td>6000mA</td>
<td>30000A</td>
</tr>
<tr>
<td>3.6 V</td>
<td>-40°C to +70°C</td>
<td>50Ah</td>
<td>30000mA</td>
<td>150000A</td>
</tr>
</tbody>
</table>

Whether your application requires highly reliable Lithium batteries that cannot be matched, Saft is your partner for custom lithium batteries.

Examples of standard individual cell tabbing arrangements:

Examples of standard battery packs configurations:

Saft primary lithium batteries: performance data:

- Comprehensive data sheets are available on request.
- High discharge currents are achievable with Saft's specialized versions, ensuring consistent performance under various conditions.
- Maximum discharge current is dependent on pulse characteristics, with continuous currents possible for short periods.

Examples of standard battery packs configurations:

- Saft's cell series feature performance data tailored for specific applications, ensuring optimal performance across various sectors.
- Considered cell finishes provide flexibility for custom applications, with availability and dimensions of tabbing arrangements detailed in the selector guide.

Summary:

Saft offers a comprehensive range of primary lithium batteries, with customizable options available to meet specific application needs. Whether it's for military defense, electronic systems, or industrial power supplies, Saft's expertise ensures reliable performance under demanding conditions. For more information, please contact your local representative for further details.
Saft lithium batteries
meeting your needs...

Key features

Primary cells and batteries are not rechargeable.

- High- and stable operating voltage
  - Above 3 V for LS and LSH cells.
  - Above 2 V for LO/G and LM/M cells.

- Wide current capability range
  From several microamperes to more than 10 A pulses for some LO/G and LM/M cells.

- Wide operating temperature range
  From –60ºC up to +85ºC (Standard cells) depending on cell type, current drain and environment conditions.
  - High and stable operating temperature
    - Spiral cell series: Operating safely and reliably up to +150ºC.

- High energy densities
  Three times greater than the non-lithium systems.

- Excellent behavior in humid environments
  Corrosion-free stainless steel cell envelopes.

- Disposal
  According to local regulations.

- Adequate safety
  Most of Saft’s lithium cells are UL (Underwriters Laboratories) and IEC 60086-4 recognized, and non-restricted for transport. Most battery packs comply with European and US Army standards. Several LS cell models comply with the IEC 60079-11 “Intrinsic Safety” specification for ATEX applications.

- Storage
  The storage area should be clean, cool (preferably not exceeding +30ºC), dry and ventilated.

- Logistic
  The small LS cells are manufactured in France, UK and China.

Saft is a world specialist in the design and manufacture of high-tech batteries for professional, industrial, space and military uses.

- For more than 32 years, Saft has pioneered the development and production of primary lithium cells and battery packs in Europe, North America and Asia/Pacific.

- Autonomy, power, voltage, shape, weight, service life, price. Saft draws from its 50 years of battery solutions to tailor the one you need.

- Lithium power at your service
  Lithium is a light metal which exhibits an exceptional specific capacity (3.86 Ah/gram) and unique electrochemical characteristics.

- Saft’s lithium products
  Three lithium chemistries are currently available:
  - Lithium-thionyl chloride (Li-SOCl2) in LS/LSH 3.6 V cells,
  - Lithium-sulfur dioxide (Li-SO2) in LO/G 3.0 V cells,
  - Lithium-manganese dioxide (Li-MnO2) in LM/M 3.0 V cells.

- Saft’s lithium chemistries: specific qualities
  - Li-SOCl2
    - Spiral construction
    - Non-corrosive electrolyte
    - Cells non-pressurized at room temperature
    - Spiral cells with good pulse capability
    - Minimal voltage delay
    - Competitive capacity at high current and low temperature (–40ºC)
  - Li-SO2
    - Spiral construction
    - Non-flammable electrolyte
    - Superior pulse capability
    - Excellent capacity above 1 A
    - Superior power at – 40ºC
    - Hermeticity guaranteed up to +95ºC
  - Li-MnO2
    - Spiral construction
    - Non-corrosive electrolyte
    - Cells non-pressurized at room temperature
    - Spiral cells with good pulse capability
    - Minimal voltage delay
    - Unrivaled nominal capacities (LS)
  - Li-SOCl2
    - Bobbin, coil or spiral construction
    - Operating voltage > 3 V
    - Ability to operate from –60 to +85ºC
    - Non-flammable electrolyte
    - Cells non-pressurized at room temperature
    - Hermeticity guaranteed up to +120ºC
  - Li-SO2
    - Spiral construction
    - Non-flammable electrolyte
    - Superior pulse capability
    - Excellent capacity above 1 A
    - Superior power at – 40ºC
    - Hermeticity guaranteed up to +95ºC
  - Li-MnO2
    - Spiral construction
    - Non-corrosive electrolyte
    - Cells non-pressurized at room temperature
    - Spiral cells with good pulse capability
    - Minimal voltage delay
    - Unrivaled nominal capacities (LS)

- High operating temperature – spiral cell series
  - Operating safely and reliably up to 150ºC.

- Long shelf life
  Capacity loss in storage at +20ºC below 1% (LS bobbins) and 3% (LSH, LO/G, LM/M spirals) per year.

- Rechargeable operating life
  Typically 5 years, up to 20 years for some applications.

- High energy densities
  3-10 times greater than the non-lithium systems.

- High operating temperature – spiral cell series
  Operating safely and reliably up to 150ºC.

- Long shelf life
  Capacity loss in storage at +20ºC below 1% (LS bobbins) and 3% (LSH, LO/G, LM/M spirals) per year.

- Rechargeable operating life
  Typically 5 years, up to 20 years for some applications.

- High energy densities
  3-10 times greater than the non-lithium systems.

- High operating temperature – spiral cell series
  Operating safely and reliably up to 150ºC.

- Long shelf life
  Capacity loss in storage at +20ºC below 1% (LS bobbins) and 3% (LSH, LO/G, LM/M spirals) per year.

- Rechargeable operating life
  Typically 5 years, up to 20 years for some applications.

- High energy densities
  3-10 times greater than the non-lithium systems.

- High operating temperature – spiral cell series
  Operating safely and reliably up to 150ºC.

- Long shelf life
  Capacity loss in storage at +20ºC below 1% (LS bobbins) and 3% (LSH, LO/G, LM/M spirals) per year.

- Rechargeable operating life
  Typically 5 years, up to 20 years for some applications.

- High energy densities
  3-10 times greater than the non-lithium systems.
Saft lithium batteries
meeting your needs...

Key features

- High cell voltage
- Operating voltage:
  - 3.6 V for Li-SOCl₂, Li-SO₂, Li-MnO₂ cells

- Wide current capability range
  - From a few microamperes for the small LS cells to more than 10 A pulses for some LO/G and LM/M cells.

- Wide operating temperature range
  - From –60°C up to +85°C (Standard cells) depending on cell type, current drain and environment conditions.

- High operating temperature
  - Spiral cell series can operate safely and reliably up to 150°C.

- Long shelf life
  - Capacity loss in storage at +20°C below 1% (LS bobbins) and 3% (LSH, LO/G, LM/M spirals) per year.

- Extended operating life
  - Typically above 5 years, and up to 20 years for some applications.

- High energy densities
  - 3-10 times greater than the non-lithium systems.

- Excellent behavior in humid environments
  - Corrosion-free stainless steel cell envelopes.

- Disposal
  - According to local regulations.

- Adequate safety
  - Most of Saft's lithium cells are UL (Underwriters Laboratories) and IEC 60086-4 recognized, and non-restricted for transport. Most battery packs comply with European and US Army standards. Several LS cell models comply with the IEC 60079-11 “Intrinsic Safety” specification for ATEX applications.

- Storage
  - The storage area should be clean, cool (preferably not exceeding +30°C), dry and ventilated.

- Logistic
  - The small LS cells are manufactured in France, UK and China.

Saft is a world specialist in the design and manufacture of lithium batteries for professional, industrial, space and military uses. Saft is present in 18 countries and operates two R&D centers.

For more than 32 years, Saft has pioneered the development and production of primary lithium cells and battery packs in Europe, North America and Asia/Pacific.

Autonomy, power, voltage, shape, weight, service life, price. Saft knows how to tailor battery solutions you can count on.
Primary lithium batteries
Li-SOCl\(_2\) range

**Li-SOCl\(_2\) cells**

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Typical weight</th>
<th>UL recognition status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small LS cells</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS 14250</td>
<td>UK-F-PRC</td>
<td>½ AA</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>1.2 Ah (1 mA)</td>
<td>35 mA</td>
<td>–60/+ 85°C*</td>
<td>14.55 mm</td>
<td>25.15 mm</td>
<td>8.9 g</td>
</tr>
<tr>
<td>LS 14250W</td>
<td>F-PRC</td>
<td>½ AA</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>1.2 Ah (1 mA)</td>
<td>20 mA</td>
<td>–60/+ 95°C*</td>
<td>14.55 mm</td>
<td>25.15 mm</td>
<td>8.9 g</td>
</tr>
<tr>
<td>LS 14500</td>
<td>UK-F-PRC</td>
<td>AA</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>2.6 Ah (2 mA)</td>
<td>50 mA</td>
<td>–60/+ 85°C*</td>
<td>14.55 mm</td>
<td>50.30 mm</td>
<td>16.7 g</td>
</tr>
<tr>
<td>LS 14500Ex</td>
<td>UK-F-PRC</td>
<td>AA</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>2.6 Ah (2 mA)</td>
<td>50 mA</td>
<td>–60/+ 85°C*</td>
<td>14.55 mm</td>
<td>50.30 mm</td>
<td>16.7 g</td>
</tr>
<tr>
<td>LS 14500W</td>
<td>F-PRC</td>
<td>AA</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>2.6 Ah (1 mA)</td>
<td>30 mA</td>
<td>–60/+ 95°C*</td>
<td>14.55 mm</td>
<td>50.30 mm</td>
<td>16.7 g</td>
</tr>
<tr>
<td>LS 17330</td>
<td>UK ½ A</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>2.1 Ah (3 mA)</td>
<td>25 mA</td>
<td>–60/+ 85°C*</td>
<td>16.50 mm</td>
<td>33.40 mm</td>
<td>14.4 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 17500</td>
<td>F A</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>3.6 Ah (3 mA)</td>
<td>100 mA</td>
<td>–60/+ 85°C*</td>
<td>17.13 mm</td>
<td>50.90 mm</td>
<td>21.9 g</td>
<td>yes</td>
</tr>
</tbody>
</table>

*Cells leakproof up to +120°C

**Large LS cells**

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Typical weight</th>
<th>UL recognition status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 26500</td>
<td>F C</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>7.7 Ah (4 mA)</td>
<td>150 mA</td>
<td>–60/+ 85°C*</td>
<td>26.00 mm</td>
<td>49.1 to 50.4 mm***</td>
<td>48 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 33600**</td>
<td>F D</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>17.0 Ah (5 mA)</td>
<td>250 mA</td>
<td>–60/+ 85°C*</td>
<td>33.40 mm</td>
<td>60.2 to 61.6 mm***</td>
<td>90 g</td>
<td>yes</td>
</tr>
</tbody>
</table>

*Cells leakproof up to +120°C
d **Low Magnetic cell versions available
d ***Depending on cell finish

**LSH spiral cells**

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Typical weight</th>
<th>UL recognition status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSH 14</td>
<td>F C</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>5.8 Ah (15 mA)</td>
<td>1.3 A</td>
<td>–60/+ 85°C*</td>
<td>26.00 mm</td>
<td>50.40 mm</td>
<td>51 g</td>
<td>yes</td>
</tr>
<tr>
<td>LSH 14 &quot;light&quot;*</td>
<td>F C</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>3.6 Ah (15 mA)</td>
<td>1.3 A</td>
<td>–60/+ 85°C*</td>
<td>26.00 mm</td>
<td>50.40 mm</td>
<td>51 g</td>
<td>–</td>
</tr>
<tr>
<td>LSH 20**</td>
<td>F D</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>13.0 Ah (15 mA)</td>
<td>1.8 A</td>
<td>–60/+ 85°C*</td>
<td>33.40 mm</td>
<td>61.60 mm</td>
<td>100 g</td>
<td>yes</td>
</tr>
<tr>
<td>LSH 20-150</td>
<td>F D</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>14.0 Ah (300 mA)***</td>
<td>300 mA</td>
<td>–40/+ 150°C</td>
<td>32.05 mm</td>
<td>61.70 mm</td>
<td>104.5 g</td>
<td>–</td>
</tr>
<tr>
<td>LSH DD-150</td>
<td>F DD</td>
<td>3.6 V</td>
<td>3.6 V</td>
<td>28.0 Ah (600 mA)***</td>
<td>600 mA</td>
<td>–40/+ 150°C</td>
<td>33.0 mm</td>
<td>125.5 mm</td>
<td>215 g</td>
<td>–</td>
</tr>
</tbody>
</table>

*Cells leakproof up to +120°C
d **LSH 20 HTS cell version available
d ***Nominal capacity at +150°C

All LSH cells are fitted with individual 5 Amp fuse protection

Primary cells and batteries are not rechargeable.

Their internal impedance may rise versus time, especially in case of exposure at elevated temperature.

July 2010
Li-SOCl₂ Military battery packs

<table>
<thead>
<tr>
<th>Cell type construction*</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Voltage cut-off</th>
<th>Rated capacity</th>
<th>Maximum dimensions</th>
<th>Typical weight</th>
<th>Safety features</th>
<th>Stock Number (NSN)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 40 A</td>
<td>4s1p LSH 14</td>
<td>14.7 V</td>
<td>14.0 V</td>
<td>10.0 V</td>
<td>4.6 Ah</td>
<td>106 x 65 x 49 mm</td>
<td>285 g</td>
<td>PTC 1.1 A**</td>
<td>6135-14-420-1760</td>
</tr>
<tr>
<td>PS 42 A</td>
<td>2s1p LSH 20</td>
<td>7.3 V</td>
<td>7.0 V</td>
<td>5.0 V</td>
<td>9.0 Ah</td>
<td>69.9 x 67.2 x 34 mm</td>
<td>230 g</td>
<td>PTC 3.5 A**</td>
<td>6135-14-434-0766</td>
</tr>
<tr>
<td>PS 48 B</td>
<td>5s2p LSH 20</td>
<td>18.3 V</td>
<td>17.5 V</td>
<td>12.6 V</td>
<td>18.0 Ah</td>
<td>212.4 x 72.7 x 68.5 mm</td>
<td>1150 g</td>
<td>PTC 1.85 A**</td>
<td>6135-14-451-7198</td>
</tr>
<tr>
<td>PS 52 A</td>
<td>2s1p LSH 20</td>
<td>7.3 V</td>
<td>7.2 V</td>
<td>5.0 V</td>
<td>12.5 Ah</td>
<td>77.5 x 63.5 x 34.6 mm</td>
<td>225 g</td>
<td>PTC 2.0 A**</td>
<td>6135-14-459-9265</td>
</tr>
<tr>
<td>PS 53 B</td>
<td>6s1p LSH 20</td>
<td>22.0 V</td>
<td>21.0 V</td>
<td>15.0 V</td>
<td>12.5 Ah</td>
<td>210.5 x 68.8 x 37.5 mm</td>
<td>720 g</td>
<td>PTC 2.5 A**</td>
<td>6135-14-459-9266</td>
</tr>
</tbody>
</table>

* Xs Yp = Y parallel branches of X cells in series per branch

** Maximum hold current

Li-SOCl₂ Civil battery packs

<table>
<thead>
<tr>
<th>Cell type construction*</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Rated capacity</th>
<th>Maximum dimensions</th>
<th>Typical weight</th>
<th>Safety features</th>
<th>Stock Number (NSN)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 14250 MLB</td>
<td>1s1p LSH 14250</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>1.2 Ah</td>
<td>16.8 x 28.6 mm</td>
<td>15 g</td>
<td>Metering, professional electronics</td>
<td></td>
</tr>
<tr>
<td>LS 9V</td>
<td>3s1p LSH 14250</td>
<td>11.0 V</td>
<td>10.8 V</td>
<td>1.2 Ah</td>
<td>49.1 x 46.8 x 26.8 mm</td>
<td>29 g</td>
<td>Memory-back up, metering, smoke detectors, professional electronics</td>
<td></td>
</tr>
<tr>
<td>Lithopack</td>
<td>2s1p LSH 14500</td>
<td>7.3 V</td>
<td>7.2 V</td>
<td>2.6 Ah</td>
<td>56.6 x 31.6 x 17.3 mm</td>
<td>34 g</td>
<td>Memory-back up, metering, professional electronics</td>
<td></td>
</tr>
</tbody>
</table>

Primary cells and batteries are not rechargeable.

This data sheet is an insert part of the Primary lithium batteries Selector Guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.
Primary lithium batteries
Li-SO₂ range

Li-SO₂ cells

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Weight</th>
<th>UL recognition</th>
<th>Transport status</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 04/3</td>
<td>UK</td>
<td>⅛ AA</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>0.45 Ah (50 mA)</td>
<td>0.25 A</td>
<td>-60/+70°C*</td>
<td>14.2 mm</td>
<td>27.9 mm</td>
<td>8 g</td>
<td>–</td>
</tr>
<tr>
<td>G 06/2</td>
<td>UK</td>
<td>AA</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>0.95 Ah (90 mA)</td>
<td>0.5 A</td>
<td>-60/+70°C*</td>
<td>14.2 mm</td>
<td>50.3 mm</td>
<td>15 g</td>
<td>–</td>
</tr>
<tr>
<td>G 32/3</td>
<td>UK</td>
<td>⅛ A</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>0.8 Ah (80 mA)</td>
<td>0.75 A</td>
<td>-60/+70°C*</td>
<td>16.3 mm</td>
<td>34.5 mm</td>
<td>12 g</td>
<td>–</td>
</tr>
<tr>
<td>G 36/2</td>
<td>UK</td>
<td>&quot;long&quot;A</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>1.7 Ah (80 mA)</td>
<td>1.5 A</td>
<td>-60/+70°C*</td>
<td>16.3 mm</td>
<td>57.7 mm</td>
<td>18 g</td>
<td>–</td>
</tr>
<tr>
<td>LO 34 SX</td>
<td>USA</td>
<td>⅛ C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>1.0 Ah (80 mA)</td>
<td>1.0 A</td>
<td>-60/+70°C*</td>
<td>25.9 mm</td>
<td>20.3 mm</td>
<td>16 g</td>
<td>yes</td>
</tr>
<tr>
<td>LO 35 SX</td>
<td>USA</td>
<td>⅛ C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>2.2 Ah (650 mA)</td>
<td>2.0 A</td>
<td>-60/+70°C*</td>
<td>25.9 mm</td>
<td>35.9 mm</td>
<td>30 g</td>
<td>yes</td>
</tr>
<tr>
<td>G 52/3</td>
<td>UK</td>
<td>C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>3.2 Ah (1.0 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>25.6 mm</td>
<td>49.5 mm</td>
<td>47 g</td>
<td>–</td>
</tr>
<tr>
<td>LO 29 SHX</td>
<td>USA</td>
<td>C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>3.75 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>25.6 mm</td>
<td>50.4 mm</td>
<td>40 g</td>
<td>yes</td>
</tr>
<tr>
<td>G 54/3</td>
<td>UK</td>
<td>⅛ C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>5.0 Ah (0.2 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>25.6 mm</td>
<td>60.2 mm</td>
<td>58 g</td>
<td>–</td>
</tr>
<tr>
<td>LO 43 SHX</td>
<td>USA</td>
<td>⅛ C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>5.0 Ah (0.2 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>26.0 mm</td>
<td>59.2 mm</td>
<td>53 g</td>
<td>yes</td>
</tr>
<tr>
<td>LO 40 SX</td>
<td>USA</td>
<td>⅛ &quot;Thin&quot;D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>3.5 Ah (0.12 A)</td>
<td>2.0 A</td>
<td>-60/+70°C*</td>
<td>28.95 mm</td>
<td>42.29 mm</td>
<td>40 g</td>
<td>yes</td>
</tr>
<tr>
<td>LO 30 SHX</td>
<td>USA</td>
<td>&quot;Thick&quot;D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>5.75 Ah (0.2 A)</td>
<td>3.0 A</td>
<td>-60/+70°C*</td>
<td>29.1 mm</td>
<td>59.9 mm</td>
<td>63 g</td>
<td>yes</td>
</tr>
<tr>
<td>G 26</td>
<td>UK</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>7.75 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>34.5 mm</td>
<td>59.8 mm</td>
<td>85 g</td>
<td>–</td>
</tr>
<tr>
<td>LO 26 SX</td>
<td>USA</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>7.75 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>34.2 mm</td>
<td>59.3 mm</td>
<td>85 g</td>
<td>–</td>
</tr>
<tr>
<td>LO 26 SXC</td>
<td>USA</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>9.2 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>34.2 mm</td>
<td>59.3 mm</td>
<td>85 g</td>
<td>–</td>
</tr>
<tr>
<td>LO 26 SHX</td>
<td>USA</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>7.5 Ah (1.0 A)</td>
<td>4.0 A</td>
<td>-60/+70°C*</td>
<td>34.2 mm</td>
<td>59.3 mm</td>
<td>85 g</td>
<td>yes</td>
</tr>
<tr>
<td>LO 25 SX</td>
<td>USA</td>
<td>&quot;Fat&quot;D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>8.0 Ah (0.27 A)</td>
<td>2.5 A</td>
<td>-60/+70°C*</td>
<td>39.5 mm</td>
<td>50.3 mm</td>
<td>98 g</td>
<td>yes</td>
</tr>
<tr>
<td>LO 39 SHX</td>
<td>USA</td>
<td>F</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>11.5 Ah (1.0 A)</td>
<td>3.0 A</td>
<td>-60/+70°C*</td>
<td>31.9 mm</td>
<td>100.3 mm</td>
<td>125 g</td>
<td>yes</td>
</tr>
<tr>
<td>G 22/6</td>
<td>UK</td>
<td>DO</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>16.5 Ah (0.5 A)</td>
<td>3.0 A</td>
<td>-60/+70°C*</td>
<td>33.3 mm</td>
<td>120.6 mm</td>
<td>175 g</td>
<td>–</td>
</tr>
<tr>
<td>G 82/1</td>
<td>UK</td>
<td>&quot;Long Fat DD&quot;</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>34.0 Ah (1.0 A)</td>
<td>3.0 A</td>
<td>-60/+70°C*</td>
<td>41.7 mm</td>
<td>141.0 mm</td>
<td>300 g</td>
<td>–</td>
</tr>
</tbody>
</table>

* Cells leakproof up to +85°C

Primary cells and batteries are not rechargeable.
Their internal impedance may rise versus time, especially in case of exposure at elevated temperature.

September 2009
### Li-SO₂ Military battery packs

<table>
<thead>
<tr>
<th>Cell type construction</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Voltage cut-off</th>
<th>Rated capacity</th>
<th>Maximum dimensions</th>
<th>Weight</th>
<th>Stock Number (NSN)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA 5112 A/U</td>
<td>4s1p LO 35 SX</td>
<td>12.0 V</td>
<td>11.2 V</td>
<td>8.0 V</td>
<td>2.3 Ah</td>
<td>77.8 x 57.2 x 39.1 mm</td>
<td>180 g</td>
<td>6135-01-235-4168</td>
</tr>
<tr>
<td>BA 5557 A/U</td>
<td>5s1p x 2 LO 35 SX</td>
<td>15.0 V/30.0 V</td>
<td>14.0 V/28.0 V</td>
<td>10.0 V/20.0 V</td>
<td>4.4 Ah/2.2 Ah</td>
<td>100.1 x 106.3 x 37.3 mm</td>
<td>500 g</td>
<td>6135-01-088-2707</td>
</tr>
<tr>
<td>BA 5567 A/U</td>
<td>1s1p LO 34 SX</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>2.0 V</td>
<td>1.0 Ah</td>
<td>96 x 90 x 31 mm</td>
<td>295 g</td>
<td>6135-00-088-2708</td>
</tr>
<tr>
<td>BA 5588 A/U</td>
<td>5s1p LO 40 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>11.0 V</td>
<td>3.5 Ah</td>
<td>127 x 111.8 x 62.2 mm</td>
<td>1020 g</td>
<td>6135-01-523-3037</td>
</tr>
<tr>
<td>BA 5590 A/U</td>
<td>5s1p x 2 LO 26 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>10.0 V</td>
<td>15.0 Ah</td>
<td>127 x 111.8 x 62.2 mm</td>
<td>1020 g</td>
<td>6135-01-038-3495</td>
</tr>
<tr>
<td>BA 5590 B/U</td>
<td>5s1p x 2 LO 26 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>10.0 V</td>
<td>15.0 Ah</td>
<td>127 x 111.8 x 62.2 mm</td>
<td>1020 g</td>
<td>6135-01-038-3495</td>
</tr>
<tr>
<td>BA 5590 C/U</td>
<td>5s1p x 2 LO 26 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>10.0 V</td>
<td>15.0 Ah</td>
<td>127 x 111.8 x 62.2 mm</td>
<td>1020 g</td>
<td>6135-01-038-3495</td>
</tr>
<tr>
<td>BA 5590 HC</td>
<td>5s1p x 2 LO 26 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>10.0 V</td>
<td>15.0 Ah</td>
<td>127 x 111.8 x 62.2 mm</td>
<td>1020 g</td>
<td>6135-01-038-3495</td>
</tr>
<tr>
<td>BA 5598 A/U</td>
<td>5s1p LO 25 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>10.0 V</td>
<td>7.5 Ah</td>
<td>120.7 x 92 x 54 mm</td>
<td>680 g</td>
<td>6135-01-034-2239</td>
</tr>
<tr>
<td>BA 5599 A/U</td>
<td>5s1p LO 25 SX</td>
<td>9.0 V</td>
<td>8.1 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>152 x 38 x 64 mm</td>
<td>450 g</td>
<td>6135-01-069-8575</td>
</tr>
<tr>
<td>BA 5600 A/U</td>
<td>3s1p LO 26 SX</td>
<td>9.0 V</td>
<td>8.1 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>185.9 x 38.4 mm</td>
<td>360 g</td>
<td>6135-01-188-2944</td>
</tr>
<tr>
<td>BA 5800 A/U</td>
<td>3s1p LO 26 SX</td>
<td>6.0 V</td>
<td>5.3 V</td>
<td>4.0 V</td>
<td>7.5 Ah</td>
<td>1285 x 35.5 mm</td>
<td>220 g</td>
<td>6135-99-798-9851</td>
</tr>
<tr>
<td>BA 5847 B/U</td>
<td>2s1p LO 26 SX</td>
<td>6.0 V</td>
<td>5.3 V</td>
<td>4.0 V</td>
<td>7.5 Ah</td>
<td>95 x 64.8 x 38 mm</td>
<td>220 g</td>
<td>6135-01-090-5364</td>
</tr>
<tr>
<td>BT 5313</td>
<td>5s1p LO 26 SX</td>
<td>27.0 V</td>
<td>25.2 V</td>
<td>18.0 V</td>
<td>7.2 Ah</td>
<td>Special</td>
<td>1100 g</td>
<td>N/A</td>
</tr>
<tr>
<td>BT 5790</td>
<td>5s1p LO 26 SX</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>10.0 V</td>
<td>7.5 Ah</td>
<td>186.5 x 35.7 x 66.7 mm</td>
<td>630 g</td>
<td>N/A</td>
</tr>
<tr>
<td>BT 5791</td>
<td>5s1p LO 26 SX</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>10.0 V</td>
<td>15.0 Ah</td>
<td>186.5 x 70.0 x 65.3 mm</td>
<td>1200 g</td>
<td>N/A</td>
</tr>
<tr>
<td>G 6-104 (/C,D,E,F,G,H)</td>
<td>2s1p G02</td>
<td>6.0 V</td>
<td>5.6 V</td>
<td>4.0 V</td>
<td>7.5 Ah</td>
<td>128.5 x 35.5 mm</td>
<td>220 g</td>
<td>–</td>
</tr>
<tr>
<td>G 6-105</td>
<td>2s1p GS2</td>
<td>6.0 V</td>
<td>5.6 V</td>
<td>4.0 V</td>
<td>3.2 Ah</td>
<td>55 x 28.1 x 56 mm</td>
<td>110 g</td>
<td>6135-99-658-9065</td>
</tr>
<tr>
<td>G 9-124</td>
<td>3s1p GS3</td>
<td>9.0 V</td>
<td>8.4 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>110 x 42 x 83 mm</td>
<td>370 g</td>
<td>6135-13-303-9768</td>
</tr>
<tr>
<td>G 15-114</td>
<td>3s1p GS3</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>9.6 V</td>
<td>1.9 Ah</td>
<td>90.6 x 40.3 x 71 mm</td>
<td>270 g</td>
<td>6135-99-795-4351</td>
</tr>
<tr>
<td>G 15-127</td>
<td>2s1p GS1 GS2</td>
<td>2x15.0 V</td>
<td>2x14.0 V</td>
<td>2x10.0 V</td>
<td>34 or 68 Ah</td>
<td>216 x 152 x 92 mm</td>
<td>3500 g</td>
<td>6135-99-794-2896</td>
</tr>
<tr>
<td>G 18-115</td>
<td>2s1p GS2</td>
<td>18.0 V</td>
<td>16.8 V</td>
<td>12.0 V</td>
<td>7.5 Ah</td>
<td>131.6 x 68.8 x 128 mm</td>
<td>650 g</td>
<td>6135-99-795-4350</td>
</tr>
<tr>
<td>G 30-101</td>
<td>10s1p GS3</td>
<td>30.0 V</td>
<td>28.0 V</td>
<td>20.0 V</td>
<td>7.5 Ah</td>
<td>184.5 x 73.5 x 90 mm</td>
<td>1500 g</td>
<td>6135-99-747-4430</td>
</tr>
<tr>
<td>G 30-102/B</td>
<td>10s1p GS3</td>
<td>30.0 V</td>
<td>28.0 V</td>
<td>20.0 V</td>
<td>16.0 Ah</td>
<td>184 x 72.5 x 133 mm</td>
<td>2500 g</td>
<td>6135-99-840-0109</td>
</tr>
<tr>
<td>Li/3</td>
<td>3s1p LO 26 SX</td>
<td>9.0 V</td>
<td>8.4 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>110 x 42 x 81 mm</td>
<td>450 g</td>
<td>6135-13-383-9768</td>
</tr>
</tbody>
</table>

* Xs Yp = Y parallel branches of X cells in series per branch
** SOCI: State of Charge Indicator

Primary cells and batteries are not rechargeable.

This data sheet is an insert part of the Primary lithium batteries Selector Guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.

---

**Saft**
**Specialty Battery Group**
12, rue Sadi Carnot
93170 Bagnolet – France
Tel.: +33 (0)1 49 93 19 18
Fax: +33 (0)1 49 93 19 69

[www.saftbatteries.com](http://www.saftbatteries.com)
Primary lithium batteries
Li-MnO$_2$ range

Li-MnO$_2$ cells

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (2.0 V cut-off)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Weight</th>
<th>UL recognition status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM spiral cells</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LM 17130 USA</td>
<td>¾ A</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>0.5 Ah (4.5 mA)</td>
<td>0.3 A</td>
<td>-40/+ 70°C</td>
<td>16.7 mm</td>
<td>16.6 mm</td>
<td>8.0 g</td>
<td>Non-restricted</td>
</tr>
<tr>
<td>LM 22150 USA</td>
<td>⅓ sub-C</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>0.9 Ah (40 mA)</td>
<td>0.4 A</td>
<td>-40/+ 70°C</td>
<td>22.8 mm</td>
<td>17.3 mm</td>
<td>15.0 g</td>
<td>Non-restricted</td>
</tr>
<tr>
<td>LM 33550 USA</td>
<td>D</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>12 Ah (250 mA)</td>
<td>4.0 A</td>
<td>-40/+ 70°C</td>
<td>34.2 mm</td>
<td>61.4 mm</td>
<td>120 g</td>
<td>--</td>
</tr>
<tr>
<td>M 49 Germany*</td>
<td>⅔ sub-C</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>1.6 Ah (80 mA)</td>
<td>0.3 A</td>
<td>-40/+ 70°C</td>
<td>22.5 mm</td>
<td>32.0 mm</td>
<td>24.0 g</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 52 HR Germany*</td>
<td>C</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>4.8 Ah (150 mA)</td>
<td>2.0 A</td>
<td>-40/+ 70°C</td>
<td>26.2 mm</td>
<td>51.5 mm</td>
<td>59.0 g</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 56 Germany*</td>
<td>¾ C</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>6.7 Ah (150 mA)</td>
<td>2.5 A</td>
<td>-40/+ 70°C</td>
<td>26.2 mm</td>
<td>61.5 mm</td>
<td>70 g</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 19 Germany*</td>
<td>&quot;Short&quot; D</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>9.5 Ah (150 mA)</td>
<td>3.0 A</td>
<td>-40/+ 70°C</td>
<td>33.5 mm</td>
<td>58.5 mm</td>
<td>106 g</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 20 Germany*</td>
<td>D</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>12.6 Ah (150 mA)</td>
<td>3.5 A</td>
<td>-40/+ 70°C</td>
<td>34.2 mm</td>
<td>61.5 mm</td>
<td>117 g</td>
<td>--</td>
</tr>
<tr>
<td>M 20 HR Germany*</td>
<td>D</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>11.5 Ah (0.5 A)</td>
<td>4.0 A</td>
<td>-40/+ 70°C</td>
<td>34.2 mm</td>
<td>61.5 mm</td>
<td>117 g</td>
<td>--</td>
</tr>
<tr>
<td>M 24 HR Germany*</td>
<td>DD</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>20.0 Ah (2.0 A)</td>
<td>6.0 A</td>
<td>-40/+ 70°C</td>
<td>33.5 mm</td>
<td>110.5 mm</td>
<td>201 g</td>
<td>--</td>
</tr>
<tr>
<td>M 62 Germany*</td>
<td>&quot;Big&quot; DD</td>
<td>3.2 V</td>
<td>3.0 V</td>
<td>33.0 Ah (1.6 A)</td>
<td>6.0 A</td>
<td>-40/+ 70°C</td>
<td>42.5 mm</td>
<td>133 mm</td>
<td>355 g</td>
<td>--</td>
</tr>
</tbody>
</table>

* FRIWO cell series

Primary cells and batteries are not rechargeable. Their internal impedance may rise versus time, especially in case of exposure at elevated temperature.
### Li-MnO₂ Military battery packs

<table>
<thead>
<tr>
<th>Cell type construction*</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Voltage cut-off</th>
<th>Nominal capacity</th>
<th>Maximum dimensions</th>
<th>Weight</th>
<th>NATO Stock Number (NSN)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA 5368/U 4s1p LM 22150</td>
<td>12.8 V</td>
<td>12.0 V</td>
<td>9.0 V</td>
<td>0.9 Ah</td>
<td>76.2 x 26.9 mm</td>
<td>145 g</td>
<td>6135-01-455-7947</td>
<td>-</td>
</tr>
<tr>
<td>BA 5372/U 2s1p LM 17130</td>
<td>8.4 V</td>
<td>8.0 V</td>
<td>4.0 V</td>
<td>0.5 Ah</td>
<td>16.5 x 33.0 mm</td>
<td>20 g</td>
<td>6135-01-214-6441</td>
<td>-</td>
</tr>
<tr>
<td>BA 5390/U 5s1p x 2 LM 35550</td>
<td>16.5 V/33 V 15 V/30 V</td>
<td>10 V/20 V</td>
<td>24 Ah/12 Ah</td>
<td>127x111.8x62mm</td>
<td>1.41 kg/3.10 kg</td>
<td>6135-01-038-3485</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3.M20** 3s1p M20</td>
<td>9.9 V</td>
<td>9.0 V</td>
<td>6.0 V</td>
<td>10.5 Ah</td>
<td>65 x 64 x 69 mm</td>
<td>360 g</td>
<td>-</td>
<td>EPIRB</td>
</tr>
<tr>
<td>4.M52 HR** 4s1p M52 HR</td>
<td>13.2 V</td>
<td>12.0 V</td>
<td>8.0 V</td>
<td>4.5 Ah</td>
<td>40x58.5x105 mm</td>
<td>270 g</td>
<td>6135-12-322-9102</td>
<td>ABC protective equipment</td>
</tr>
<tr>
<td>5.M20** 5s1p M20</td>
<td>16.5 V</td>
<td>15.0 V</td>
<td>10.0 V</td>
<td>10.5 Ah</td>
<td>100 x 110 mm</td>
<td>740 g</td>
<td>6135-12-310-5164</td>
<td>ABC protective equipment</td>
</tr>
<tr>
<td>6.M20** 6s1p M20</td>
<td>19.8 V</td>
<td>18.0 V</td>
<td>12.0 V</td>
<td>10.5 Ah</td>
<td>124 x 64 x 69 mm</td>
<td>710 g</td>
<td>6135-12-346-1035</td>
<td>EPIRB</td>
</tr>
<tr>
<td>6.M20** 6s1p M20</td>
<td>19.8 V</td>
<td>18.0 V</td>
<td>12.0 V</td>
<td>10.5 Ah</td>
<td>80 x 90 x 125 mm</td>
<td>950 g</td>
<td>-</td>
<td>Military use</td>
</tr>
<tr>
<td>10.M20** 10s1p M20</td>
<td>33.0 V</td>
<td>30.0 V</td>
<td>20.0 V</td>
<td>10.5 Ah</td>
<td>162 x 66 x 109 mm</td>
<td>1500 g</td>
<td>6135-12-339-0295</td>
<td>ABC protective equipment</td>
</tr>
<tr>
<td>MIRA** 10s1p M24 HR</td>
<td>33.0 V</td>
<td>30.0 V</td>
<td>20.0 V</td>
<td>20.0 Ah</td>
<td>133 x 72 x 184 mm</td>
<td>2500 g</td>
<td>6135-12-329-3740</td>
<td>Thermal sight system MIRA (for missile system MILAN)</td>
</tr>
<tr>
<td>MR 506** 6s1p M49</td>
<td>19.8 V</td>
<td>18.0 V</td>
<td>12.0 V</td>
<td>1.8 Ah</td>
<td>37 x 56 x 78 mm</td>
<td>200 g</td>
<td>6135-12-339-9599</td>
<td>Emergency radio</td>
</tr>
<tr>
<td>MR 509** 6s1p M52 HR</td>
<td>9.9 V</td>
<td>9.0 V</td>
<td>6.0 V</td>
<td>4.5 Ah</td>
<td>54 x 37 x 75 mm</td>
<td>180 g</td>
<td>6135-12-353-2558</td>
<td>Emergency radio</td>
</tr>
<tr>
<td>SEM 52** 6s1p M52 HR</td>
<td>9.9 V</td>
<td>9.0 V</td>
<td>6.0 V</td>
<td>4.5 Ah</td>
<td>65 x 33 x 78.5 mm</td>
<td>208 g</td>
<td>6135-12-308-9723</td>
<td>Radiocommunication (SEM 52)</td>
</tr>
<tr>
<td>SEM 70** 6s1p M20</td>
<td>19.8 V</td>
<td>18.0 V</td>
<td>12.0 V</td>
<td>10.5 Ah</td>
<td>38 x 72 x 191 mm</td>
<td>750 g</td>
<td>6135-12-308-8604</td>
<td>Radiocommunication (SEM 70)</td>
</tr>
<tr>
<td>SEM91/93** 3s1p M52 HR</td>
<td>9.9 V</td>
<td>9.0 V</td>
<td>6.0 V</td>
<td>4.5 Ah</td>
<td>65 x 33 x 78.5 mm</td>
<td>208 g</td>
<td>6135-12-355-0737</td>
<td>Radiocommunication (SEM 91/93)</td>
</tr>
</tbody>
</table>

* Xs Yp = Y parallel branches of X cells in series per branch
** FRIWO batteries

Primary cells and batteries are not rechargeable.

This data sheet is an insert part of the Primary lithium batteries Selector Guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.
Serving your needs around the world

Saft Specialty Battery Group sales network

Australia
Saft Batteries Pty Ltd.
Unit 18/167 Prospect Highway
Seven Hills, NSW 2147
Tel.: +61 2 9674 0700
Fax: +61 2 9620 9990
david.anderson@saftbatteries.com.au
gary.piper@saftbatteries.com.au

China
Saft Hong Kong Ltd.
Unit 1107-9, 11/F, Westin Centre
26 Hung To Road,
Kwun Tong, Kowloon
Tel.: +852 3568 7066
Fax: +852 2798 0619
ivan.lam@saftbatteries.com

Saft Zhuhai Shanghai Office
Room 2408, Lucky Mansion
No. 660 Shangcheng Road
Shanghai 200120, P. R. China
Tel.:  +86 21 5866 6405
Fax: +86 21 5866 6403
ben.li@saftbatteries.com

France
Saft
12, rue Sadi Carnot
93170 Bagnolet
Tel.:  +33 (0)1 49 93 19 18
Fax: +33 (0)1 49 93 19 69
lithiumsales.fr@saftbatteries.com

Germany
Saft Batterien GmbH
Löffelholz Strasse, 20
90441 Nürnberg
Tel.:  +49 911 94174 20
Fax: +49 911 94174 25
ecaterina.hauser@saftbatteries.com

Norway
Saft AS
Grini Naeringspark 1
N-1361 Osteraa
Tel.: +47 6716 4161
Fax: +47 6716 4170
trond.beyer@saftbatteries.com

UK (+ Ireland)
Saft Ltd.
River Drive
South Shields, Tyne & Wear
NE33 2TR-UK
Tel.: +44 191 497 4703
Fax: +44 191 456 8256
lesley.lyons@saftbatteries.com

USA (+ Canada/Mexico)
Saft America Inc.
313, Crescent Street
Valdese, NC 28690 - USA
Tel.: +1 (828) 874 4111
Fax: +1 (828) 874 2431
lithiumsales.us@saftbatteries.com

Saft Specialty Battery Group manufacturing sites

China
Saft (Zhuai Free Trade Zone)
Batteries Co. Ltd
Lianfeng Rd
Zhuhai 519030, Guangdong Province
Tel.: +86 756 881 9318
Fax: +86 756 881 9328
William.Fa@saftbatteries.com

France
Saft
Rue Georges Leclanché
B.P. N° 1039
86060 Poitiers Cedex 09
Tel.: +33 (0)5 49 55 48 48
Fax: +33 (0)5 49 55 48 50
lithiumsales.fr@saftbatteries.com

Germany
FRIWO
Industriestrasse 22
D-63654 Büdingen
Tel.: +49 911 94 174 22
Fax: +49 911 94 174 25
susan.mehnert@saftbatteries.com

United Kingdom
Saft Ltd.
River Drive
South Shields, Tyne & Wear
NE33 2TR
Tel.: +44 191 497 4703
Fax: +44 191 456 8256
lesley.lyons@saftbatteries.com

USA
Saft America Inc.
313, Crescent Street
Valdese, NC 28690 - USA
Tel.: +1 (828) 874 4111
Fax: +1 (828) 874 2431
lithiumsales.us@saftbatteries.com
Saft Specialty Battery Group sales agents and distributors

Argentina
CH Sistemas Electronicos S.A.
Rebamba 350
1025 Ciudad Autónoma de Buenos Aires
Tel.: +54 11 4954 7200
Fax: +54 11 4954 7200
pilasch@ch-sistemas.com.ar
ch@ch-sistemas.com.ar

Probattery
Barres Full Trading
Paz Soldán 4980 C1427DSF
Buenos Aires
Tel.: +54 11 49 93 19 68
Fax: +54 11 49 93 19 66

Austria
Oto Sauseng GmbH
Lienfeldergasse 32
A-1160 Wien
Tel.: +43 1 485 86 11 0
Fax: +43 1 485 86 11 21
viado.biera@sauseng.at

Belgium (+ Luxembourg)
Helpelek
Avenue du Couronnement, 11
B-1200 Brussels - Belgium
Tel.: +32 2 7 62 33 38
Fax: +32 2 7 62 37 01
joel.vanloocke@helpelek.be

Brazil
Barasch Sylmar
R. Guaicurus 345
Agua Branca - Sao Paulo
SP 05033-000
Tel.: +55 11 3864 63 66
Fax: +55 11 3864 63 66
barasch@barasch.com.br

Czech Republic
BATTEX a.s.c.n.
Politických větvů 1337
274 01 Slaný
Tel.: +420 312 520116
Fax: +420 312 520117
vesely@battex.cz

Denmark
Scansupply Energy A/S
Topstykket 25
3460 Birkerød
Tel.: +45 45 82 50 90
Fax: +45 45 82 54 40
flemming@scansupply.dk

Egypt
Elmetra
47, Ahmed Taysir St.
Ramo Tower B#104
Heliopolis, 11341 Cairo
Tel.: +20 2 2621864
Fax: +20 2 4031195
info@elmetra-eg.com

Finland & Baltic countries
HansaBattery Oy
Kilonkallio 3A
02610 Espoo
Tel.: +358 207 631 880
Fax: +358 207 631 889
hans.sandstrom@hansabattery.fi
jon.sandstrom@hansabattery.fi

Hungary
Kapacitás
Szentpetery u. 24-26
H-1115 Budapest
Tel.: +36 1 463 08 80
Fax: +36 1 463 08 99
varga@akku.hu

Korea
Cellcom Co Ltd.
1707, East Bldg, Hanshin Cylux
716, Suseo-Dong, Kangnam-Gu
135-884 Seoul
Tel.: +82 2 2149 0765
Fax: +82 2 2149 0766
djikim127@hotmail.com

Poland
Wamtechnik Sp. z o.o.
ul. Krakowska 19
05-500 Piaseczno
Tel.: +48 22 75 02 142
Fax: +48 22 75 02 139
p.wlodarczyk@wamtechnik.pl

Romania
Sprinter 2000 S.A.
60, Calea Florearei
Brasov, 500483
Tel.: +40 268 472 333
Fax: +40 268 472 334
dan.chirila@sprinter-distribution.ro

Saudi Arabia & Arabic Gulf Countries
Dar Al Fursan
PO Box 16221, Riyadh 11464
Tel.: +966 1 462 08 16
Fax: +966 1 462 08 16
nader.altaher@darafursan.com

Singapore
Powerpack Industries Pte Ltd
134 Pandan Loop 04-23
Singapore 128383
Tel.: +65 6872 0526
Fax: +65 6872 3041
sales@powerpack.com.sg

South Africa
Just Batteries
14, Railway Avenue
Benoni 1501
Tel.: +27 11 421 7981
Fax: +27 11 421 7986
malcolm@justbatteries.co.za

Switzerland
Leclanché SA
Avenue des Sports 42
1400 Yverdon-les-Bains
Tel.: +41 24 424 6513
Fax: +41 24 424 6520
integration@leclanche.ch

Tunisia & Maghreb
SEEEP
46 Av. de Madrid
Tunis
Tel.: +216 71 342 602
Fax: +216 71 353 523
seep@gnet.tn

For other countries, please send your battery requests to lithiumsales.fr@saftbatteries.com

Saft Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France
Tel.: +33 (0)1 49 93 19 18
Fax: +33 (0)1 49 93 19 69

www.saftbatteries.com
Saft primary lithium batteries: applications

Examples of standard individual cell tabbing arrangements

Examples of standard battery packs configurations

Saft gives priority to recycled over unrecycled raw materials, reduces its plant releases into the environment year after year, minimizes water usage, and ensures that its customers have recycling solutions for their batteries at the end of their lives.

Saft is committed to the highest standards of environmental stewardship.

...exceeding your expectations

In other countries, Saft assists its customers in finding environmentally sound recycling solutions. Please contact your sales representative for further information.

Please find a list of our collection points on our web site: www.saftbatteries.com

Free of charge to its customers.

Approved recycling facilities, in compliance with the Laws governing transboundary waste shipments. Saft offers these services well as in North America. This collection network receives and dispatches our customers’ batteries at the end of their lives to fully.

Regarding industrial Ni-Cd batteries, Saft has had partnerships for many years with collection companies in most EU countries as well as in North America. This collection network receives and dispatches our customers’ batteries at the end of their lives to fully.

Published by the Communications Department.

And becomes contractual only after written confirmation.

Data in this document is subject to change without notice.

Edition: September 2009

Doc N˚ 31048-2-0909

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Société anonyme au capital de 31 944 000 Euros

RCS Bobigny B 383 703 873

Program Executive Officer Soldier, © Courtesy of U.S. Army, Saft.

© S. Laval, © Lockheed Martin, © MG International 2006, PhotoDisc,

Photo credit: ACR Electric, Berlin Heart AG, Creatas, Industrial Scientific,

Copyright © 2009 by Specialty Battery Group. All rights reserved. No part of this publication may be reproduced, transmitted, or stored in a retrieval system in any form or by any means without the written permission of Specialty Battery Group. Printed in the United States of America.

September 2009

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Copyright © 2009 by Specialty Battery Group. All rights reserved. No part of this publication may be reproduced, transmitted, or stored in a retrieval system in any form or by any means without the written permission of Specialty Battery Group. Printed in the United States of America.

September 2009

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Published by the Communications Department.

And becomes contractual only after written confirmation.

Data in this document is subject to change without notice.

Edition: September 2009

Doc N˚ 31048-2-0909

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Copyright © 2009 by Specialty Battery Group. All rights reserved. No part of this publication may be reproduced, transmitted, or stored in a retrieval system in any form or by any means without the written permission of Specialty Battery Group. Printed in the United States of America.

September 2009

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Copyright © 2009 by Specialty Battery Group. All rights reserved. No part of this publication may be reproduced, transmitted, or stored in a retrieval system in any form or by any means without the written permission of Specialty Battery Group. Printed in the United States of America.

September 2009

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Copyright © 2009 by Specialty Battery Group. All rights reserved. No part of this publication may be reproduced, transmitted, or stored in a retrieval system in any form or by any means without the written permission of Specialty Battery Group. Printed in the United States of America.

September 2009

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Copyright © 2009 by Specialty Battery Group. All rights reserved. No part of this publication may be reproduced, transmitted, or stored in a retrieval system in any form or by any means without the written permission of Specialty Battery Group. Printed in the United States of America.

September 2009

Specialty Battery Group
12, rue Sadi Carnot
93170 Bagnolet – France

Tel.: +33 (0)1 49 93 19 18
Fax : +33 (0)1 49 93 19 69

www.saftbatteries.com

Copyright © 2009 by Specialty Battery Group. All rights reserved. No part of this publication may be reproduced, transmitted, or stored in a retrieval system in any form or by any means without the written permission of Specialty Battery Group. Printed in the United States of America.