

5523073**MANGANESE DIOXIDE FOR LITHIUM
PRIMARY BATTERY AND METHOD OF
PRODUCING THE SAME**

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Smelting Co Ltd

In a method of producing manganese dioxide for a lithium primary battery, heat treatment for dehydrating water-containing manganese dioxide is carried out by continuously calcining the water-containing manganese dioxide at 440°C to 480°C, preferably by controlling the flow rate of air introduced into the furnace to the value of from 20 to 2000 Nl per 1 kg water-containing manganese dioxide which is supplied into the furnace. According to this method, the residual bound water in the calcined manganese dioxide is reduced as compared those treated with a conventional method, and thus preservation property of a battery can be improved.

5523516**METHOD FOR RECYCLING LITHIUM
BATTERIES**

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National Technical Systems Inc

A method for processing electric storage batteries, particularly lithium/thionyl chloride batteries, which includes the steps of discharging the batteries, lowering the temperature of the battery components to -180°C, and cutting the battery into pieces while in its cold state before further processing. The process can also include the further steps of incineration, collecting the solid, liquid and gaseous discharges from the incinerator, washing the solid and liquid discharges with water and the gaseous discharge with an alkaline solution, mixing the resultant wash streams, separating precipitates formed from the mixed stream and neutralizing the remaining solution.

5528920**PROCESS FOR LAMINATING A THIN
FILM OF LITHIUM BY CONTROLLED
DETACHMENT**

Bouchard Patric; Guerin Paul-Emile; St-Amant Guy;
Laroche Guy Fleurimont, CANADA assigned to
Hydro-Quebec

A film of lithium capable for example of providing the anode of a polymer electrolyte battery is produced by laminating a lithium sheet between two working rolls. At the outlet, the film remains attached to one of the two rolls up to a given point of the circumference of the latter where it forms an angle of about 90° with the meeting point between the two rollers. A sufficient tension is thereafter exerted on the film, which in any case is inferior to the limit of elasticity of lithium, by pulling the film in order to detach it from the surface of the roller and usually so that the given point moves into an intermediate position between 90° and the meeting point, for example about 45°. The product obtained may also be used any time there is a need for a film of lithium having a thickness for example between 10 and 100 µm.

5529858**HERMETICALLY SEALED
THERMOCOMPRESSION
FEEDTHROUGH AND PERIPHERAL SEAL
FOR HIGH TEMPERATURE LITHIUM
BASED BATTERY APPLICATIONS**

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Fernand; Press Khushrow K Paris, MD, FRANCE
assigned to Saft America Inc

A design and process for making hermetically sealed thermocompression feedthrough and peripheral seal for high temperature Li Alloy FeS_x battery cells and battery enclosures. The selected materials and processes parameters are developed to match the high temperature Li Alloy/FeS_x system.