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General Procedures for Lithium storage, handling and disposal

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1. Storage. Lithium will be stored in the sealed, argon atmosphere cans as it comes from the manufacturer. Typically, each can contains a 1/4-16 ingot of lithium. The total amount of lithium in storage at any given time will not exceed 5 lbs. The lithium containers will be placed together in a labelled, covered steel box in a dry area.

2. Handling. All operations involving handling of the lithium will be carried out in a sealed glove box containing an argon atmosphere. Typically, a can of lithium (~1/4 16) will be placed in the glove box; the box will then be purged; then the can will be opened for manipulation of the lithium. The lithium will be handled with steel tongs. If only a small amount of lithium (a few ounces) is to be used, this will be cut from the ingot. The remainder will be placed in a sealed vessel. Later, this vessel will be removed from the glove box and stored with the rest of the lithium for subsequent use.

Lithium melting will be performed using heating tapes or electric hot plates, with the lithium contained in an Armco iron crucible or stainless steel vessel. The amount of lithium to be melted

will vary, but will never exceed ½ lb (~225 gms). The temperature of the liquid lithium will not exceed 200°C. As a safety precaution in case the integrity of the sealed glove box is lost while the lithium is hot, a container of graphite powder will be available inside the glove box, which can be used to cover the hot lithium to inhibit a fire. A "Metal-X" fire extinguisher will also be available outside the glove box.

3. Disposal

Excess lithium, typically in liquid form, remaining after an operation, will be disposed of in the following way: the liquid will be poured into a clean disposal container inside the glove box and allowed to cool. Once cool, mineral oil will be poured over the lithium, and the glove box opened. The scrap lithium under the mineral oil will be stored in a labelled, covered steel box until it can be disposed of according to local regulations. Lithium residues adhering to crucibles, vessels, handling equipment, etc used in the operation will be cleaned with solvents (water and/or alcohol) at room temperature in a well-ventilated area.