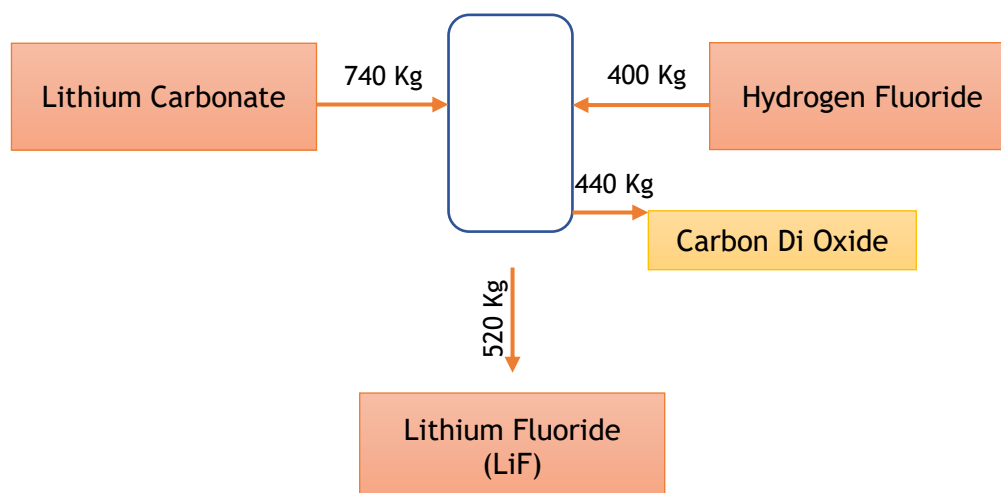
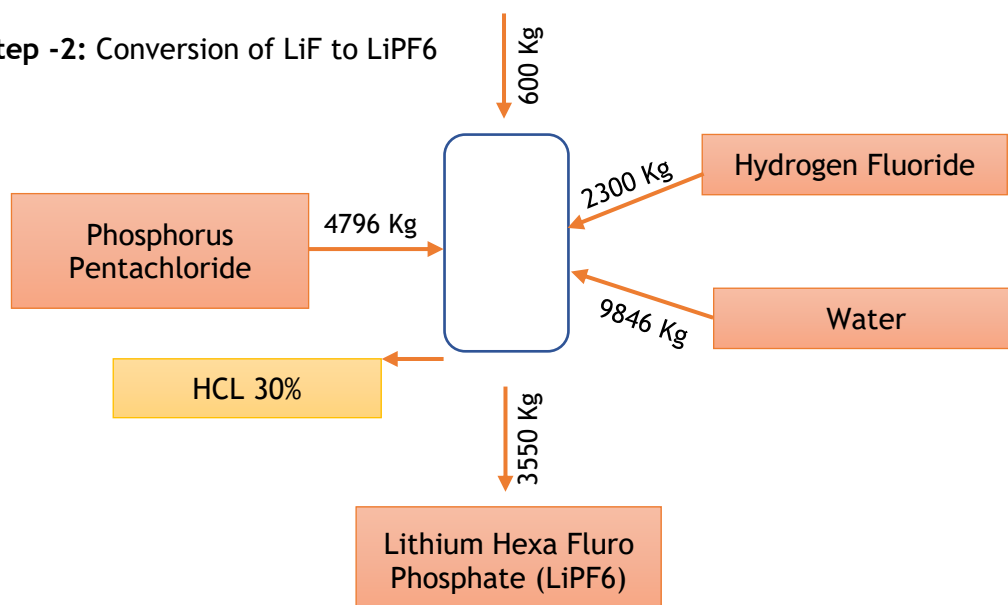


4.9.6 Manufacturing Process of Electrolyte & Electrolyte Salt

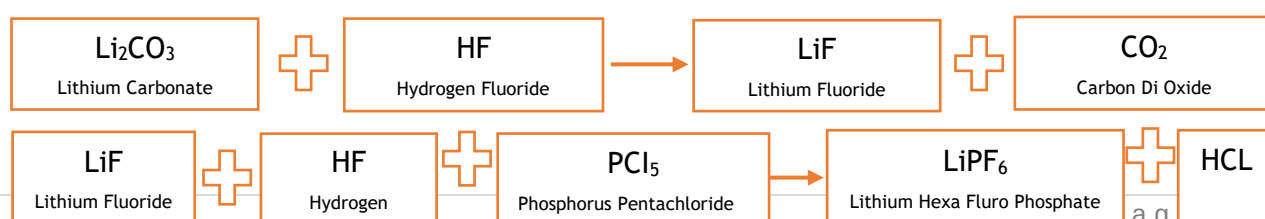
Step -1: Conversion of Li_2CO_3 to LiF

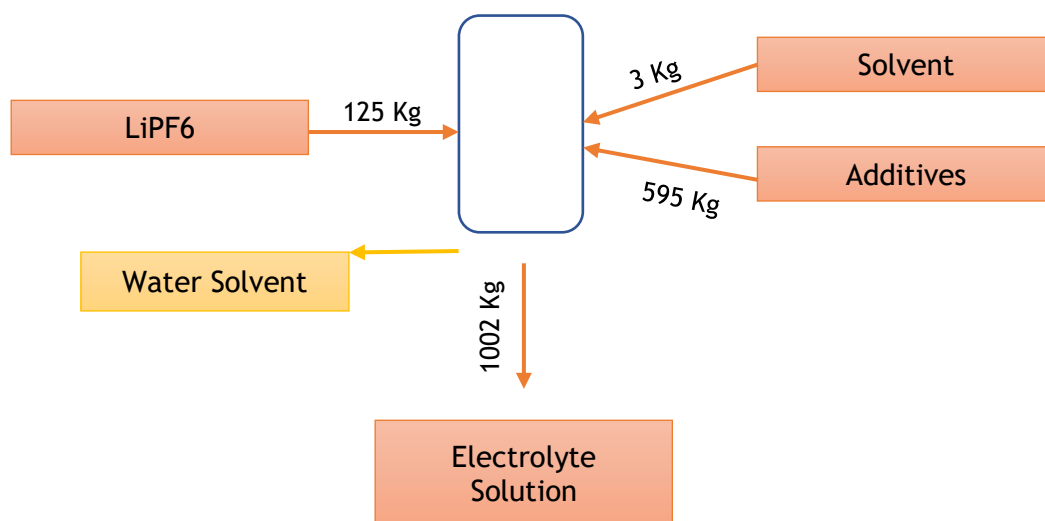
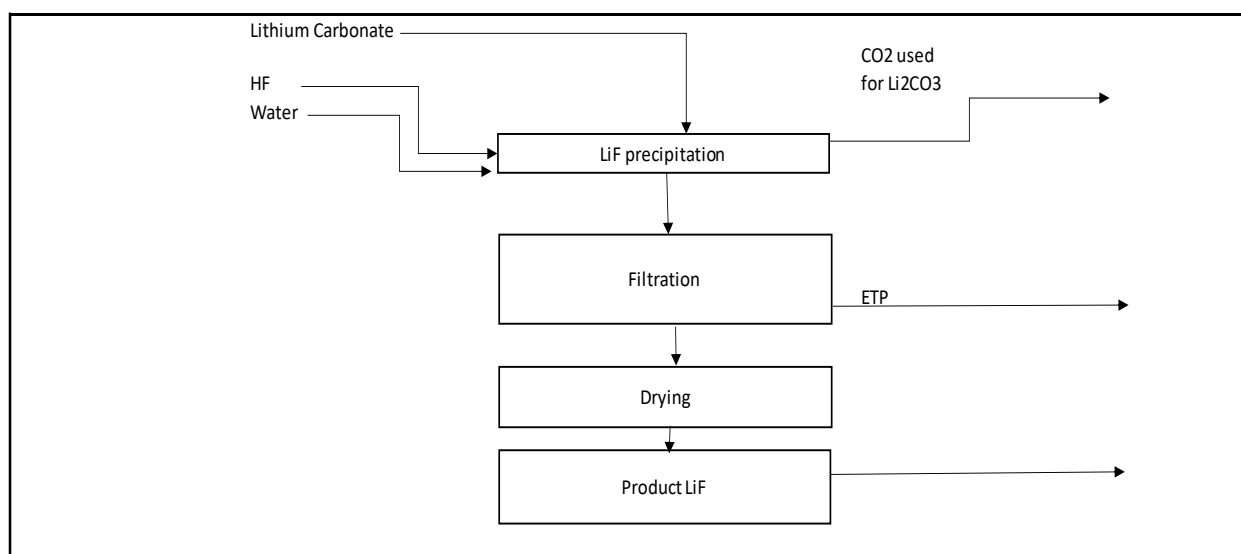


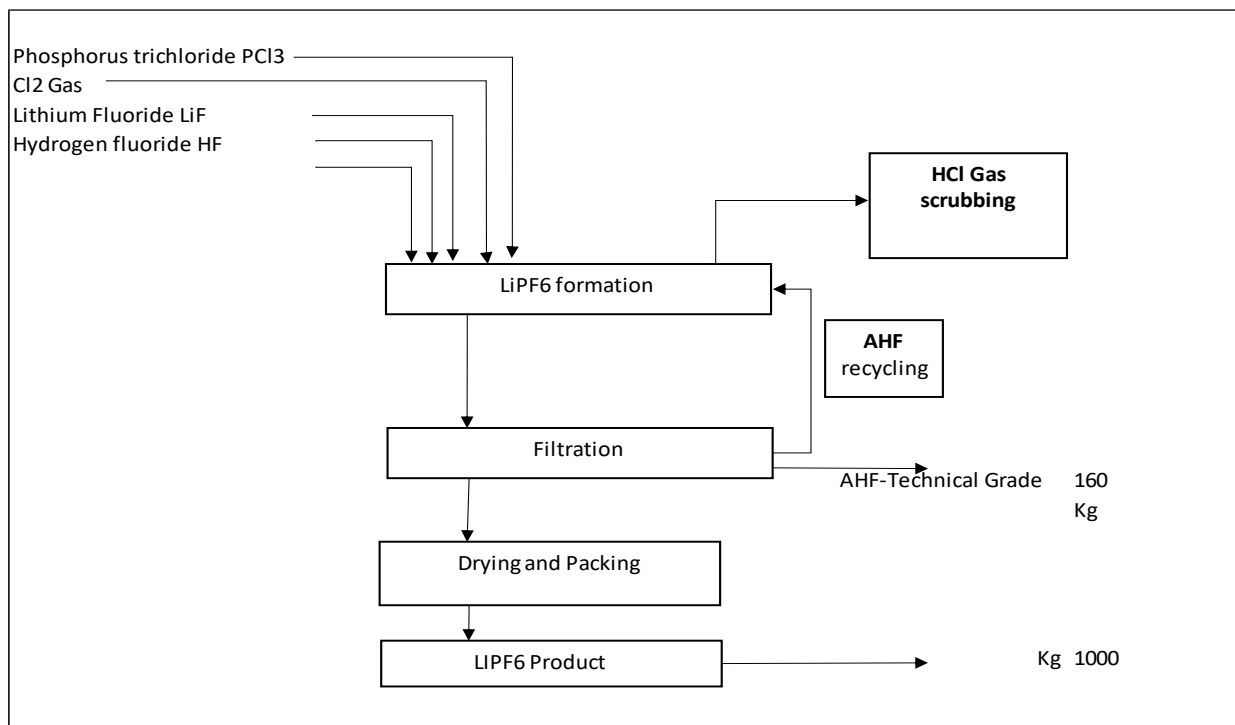
Step -2: Conversion of LiF to LiPF_6



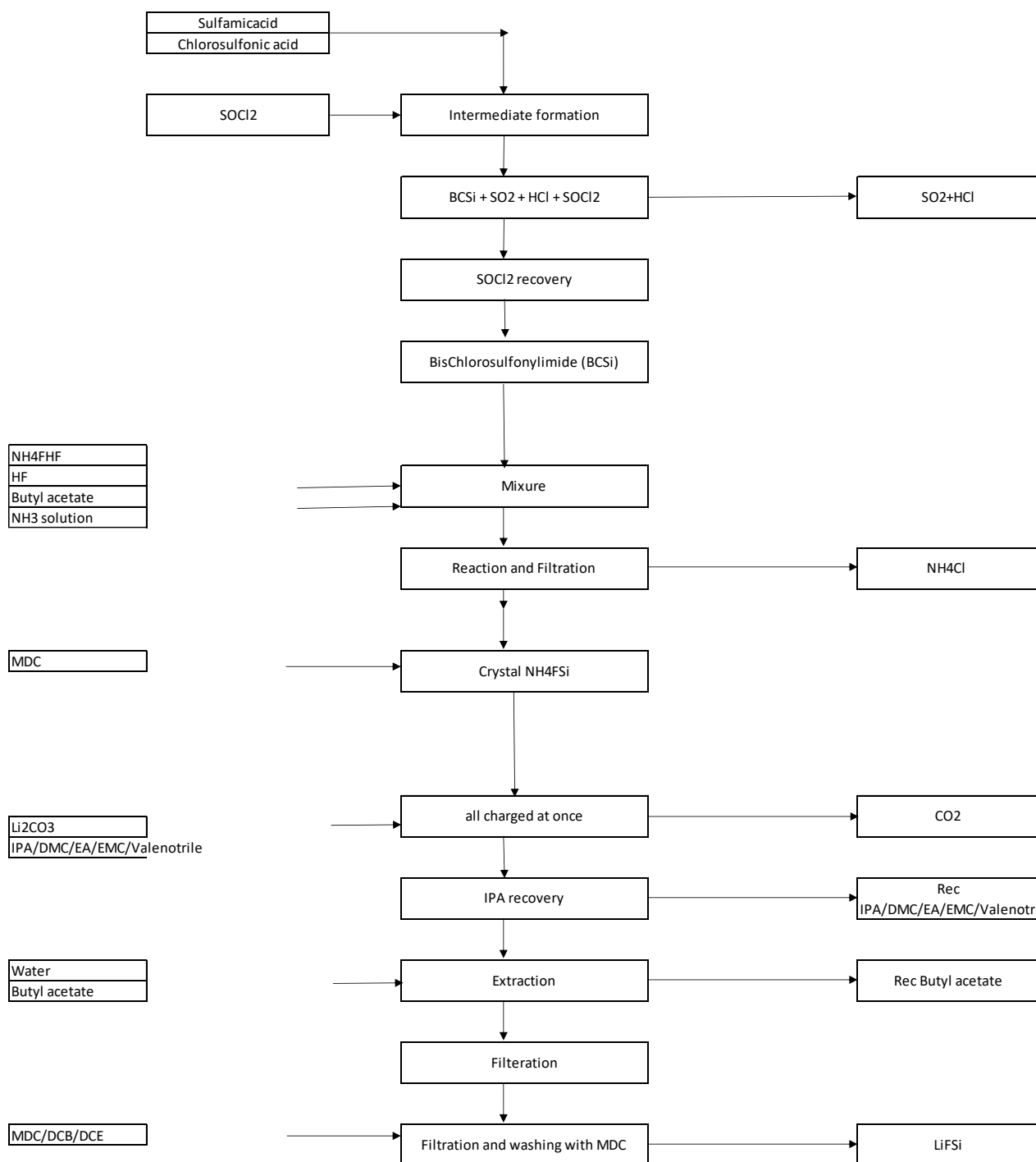
Chemical Reaction details:



Step -3: Electrolyte using LiPF₆**Basic Flow Diagram:**➤ **Lithium Carbonate to LiF**➤ **LiF to LiPF₆**

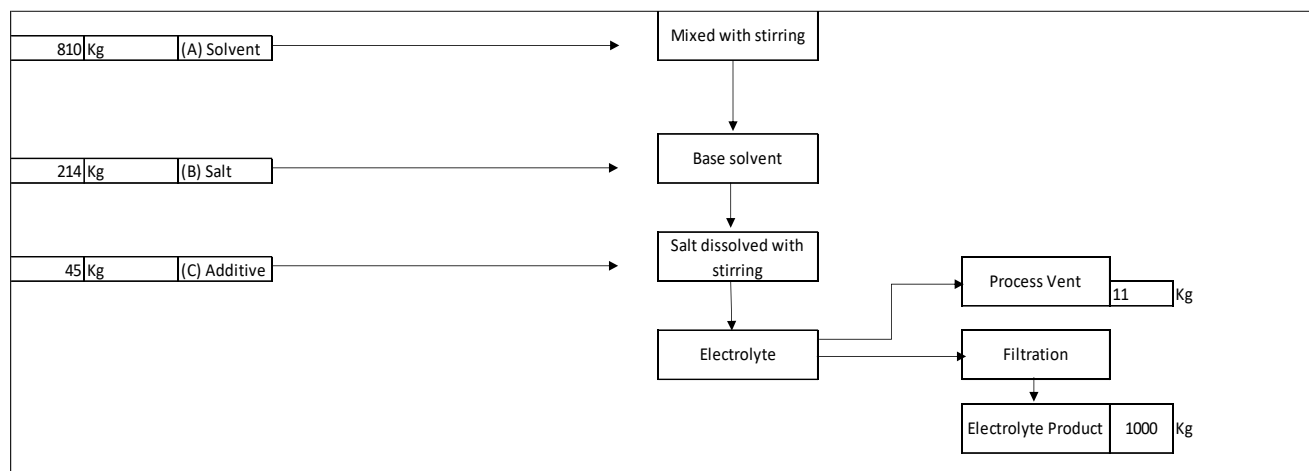


➤ Synthesis of LiFSi (Lithium Fluorosulfonyl Imide) salt



➤ Synthesis of Electrolyte from LiPF6





List of all the inputs in form of Solvents, Salts and Additives for final Electrolyte preparation

(A) Solvents	Dimethylcarbonate(DMC), Ethylmethylcarbonate(EMC), Diethylcarbonate(DEC), Ethylenecarbonate(EC), Propylenecarbonate(PC). BC(butylcellosolve), EA(ethylacetate), Sulfolane, methyl butyrate, methyl acetate, methyl propionate, isobutyl acetate, methyl trimethyl acetate, methyl isovalerate MB(methylbutanoate), EB(ethylbutanoate), 1,3dioxalon(DOL), Dimethylether(DME), Diethyleneglycoldimethylether(DEGDME),
(B) Salts	Lithiumhexafluorophosphate(LiPF ₆), Lithiumhexafluoroarsenate(LiAsF ₆), Lithiumtrifluoromethanesulfonate(LiTf), Lithiumbistrifluoromethanesulfonylimide(LiIm), Lithiumtetrafluoroborate(LiBF ₄), Lithiumperchlorate(LiClO ₄), Lithiumbisfluorosulfonylimide(LiFSi).NaPF ₆ , NaTf, NaIm, NaBF ₄ , NaClO ₄ , NaBSB(sodiumbissalicylatoborate)
(C) Additives	Fluoroethylenecarbonate(FEC), Vinylenecarbonate(VC), Succinonitrile(SN), Trioctylphosphate(TOP), Ethylenesulfite(ES). Lithiumbisoxalatoborate(LiBOB), Lithiumdifluorooxalatoborate(LiDFOB), NaDFOB, NaBOB, PES(polyethersulfone), NaDFOB.

