Lumtec

Luminescence Technology Corp.

Metal Halides for Perovskite Solar Cells

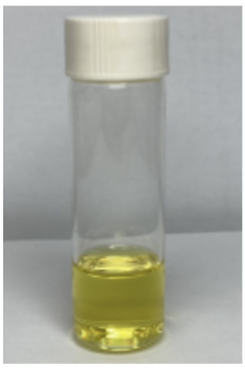
Lead halides

Untreated lead halide may affect its solubility due to impurities, resulting in the deviation of its chemical composition ratio or the crystal shape of the perovskite layer when forming the perovskite layer, resulting in a significant reduction in the performance of the device. Therefore, lead halides with high solubility are necessary materials for high-efficiency perovskite solar cells.

Untreated PbBr2

Our PbBr2 can readily be dissolved in DMF to yield 1M solution.

Untreated PbI2



Our PbI2 can readily be dissolved in DMSO : DMF (1:4) to yield 1M solution.

Product No.	Formula	Chemical Name	CAS No	M.W.	Grade
LT-S9147	PbI_2	Lead(II) iodide	10101-63-0	461.01 g/mole	99.999% trace metals basis
LT-S9148	$PbCl_2$	Lead(II) chloride	7758-95-4	278.11 g/mole	99.999% trace metals basis
LT-S9152	$PbBr_2$	Lead(II) bromide	10031-22-8	367.01 g/mole	99.999% trace metals basis

Lead-free metal halides

Most reported high-efficiency solar cells incorporate Pb-based perovskite materials. Because of the toxicity issue associated with Pb, however, intensive efforts have been devoted to the development of lead-free alternatives. So far, Sn-based and Cu-based perovskites have demonstrated the potential to replace Pb-based perovskites to some degree.

Product No.	Formula	Chemical Name	CAS No	M.W.	Grade
LT-S9690	CsBr	Cesium bromide	7787-69-1	212.81 g/mole	99.9% trace metals basis
LT-S9691	CsCl	Cesium chloride	7647-17-8	168.36 g/mole	99.9% trace metals basis
LT-S9692	CsI	Cesium iodide	7789-17-5	259.81 g/mole	99.9% trace metals basis
LT-S9693	$CuCl_2 \cdot 2H_2O$	Copper(II) chloride dihydrate	10125-13-0	170.48 g/mole	>99%
LT-S9694	$SnBr_2$	Tin(II) bromide	10031-24-0	278.52 g/mole	>99%
LT-S9695	$SnCl_2$	Tin(II) chloride	7772-99-8	189.62 g/mole	>99%
LT-S9696	SnI_2	Tin(II) iodide	10294-70-9	372.52 g/mole	>99%

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