

### **HOLE TRANSPORT MATERIAL, DOPANTS & COBALT COMPLEXES**

FK 102 Co(II) PF6 Salt  
FK 102 Co(II) TFSI Salt  
FK 102 Co(III) PF6 Salt  
FK 102 Co(III) TFSI Salt  
FK 209 Co(II) PF6 Salt  
FK 209 Co(II) TFSI Salt  
FK 209 Co(III) PF6 Salt  
FK 209 Co(III) TFSI Salt  
FK 269 Co(II) PF6 Salt  
FK 269 Co(II) TFSI Salt  
FK 269 Co(III) PF6 Salt  
FK 269 Co(III) TFSI Salt  
(1,10-Phen)<sub>3</sub>Co(II) PF6 Salt  
(1,10-Phen)<sub>3</sub>Co(III) PF6 Salt

### **TITANIA & PLATINUM PASTES**

BL-1 Blocking Layer  
MPT-20  
18NR-AO Active Opaque Titania Paste  
CELS Counter Electrode Solution  
30 NR-D  
WER2-O Reflector Titania Paste  
PT1 Platinum Paste  
90-T Transparent Titania Paste (Thin Use)  
18NR-T Transparent Titania Paste

### **DYES & SENSITIZERS**

C106 Dye  
K19 Dye  
N3 Foundation Dye  
N719 Industry Standard Dye  
N749 Black Dye  
Z907 Hydrophobic Dye

### **ELECTROLYTES & COMPONENTS**

Ethyl Isopropyl Sulfone  
EL-HPE High Performance Electrolyte  
EL-HSE High Stability Electrolyte  
EL-HTE High Temperature Electrolyte  
Ultra High Stability Electrolyte

### **SILVER INK**

DYAG50 Conductive Silver Printing Ink

### **LIGANDS & INTERMEDIATES**

4-Bromo-N,N-bis(4-iodophenyl)aniline  
C101 Ligand  
C106 Ligand  
1-Chloro-2,4-bis(hexyloxy)benzene  
DCBP Anchoring Ligand  
DMBP Building Block Ligand  
DNBP Hydrophobic Ligand  
FK 102 Ligand  
FK 209 Ligand  
FK 269 Ligand  
K19 Ligand  
4-bromo-N,N-bis(4-methoxyphenyl)aniline  
4-(tert-butyl)-2-chloropyridine  
4-(tert-butyl)pyridine-N-oxide

### **ADDITIVES AND MODIFIERS**

4-ABAB (4-Ammonium butyric acid bromide)  
4-ABAI (4-Ammonium butyric acid iodide)  
3-APAI (4-Ammonium propionic acid iodide)  
3-APAB (4-Ammonium propionic acid bromide)  
5-AVAB (5-Ammonium valeric acid bromide)  
5-AVAC (5-Ammonium valeric acid chloride)  
5-AVAI (5-Ammonium valeric acid iodide)

### **GLASS SUBSTRATES**

TEC7 Glass Plates  
TEC8 Glass Plates  
TEC15 Glass Plates  
TiO<sub>2</sub> Coated Test Cell Glass Electrodes (Opaque)  
TiO<sub>2</sub> Coated Test Cell Glass Electrodes (Transparent)  
Pt Coated Test Cell Counter Electrodes (drilled)

### **SEALANTS**

Two Part Thermal Cure Epoxy Compound - Clear  
Two Part Thermal Cure Epoxy Compound - Opaque  
Aluminium Thermoplastic Laminate  
High Temperature Thermoplastic Sealant  
Low Temperature Thermoplastic Sealant  
Two Part Hermetic Sealing Compound  
Two Part Interconnect Polymer  
Two Part Neutral Assembly Polymer



## PEROVSKITE PRECURSORS – AMMONIUM SALTS

### IODIDES

Acetamidinium iodide  
 5-Azaspiro[4.4]nonan-5-ium iodide  
 1,4-Benzene diammonium iodide  
 Benzylammonium iodide  
**Butane-1,4-diammonium iodide** NEW  
 iso-Butylammonium iodide  
 n-Butylammonium iodide  
 t-Butylammonium iodide  
 Cyclohexylammonium iodide  
 Cyclohexylmethylammonium iodide  
 1,4-Diazabicyclo[2,2,2]octane-1,4-dium iodide  
 Diethylammonium iodide  
 Dimethylammonium iodide  
 N,N-Dimethyl-1,2-ethanediammonium iodide  
 N,N-Dimethyl-1,3-propanediammonium iodide  
 n-Dodecylammonium iodide  
 Ethane-1,2-diammonium iodide  
 Ethylammonium iodide  
 4-Fluoro-Benzylammonium iodide  
 4-Fluoro-Phenethylammonium iodide  
 Formamidinium iodide  
 Guanidinium iodide  
 n-Hexylammonium iodide  
 Imidazolium iodide  
**4-Methoxy-Phenethylammonium iodide** NEW  
**4-Methoxy-Phenylammonium iodide** NEW  
 Methylammonium iodide  
 n-Octylammonium iodide  
 tert-Octylammonium iodide  
 iso-Pentylammonium iodide  
 neo-Pentylammonium iodide  
 Phenethylammonium iodide  
 Phenylammonium iodide  
 Piperazine-1,4-dium iodide  
 Piperidinium iodide  
 Propane-1,3-diammonium iodide  
 iso-Propylammonium iodide  
 n-Propylammonium iodide  
 Pyridinium iodide  
 Pyrrolidinium iodide  
 Quinuclidin-1-ium iodide  
**4-Trifluoromethyl-Benzylammonium iodide** NEW  
**4-Trifluoromethyl-Phenylammonium iodide** NEW

### TFSIs

5-Azaspiro[4.4]nonan-5-ium bis(trifluoromethane)sulfonimide

### BROMIDES

**Acetamidinium bromide** NEW  
 5-Azaspiro[4.4]nonan-5-ium bromide  
 Benzylammonium bromide  
**Butane-1,4-diammonium bromide** NEW  
 iso-Butylammonium bromide  
 n-Butylammonium bromide  
 t-Butylammonium bromide  
 Cyclohexylammonium bromide  
 Cyclohexylmethylammonium bromide  
 1,4-Diazabicyclo[2,2,2]octane-1,4-dium bromide  
 Diethylammonium bromide  
 Dimethylammonium bromide  
 N,N-Dimethyl-1,2-ethanediammonium bromide  
 N,N-Dimethyl-1,3-propanediammonium bromide  
 n-Dodecylammonium bromide  
 Ethane-1,2-diammonium bromide  
 Ethylammonium bromide  
 4-Fluoro-Benzylammonium bromide  
 4-Fluoro-Phenethylammonium bromide  
 Formamidinium bromide  
 Guanidinium bromide  
 n-Hexylammonium bromide  
 Imidazolium bromide  
**4-Methoxy-Phenethylammonium bromide** NEW  
**4-Methoxy-Phenylammonium bromide** NEW  
 Methylammonium bromide  
 n-Octylammonium bromide  
 tert-Octylammonium bromide  
 iso-Pentylammonium bromide  
 neo-Pentylammonium bromide  
 Phenethylammonium bromide  
 Phenylammonium bromide  
 Piperazine-1,4-dium bromide  
 Piperidinium bromide  
 Propane-1,3-diammonium bromide  
 iso-Propylammonium bromide  
 n-Propylammonium bromide  
 Pyrrolidinium bromide  
 Quinuclidin-1-ium bromide  
**4-Trifluoromethyl-Benzylammonium bromide** NEW  
**4-Trifluoromethyl-Phenylammonium bromide** NEW

### HEXAFLUOROPHOSPHATES

5-Azaspiro[4.4]nonan-5-ium hexafluorophosphate  
 Formamidinium hexafluorophosphate  
 Methylammonium hexafluorophosphate

## PEROVSKITE PRECURSORS – AMMONIUM SALTS

### CHLORIDES

5-Azaspiro[4.4]nonan-5-ium chloride  
 1,4-Diazabicyclo[2.2.2]octane-1,4-dium chloride  
 N,N-Dimethyl-1,3-propanediammonium chloride  
**4-Fluoro-Benzylammonium chloride** NEW  
**4-Fluoro-Phenethylammonium chloride** NEW  
 Formamidinium chloride  
**4-Methoxy-Phenethylammonium chloride** NEW  
 n-Octylammonium chloride  
 tert-Octylammonium chloride  
 iso-Pentylammonium chloride  
 neo-Pentylammonium chloride  
**4-Trifluoromethyl-Benzylammonium chloride** NEW  
**4-Trifluoromethyl-Phenylammonium chloride** NEW  
 Piperazine-1,4-dium chloride  
 Piperidinium chloride  
 Propane-1,3-diammonium chloride  
 Pyrrolidinium chloride  
 Quinuclidin-1-ium chloride

### THIOCYANATES

Benzylammonium thiocyanate  
 n-Butylammonium thiocyanate  
 Cyclohexylammonium thiocyanate  
 n-Dodecylammonium thiocyanate  
 Ethylammonium thiocyanate  
 Formamidinium thiocyanate  
 n-Hexylammonium thiocyanate  
 Methylammonium thiocyanate  
 n-Octylammonium thiocyanate  
 tert-Octylammonium thiocyanate  
 iso-Pentylammonium thiocyanate  
 neo-Pentylammonium thiocyanate  
 Phenethylammonium thiocyanate  
 Phenylammonium thiocyanate  
 Pyrrolidinium thiocyanate

### SPIROs

5-Azaspiro[4.4]nonan-5-ium bis(trifluoromethane)sulfonimide  
 5-Azaspiro[4.4]nonan-5-ium bromide  
 5-Azaspiro[4.4]nonan-5-ium chloride  
 5-Azaspiro[4.4]nonan-5-ium hexafluorophosphate  
 5-Azaspiro[4.4]nonan-5-ium iodide  
 5-Azaspiro[4.4]nonan-5-ium tetrafluoroborate

### TETRAFLUOROBORATES

5-Azaspiro[4.4]nonan-5-ium tetrafluoroborate  
 Benzylammonium tetrafluoroborate  
 iso-Butylammonium tetrafluoroborate  
 n-Butylammonium tetrafluoroborate  
 t-Butylammonium tetrafluoroborate  
 Cyclohexylammonium tetrafluoroborate  
 1,4-Diazabicyclo[2,2,2]octane-1,4-dium tetrafluoroborate  
 N,N-Dimethyl-1,3-propanediammonium tetrafluoroborate  
 Diethylammonium tetrafluoroborate  
 Dimethylammonium tetrafluoroborate  
 Ethane-1,2-diammonium tetrafluoroborate  
 Ethylammonium tetrafluoroborate  
 Formamidinium tetrafluoroborate  
 Guanidinium tetrafluoroborate  
 n-Hexylammonium tetrafluoroborate  
 Imidazolium tetrafluoroborate  
 Methylammonium tetrafluoroborate  
 n-Octylammonium tetrafluoroborate  
 tert-Octylammonium tetrafluoroborate  
 iso-Pentylammonium tetrafluoroborate  
 neo-Pentylammonium tetrafluoroborate  
 Phenethylammonium tetrafluoroborate  
 Phenylammonium tetrafluoroborate  
 Piperazine-1,4-dium tetrafluoroborate  
 Piperidinium tetrafluoroborate  
 Propane-1,3-diammonium tetrafluoroborate  
 iso-Propylammonium tetrafluoroborate  
 n-Propylammonium tetrafluoroborate  
 Pyridinium tetrafluoroborate  
 Pyrrolidinium tetrafluoroborate  
 Quinuclidin-1-ium tetrafluoroborate

### ACETATES

Methylammonium acetate

### CYANATES

Methylammonium cyanate

### TRIFLUOROACETATE

**Methylammonium trifluoroacetate** NEW