

MATERIALS CATALOGUE

MATERIALS - COMPONENTS - CUSTOM ORDERS



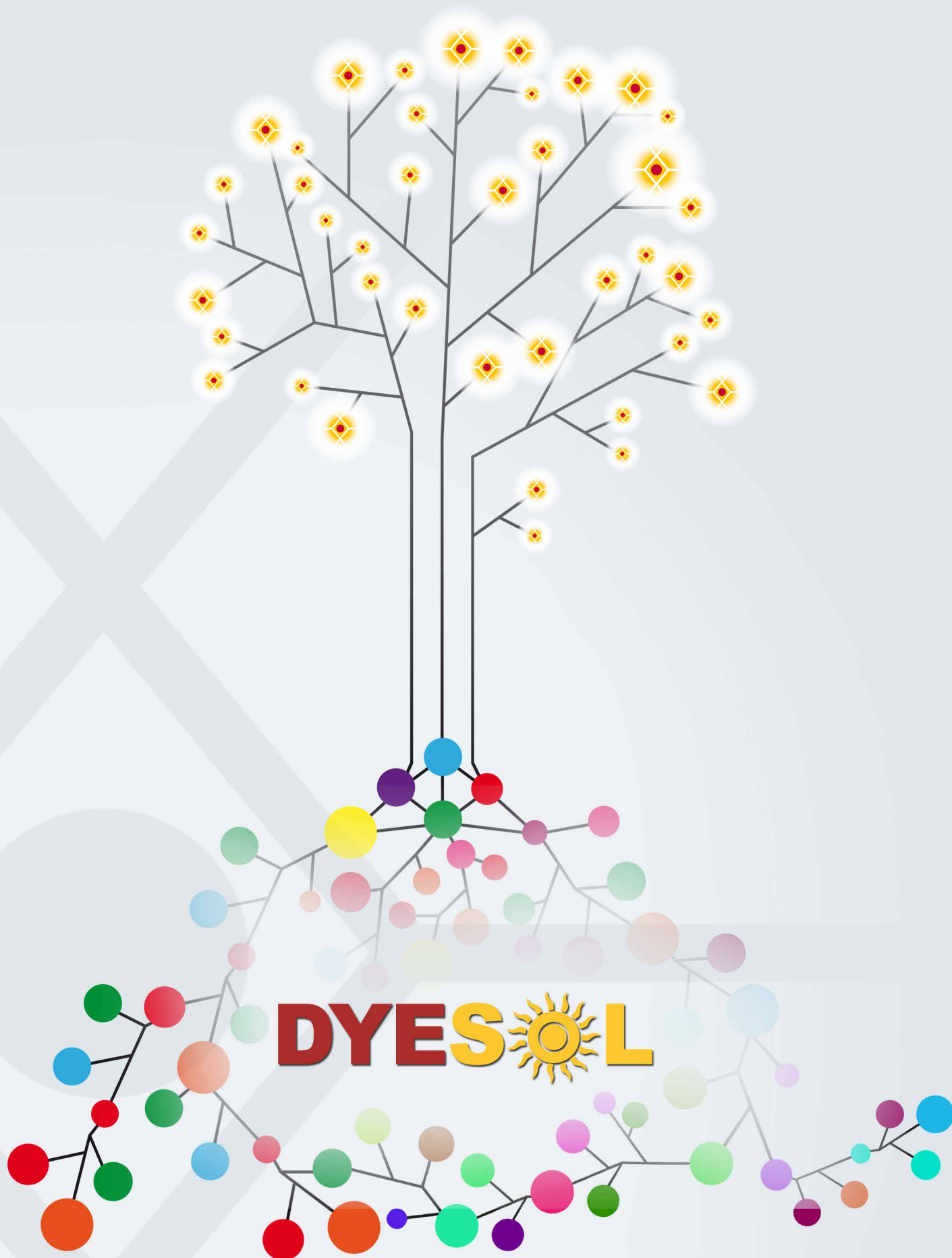
greatcellsolar
Global leaders in hi-tech solar

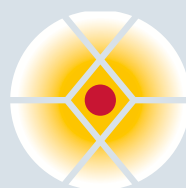
Formerly
Dyesol
Limited



greatcellsolar
Global leaders in hi-tech solar

Formerly
Dyesol
Limited





greatcellsolar

Global leaders in hi-tech solar

Dear Valued Customer,

To reflect the new direction for our company in terms of both technology and business generation we are pleased to announce that the **Dyesol group** has changed its name to **Greatcell Solar**.

Dyesol Limited was formed in 2004 to accelerate the commercial development of Dye Solar Cell technology and build on the DSC work of previous 14 years carried out by Sustainable Technologies International Pty Ltd ("STI"), Greatcell Solar S.A. ("Greatcell"), and Switzerland's École Polytechnique Fédérale de Lausanne (EPFL).

On June the 9th 2017 at a general meeting of Dyesol shareholders a special resolution to change the name of the Company from **Dyesol Limited to Greatcell Solar Limited** was approved.

If you are a customer of the Company, our banking details will remain unchanged except for new account holder name details. We will, of course, continue to deliver the best materials and equipment in this rapidly growing renewable energy sector. We will also continue to sensibly manage the transition, recognising both names in relevant circumstances.

The name change is much more than cosmetic, it is a new direction for the company in terms of both technology and business generation. The new name signifies to us a new chapter of commercial progress and is more appropriate for our 3rd generation solar PV technology.

What will not change is our commitment to provide you with excellent materials and great equipment.

**FROM DYESOL TO GREATCELL SOLAR THE SAME
COMMITMENT FOR A BRIGHTER FUTURE!**

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ABOUT GREATCELL SOLAR

Greatcell Solar is a global leader in the development and commercialisation of Perovskite Solar Cell (PSC) technology – 3rd Generation photovoltaic technology that can be applied to glass, metal, polymers or cement.

Greatcell Solar manufactures and supplies high performance materials and is focussed on the successful commercialisation of PSC photovoltaics.

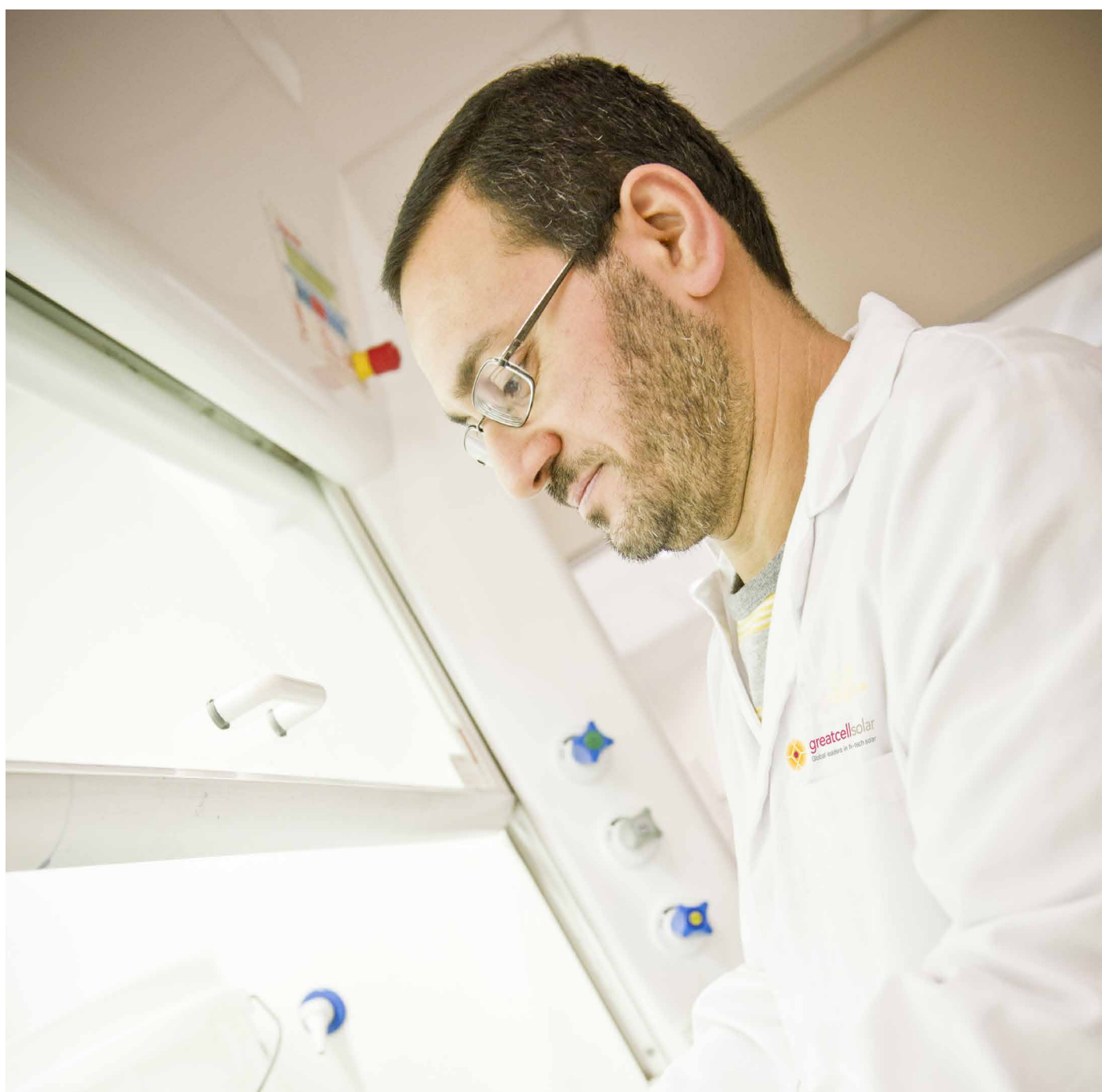
Our team of highly skilled scientists and engineers focus on:

- Developing (and continuously advancing) a suite of thoroughly tested PSC chemicals, components and

equipment used in the manufacture of PSC cells, modules and panels to researchers and industrialists;

- Providing turn-key and custom fabrication facilities for research, development and production of PSC photovoltaic devices; and
- Providing specialist training, consulting and engineering solutions for the application of PSC photovoltaic technology.

Greatcell Solar is a publicly listed company: Australian Securities Exchange ASX (GSL) and German Open Market (D5I).



HIGHEST QUALITY MATERIALS

Greatcell Solar has more than 800 customers located in 60 countries. Customers include leading universities, manufacturers and scientists. All demand a high quality and consistent product, which Greatcell Solar has become renowned for internationally.

We provide our customers with the industry's highest quality perovskite precursors, sensitising dyes, ligands, dye additives, titania pastes, platinum pastes, electrolytes, conductive glass substrates, sealants and more!

Greatcell Solar is also a pioneer Licensee of the Ecole Polytechnique Federale de Lausanne (EPFL) and many of our products are sold under license from EPFL.

Our operation is scalable, and we are capable of fulfilling

small orders for individual projects or large orders for production scale initiatives.

Our products go under the most rigorous quality testing in the market to provide the best performance and highest consistency. We already supply a range of producers with large quantities of several materials at very competitive prices.



SPECIALIST EQUIPMENT

In addition to specialist materials, Greatcell Solar offers a unique, proprietary DSC equipment set, and provides DSC researchers and manufacturers with a range of customisable and all-inclusive equipment, materials and training packages.

Greatcell Solar's lab equipment enables you to develop research capability and master the fundamental processes involved with DSC construction. The Laboratory Solutions allow you to quickly produce high quality, consistent test cells so that you can focus on researching optimum DSC materials and processes.

Packages

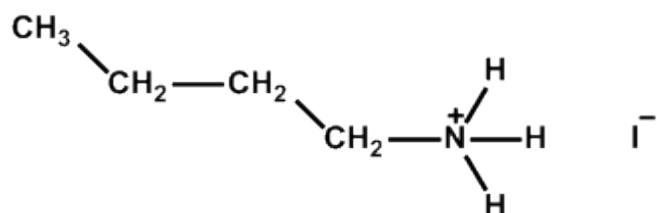
Greatcell Solar's Laboratory Solutions can be packaged to suit your needs, consider:

- Project Planning
- Equipment Commissioning
- Equipment Delivery and Installation
- Starter DSC Materials Set
- Facility requirements identified
- Technical training on equipment
- Ongoing technical assistance allowance
- Package tailored to your individual needs

If you are planning to refurbish your laboratory, talk to Greatcell Solar about the lab packages available. Consider Greatcell Solar's state-of-the-art machines, affordable prices, and technical know-how.

To view Greatcell Solar's range of lab equipment visit www.greatcellsolar.com/equipment

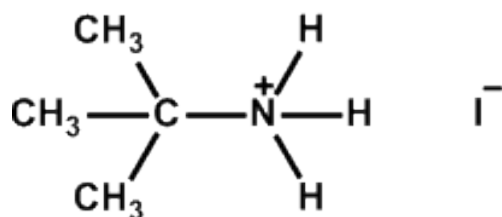


n-Butylammonium iodide

Formula	n-BuNH3I
CAS#	36945-08-1
Molecular Weight	201.05
Chemical Formula	C ₄ H ₁₂ IN
Aspect	White Powder

Product Code	Quantity
MS105000-05	5g
MS105000-10	10g
MS105000-50	50g
MS105000-100	100g
MS105000-500	500g

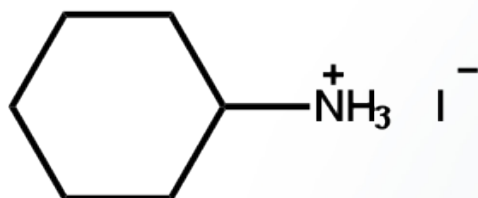
Larger quantities available on request

t-Butylammonium iodide

Formula	t-BuNH3I
CAS#	39557-45-4
Molecular Weight	201.05
Chemical Formula	C ₄ H ₁₂ IN
Aspect	White Powder

Product Code	Quantity
MS106000-05	5g
MS106000-10	10g
MS106000-50	50g
MS106000-100	100g
MS106000-500	500g

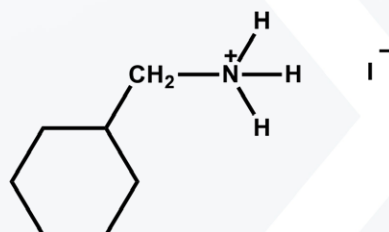
Larger quantities available on request

Cyclohexylammonium iodide

Formula	ChNH3I
CAS#	45492-87-3
Molecular Weight	227.09
Chemical Formula	C ₆ H ₁₄ IN
Aspect	White Powder

Product Code	Quantity
MS100840-05	5g
MS100840-10	10g
MS100840-50	50g
MS100840-100	100g
MS100840-500	500g

Larger quantities available on request

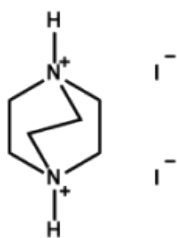
Cyclohexylmethylammonium iodide

Formula	CyMeNH3I
CAS#	N/A
Molecular Weight	241.11
Chemical Formula	C ₇ H ₁₆ IN
Aspect	White Powder

Product Code	Quantity
MS101840-05	5g
MS101840-10	10g
MS101840-50	50g
MS101840-100	100g
MS101840-500	500g

Larger quantities available on request

1,4-Diazabicyclo[2,2,2]octane-1,4-diium iodide

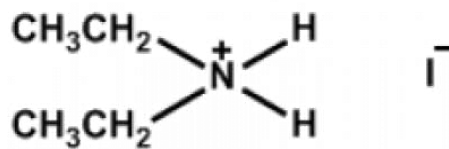


Formula	DABCO·2HI
CAS#	33322-06-4
Molecular Weight	368.00
Chemical Formula	$C_6H_{14}I_2N_2$
Aspect	White Powder

Product Code	Quantity
MS129400-05	5g
MS129400-10	10g
MS129400-50	50g
MS129400-100	100g
MS129400-500	500g

Larger quantities available on request

Diethylammonium iodide

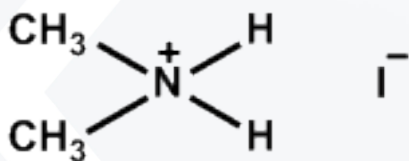


Formula	Et ₂ NH ₂ I
CAS#	19833-78-4
Molecular Weight	201.05
Chemical Formula	$C_4H_{12}IN$
Aspect	White Powder

Product Code	Quantity
MS112200-05	5g
MS112200-10	10g
MS112200-50	50g
MS112200-100	100g
MS112200-500	500g

Larger quantities available on request

Dimethylammonium iodide

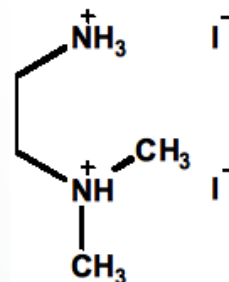


Formula	Me ₂ NH ₂ I
CAS#	51066-74-1
Molecular Weight	173.00
Chemical Formula	C_2H_8IN
Aspect	White Powder

Product Code	Quantity
MS111100-05	5g
MS111100-10	10g
MS111100-50	50g
MS111100-100	100g
MS111100-500	500g

Larger quantities available on request

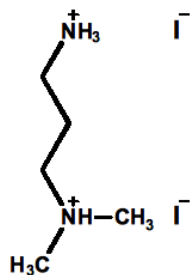
N,N-Dimethyl-1,2-ethanediammonium iodide



Formula	Me ₂ NEtNH ₂ (HI) ₂
CAS#	244234-52-4
Molecular Weight	343.98
Chemical Formula	$C_4H_{14}I_2N_2$
Aspect	Off-White Powder

Product Code	Quantity
MS122112-05	5g
MS122112-10	10g
MS122112-50	50g
MS122112-100	100g
MS122112-500	500g

Larger quantities available on request

N,N-Dimethyl-1,3-propanediammonium**iodide**

Formula	Me2NHPrNH3I2
CAS#	N/A
Molecular Weight	358.00
Chemical Formula	C ₅ H ₁₆ I ₂ N ₂
Aspect	Off-White Powder

Product Code	Quantity
MS123113-05	5g
MS123113-10	10g
MS123113-50	50g
MS123113-100	100g
MS123113-500	500g

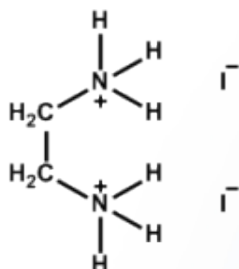
Larger quantities available on request

n-Dodecylammonium iodide

Formula	n-DodecNH3I
CAS#	34099-97-3
Molecular Weight	313.26
Chemical Formula	C ₁₂ H ₂₈ IN
Aspect	White Powder

Product Code	Quantity
MS100880-05	5g
MS100880-10	10g
MS100880-50	50g
MS100880-100	100g
MS100880-500	500g

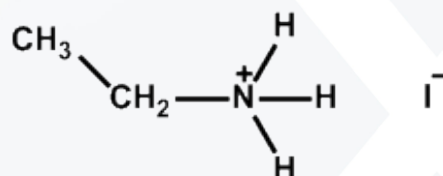
Larger quantities available on request

Ethane-1,2-diammonium iodide

Formula	Et(NH3)2I2
CAS#	5700-49-2
Molecular Weight	315.92
Chemical Formula	C ₂ H ₁₀ I ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS102002-05	5g
MS102002-10	10g
MS102002-50	50g
MS102002-100	100g
MS102002-500	500g

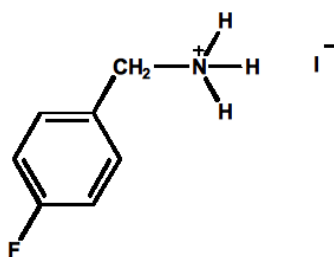
Larger quantities available on request

Ethylammonium iodide

Formula	EtNH3I
CAS#	506-58-1
Molecular Weight	173.00
Chemical Formula	C ₂ H ₈ IN
Aspect	White Powder

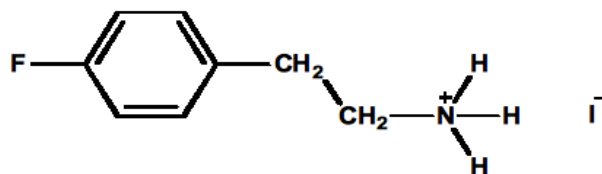
Product Code	Quantity
MS102000-05	5g
MS102000-10	10g
MS102000-50	50g
MS102000-100	100g
MS102000-500	500g

Larger quantities available on request

4-Fluoro-benzylammonium iodide

Formula	4-F-BnNH3I
CAS#	2097121-30-5
Molecular Weight	253.06
Chemical Formula	C ₇ H ₉ FIN
Aspect	White Powder

Product Code	Quantity
MS100730-05	5g
MS100730-10	10g
MS100730-50	50g
MS100730-100	100g
MS100730-500	500g
Larger quantities available on request	

4-Fluoro-phenethylammonium iodide

Formula	4-F-PhenEtNH3I
CAS#	1413269-55-2
Molecular Weight	267.08
Chemical Formula	C ₈ H ₁₁ FIN
Aspect	White Powder

Product Code	Quantity
MS100720-05	5g
MS100720-10	10g
MS100720-50	50g
MS100720-100	100g
MS100720-500	500g
Larger quantities available on request	

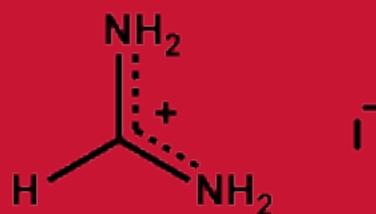
FORMAMIDINIUM IODIDE

Greatcell Solar offers you the best quality and most affordable Formamidinium iodide and Formamidinium bromide in the market. With a superior quality, lowest moisture content and soaring batch-to-batch reproducibility, your results will be consistent. Greatcell Solar's Formamidinium iodide and Formamidinium bromide are free flowing powders, ammonium free.

At Greatcell Solar we care about our product and your results; our products are dried, sealed and packaged under argon. This ensures your product, upon leaving our facility, reaches you unspoiled, protected from atmospheric contaminants.

Lastly all our products are identified with a unique batch number, that can be used to retrace vital manufacture information as well as analytical data.

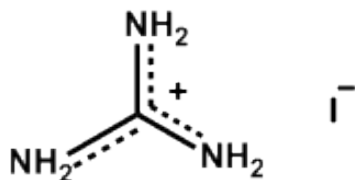
N.B.: These products are deliquescent and air sensitive, open and use in an appropriate and safe environment.



Formula	CH(NH ₂) ₂ I
CAS#	879643-71-7
Molecular Weight	171.97
Chemical Formula	CH ₅ IN ₂
Aspect	White Powder

Product Code	Quantity
MS150000-05	5g
MS150000-10	10g
MS150000-50	50g
MS150000-100	100g
MS150000-500	500g

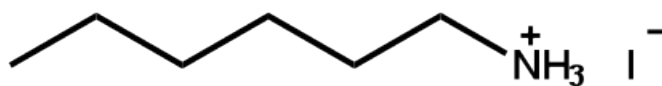
Larger quantities available on request

Guanidinium iodide

Formula	$C(NH_2)_3I$
CAS#	19227-70-4
Molecular Weight	186.98
Chemical Formula	CH_6IN_3
Aspect	White Powder

Product Code	Quantity
MS140000-05	5g
MS140000-10	10g
MS140000-50	50g
MS140000-100	100g
MS140000-500	500g

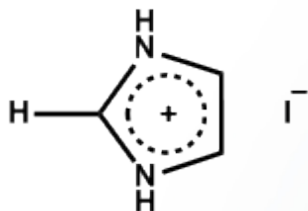
Larger quantities available on request

n-Hexylammonium iodide

Formula	$n\text{-HexNH}_3I$
CAS#	54285-91-5
Molecular Weight	229.10
Chemical Formula	$C_6H_{16}IN$
Aspect	White Powder

Product Code	Quantity
MS100860-05	5g
MS100860-10	10g
MS100860-50	50g
MS100860-100	100g
MS100860-500	500g

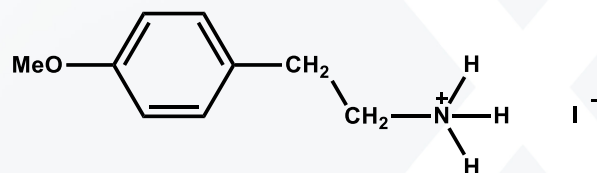
Larger quantities available on request

Imidazolium iodide

Formula	Imid.I
CAS#	68007-08-9
Molecular Weight	195.99
Chemical Formula	$C_3H_5IN_2$
Aspect	White Powder

Product Code	Quantity
MS170000-05	5g
MS170000-10	10g
MS170000-50	50g
MS170000-100	100g
MS170000-500	500g

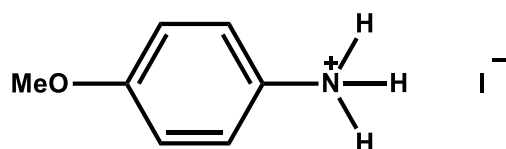
Larger quantities available on request

4-Methoxy-Phenethylammonium iodide

Formula	4-MeO-PhenEtNH_3I
CAS#	N/A
Molecular Weight	279.12
Chemical Formula	$C_9H_{14}INO$
Aspect	White Powder

Product Code	Quantity
MS100750-05	5g
MS100750-10	10g
MS100750-50	50g
MS100750-100	100g
MS100750-500	500g

Larger quantities available on request

4-Methoxy-Phenylammonium iodide

Formula	4-MeO-PhenNH ₃ I
CAS#	131923-87-0
Molecular Weight	251.06
Chemical Formula	C ₉ H ₁₄ INO
Aspect	White Powder

Product Code	Quantity
MS100610-05	5g
MS100610-10	10g
MS100610-50	50g
MS100610-100	100g
MS100610-500	500g

Larger quantities available on request

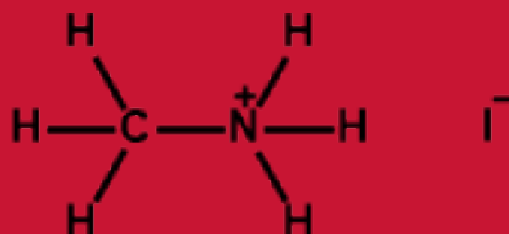
METHYLAMMONIUM IODIDE

Greatcell Solar offers you the best quality and most affordable Methylammonium iodide and Methylammonium bromide in the market. With a superior quality, lowest moisture content and soaring batch-to-batch reproducibility, your results will be consistent. Greatcell Solar's Methylammonium iodide and Methylammonium bromide are free flowing powders and are snow white in appearance.

At Greatcell Solar we care about our product and your results; our products are dried, sealed and packaged under argon. This ensures your product, upon leaving our facility, reaches you undamaged, protected from atmospheric contaminants.

Lastly all our products are identified with a unique batch number, that can be used to retrace vital manufacture information as well as analytical data.

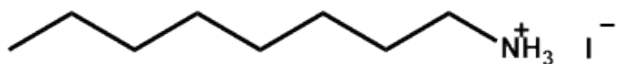
N.B.: These products are hygroscopic and air sensitive, open and use in an appropriate and safe environment.



Formula	MeNH ₃ I
CAS#	14965-49-2
Molecular Weight	158.97
Chemical Formula	CH ₆ IN
Aspect	White Powder

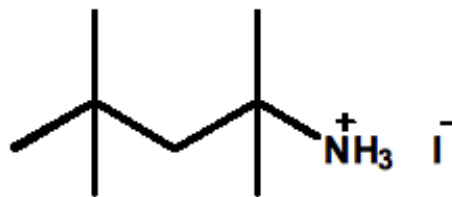
Product Code	Quantity
MS101000-05	5g
MS101000-10	10g
MS101000-50	50g
MS101000-100	100g
MS101000-500	500g
MS101000-1000	1000g

Larger quantities available on request

n-Octylammonium iodide

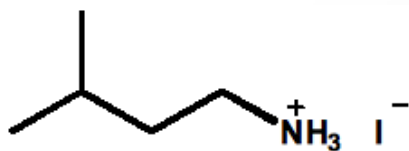
Formula	n-OctNH3I
CAS#	60734-63-6
Molecular Weight	257.16
Chemical Formula	C ₈ H ₂₀ IN
Aspect	White Powder

Product Code	Quantity
MS105500-05	5g
MS105500-10	10g
MS105500-50	50g
MS105500-100	100g
MS105500-500	500g
Larger quantities available on request	

tert-Octylammonium iodide

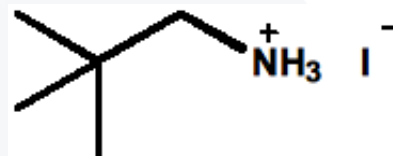
Formula	tert-OctylNH3I
CAS#	N/A
Molecular Weight	257.16
Chemical Formula	C ₈ H ₂₀ IN
Aspect	White Powder

Product Code	Quantity
MS100830-05	5g
MS100830-10	10g
MS100830-50	50g
MS100830-100	100g
MS100830-500	500g
Larger quantities available on request	

iso-Pentylammonium iodide

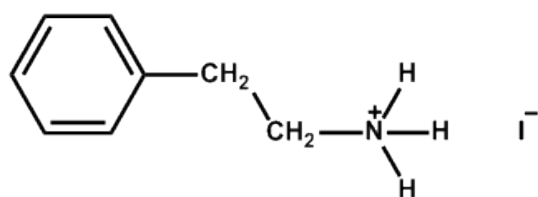
Formula	i-AmylNH3I
CAS#	N/A
Molecular Weight	215.06
Chemical Formula	C ₅ H ₁₄ IN
Aspect	White Powder

Product Code	Quantity
MS100710-05	5g
MS100710-10	10g
MS100710-50	50g
MS100710-100	100g
MS100710-500	500g
Larger quantities available on request	

neo-Pentylammonium iodide

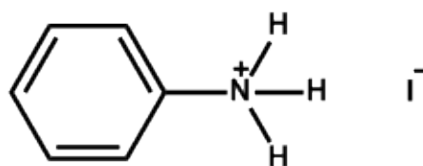
Formula	neo-AmylNH3I
CAS#	N/A
Molecular Weight	215.08
Chemical Formula	C ₅ H ₁₄ IN
Aspect	White Powder

Product Code	Quantity
MS100740-05	5g
MS100740-10	10g
MS100740-50	50g
MS100740-100	100g
MS100740-500	500g
Larger quantities available on request	

Phenethylammonium iodide

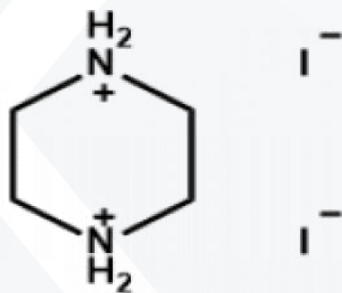
Formula	PhEtNH ₃ I
CAS#	151059-43-7
Molecular Weight	249.09
Chemical Formula	C ₈ H ₁₂ I ⁺ N
Aspect	White Powder

Product Code	Quantity
MS109200-05	5g
MS109200-10	10g
MS109200-50	50g
MS109200-100	100g
MS109200-500	500g
Larger quantities available on request	

Phenylammonium iodide

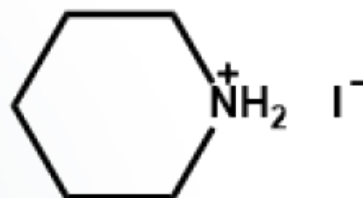
Formula	PhNH ₃ I
CAS#	45497-73-2
Molecular Weight	221.04
Chemical Formula	C ₆ H ₈ I ⁺ N
Aspect	Beige Powder

Product Code	Quantity
MS108000-05	5g
MS108000-10	10g
MS108000-50	50g
MS108000-100	100g
MS108000-500	500g
Larger quantities available on request	

Piperazine-1,4-diium iodide

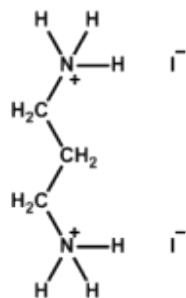
CAS#	58464-47-4
Molecular Weight	341.96
Chemical Formula	C ₄ H ₁₂ I ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS119500-05	5g
MS119500-10	10g
MS119500-50	50g
MS119500-100	100g
MS119500-500	500g
Larger quantities available on request	

Piperidinium iodide

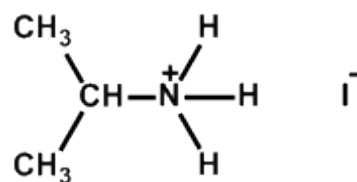
CAS#	21701-42-8
Molecular Weight	213.06
Chemical Formula	C ₅ H ₁₂ I ⁺ N
Aspect	White Powder

Product Code	Quantity
MS119800-05	5g
MS119800-10	10g
MS119800-50	50g
MS119800-100	100g
MS119800-500	500g
Larger quantities available on request	

Propane-1,3-diammonium iodide

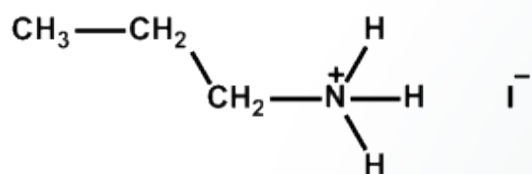
Formula	$n\text{-Pr}(\text{NH}_3)_2\text{I}_2$
CAS#	120675-53-8
Molecular Weight	329.95
Chemical Formula	$\text{C}_3\text{H}_{12}\text{I}_2\text{N}_2$
Aspect	White Powder

Product Code	Quantity
MS103003-05	5g
MS103003-10	10g
MS103003-50	50g
MS103003-100	100g
MS103003-500	500g
Larger quantities available on request	

iso-Propylammonium iodide

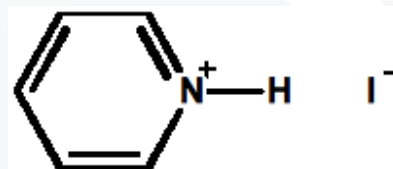
Formula	$i\text{-PrNH}_3\text{I}$
CAS#	66735-20-4
Molecular Weight	187.02
Chemical Formula	$\text{C}_3\text{H}_{10}\text{IN}$
Aspect	White Powder

Product Code	Quantity
MS104000-05	5g
MS104000-10	10g
MS104000-50	50g
MS104000-100	100g
MS104000-500	500g
Larger quantities available on request	

n-Propylammonium iodide

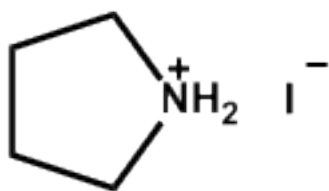
Formula	$n\text{-PrNH}_3\text{I}$
CAS#	14488-45-0
Molecular Weight	187.02
Chemical Formula	$\text{C}_3\text{H}_{10}\text{IN}$
Aspect	White Powder

Product Code	Quantity
MS103000-05	5g
MS103000-10	10g
MS103000-50	50g
MS103000-100	100g
MS103000-500	500g
Larger quantities available on request	

Pyridinium iodide

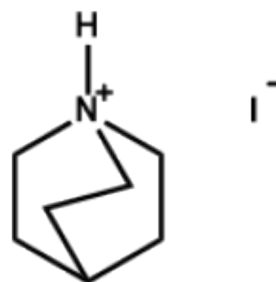
Formula	Pyl
CAS#	18820-83-2
Molecular Weight	207.01
Chemical Formula	$\text{C}_5\text{H}_6\text{IN}$
Aspect	Off-White Powder

Product Code	Quantity
MS129810-05	5g
MS129810-10	10g
MS129810-50	50g
MS129810-100	100g
MS129810-500	500g
Larger quantities available on request	

Pyrrolidinium iodide

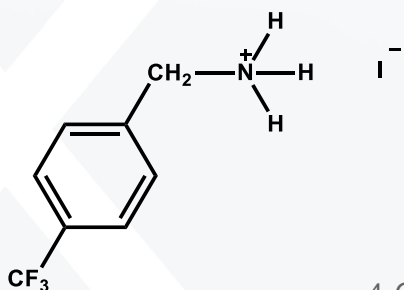
Formula	Pyrri
CAS#	45361-12-4
Molecular weight	199.03
Chemical Formula	C ₄ H ₁₀ IN
Aspect	White Powder

Product Code	Quantity
MS119700-05	5g
MS119700-10	10g
MS119700-50	50g
MS119700-100	100g
MS119700-500	500g
Larger quantities available on request	

Quinuclidin-1-ium iodide

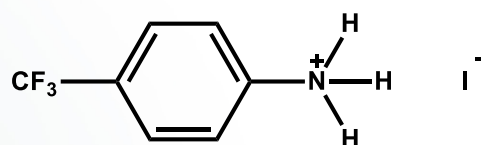
Formula	PhEtNH3I
CAS#	151059-43-7
Molecular Weight	249.09
Chemical Formula	C ₈ H ₁₂ IN
Aspect	White Powder

Product Code	Quantity
MS109200-05	5g
MS109200-10	10g
MS109200-50	50g
MS109200-100	100g
MS109200-500	500g
Larger quantities available on request	

4-Trifluoromethyl-Benzylammonium iodide

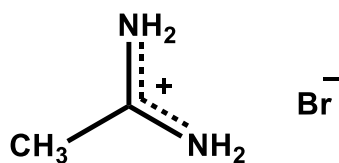
Formula	4-CF ₃ BnNH ₃ I
CAS#	N/A
Molecular weight	303.06
Chemical Formula	C ₈ H ₉ F ₃ IN
Aspect	White Powder

Product Code	Quantity
MS100780-05	5g
MS100780-10	10g
MS100780-50	50g
MS100780-100	100g
MS100780-500	500g
Larger quantities available on request	

4-Trifluoromethyl-Phenylammonium iodide

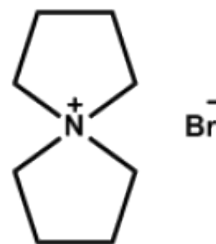
Formula	4-CF ₃ -PhNH ₃ I
CAS#	N/A
Molecular Weight	289.04
Chemical Formula	C ₇ H ₇ IF ₃ N
Aspect	White Powder

Product Code	Quantity
MS100790-05	5g
MS100790-10	10g
MS100790-50	50g
MS100790-100	100g
MS100790-500	500g
Larger quantities available on request	

Acetamidinium bromide

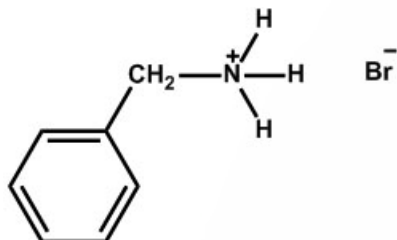
Formula	MeC(NH ₂) ₂ Br
CAS#	1040352-82-6
Molecular Weight	138.99
Chemical Formula	C ₂ H ₇ BrN ₂
Aspect	White Powder

Product Code	Quantity
MS360000-05	5g
MS360000-10	10g
MS360000-50	50g
MS360000-100	100g
MS360000-500	500g
Larger quantities available on request	

5-Azaspiro[4.4]nonan-5-ium bromide

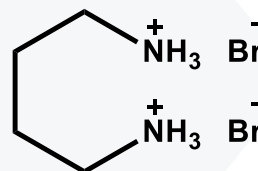
Formula	SpiroPyrBr
CAS#	16450-38-7
Molecular Weight	206.12
Chemical Formula	C ₈ H ₁₆ BrN
Aspect	White Powder

Product Code	Quantity
MS399700-05	5g
MS399700-10	10g
MS399700-50	50g
MS399700-100	100g
MS399700-500	500g
Larger quantities available on request	

Benzylammonium bromide

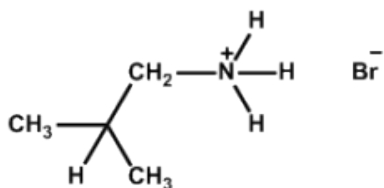
Formula	BnNH ₃ Br
CAS#	37488-40-7
Molecular Weight	188.06
Chemical Formula	C ₇ H ₁₀ BrN
Aspect	White Powder

Product Code	Quantity
MS309100-05	5g
MS309100-10	10g
MS309100-50	50g
MS309100-100	100g
MS309100-500	500g
Larger quantities available on request	

Butane-1,4-diammonium bromide

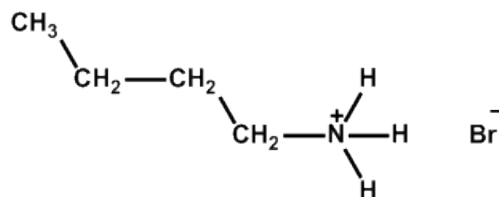
Formula	Bu(NH ₃) ₂ Br ₂
CAS#	18773-04-1
Molecular Weight	249.98
Chemical Formula	C ₄ H ₁₄ Br ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS304040-05	5g
MS304040-10	10g
MS304040-50	50g
MS304040-100	100g
MS304040-500	500g
Larger quantities available on request	

iso-Butylammonium bromide

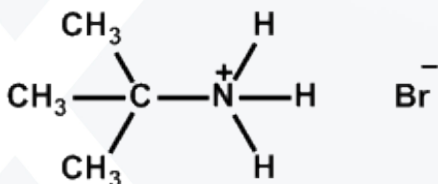
Formula	i-BuNH ₃ Br
CAS#	N/A
Molecular Weight	154.05
Chemical Formula	C ₄ H ₁₂ BrN
Aspect	White powder

Product Code	Quantity
MS307000-05	5g
MS307000-10	10g
MS307000-50	50g
MS307000-100	100g
MS307000-500	500g
Larger quantities available on request	

n-Butylammonium bromide

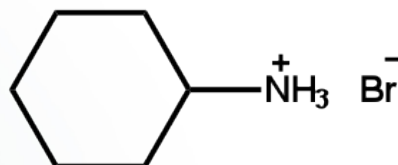
Formula	n-BuNH ₃ Br
CAS#	15567-09-6
Molecular Weight	154.05
Chemical Formula	C ₄ H ₁₂ BrN
Aspect	White Powder

Product Code	Quantity
MS305000-05	5g
MS305000-10	10g
MS305000-50	50g
MS305000-100	100g
MS305000-500	500g
Larger quantities available on request	

t-Butylammonium bromide

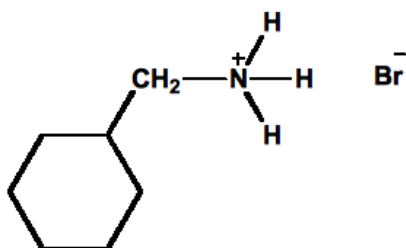
Formula	t-BuNH ₃ Br
CAS#	60469-70-7
Molecular Weight	154.05
Chemical Formula	C ₄ H ₁₂ BrN
Aspect	White Powder

Product Code	Quantity
MS306000-05	5g
MS306000-10	10g
MS306000-50	50g
MS306000-100	100g
MS306000-500	500g
Larger quantities available on request	

Cyclohexylammonium bromide

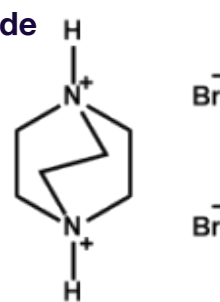
Formula	ChNH ₃ Br
CAS#	26227-54-3
Molecular Weight	180.09
Chemical Formula	C ₆ H ₁₄ BrN
Aspect	White Powder

Product Code	Quantity
MS300840-05	5g
MS300840-10	10g
MS300840-50	50g
MS300840-100	100g
MS300840-500	500g
Larger quantities available on request	

Cyclohexylmethylammonium bromide

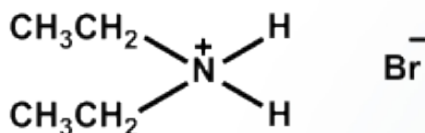
Formula	CyMeNH3Br
CAS#	N/A
Molecular Weight	194.11
Chemical Formula	C ₇ H ₁₆ BrN
Aspect	White Powder

Product Code	Quantity
MS300840-05	5g
MS300840-10	10g
MS300840-50	50g
MS300840-100	100g
MS300840-500	500g
Larger quantities available on request	

1,4-Diazabicyclo[2,2,2]octane**1,4-diium bromide**

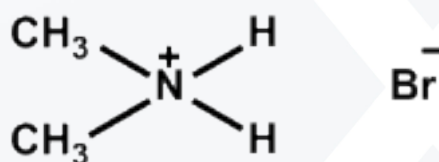
Formula	DABCO·2HBr
CAS#	54581-69-0
Molecular Weight	274.00
Chemical Formula	C ₆ H ₁₄ Br ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS329400-05	5g
MS329400-10	10g
MS329400-50	50g
MS329400-100	100g
MS329400-500	500g
Larger quantities available on request	

Diethylammonium bromide

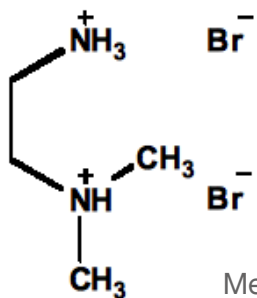
Formula	Et2NH2Br
CAS#	6274-12-0
Molecular Weight	154.05
Chemical Formula	C ₄ H ₁₂ BrN
Aspect	White Powder

Product Code	Quantity
MS312200-05	5g
MS312200-10	10g
MS312200-50	50g
MS312200-100	100g
MS312200-500	500g
Larger quantities available on request	

Dimethylammonium bromide

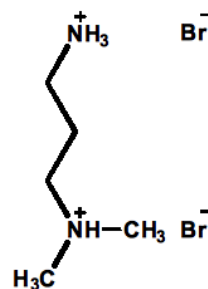
Formula	Me2NH2Br
CAS#	6912-12-5
Molecular Weight	126.00
Chemical Formula	C ₂ H ₈ BrN
Aspect	White Powder

Product Code	Quantity
MS311100-05	5g
MS311100-10	10g
MS311100-50	50g
MS311100-100	100g
MS311100-500	500g
Larger quantities available on request	

N,N-Dimethylethane-1,2-ethanediammonium bromide

Formula	Me ₂ NEtNH ₂ (HBr) ₂
CAS#	1245570-04-0
Molecular Weight	249.98
Chemical Formula	C ₄ H ₁₄ Br ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS322112-05	5g
MS322112-10	10g
MS322112-50	50g
MS322112-100	100g
MS322112-500	500g
Larger quantities available on request	

N,N-Dimethyl-1,3-propanediammonium bromide

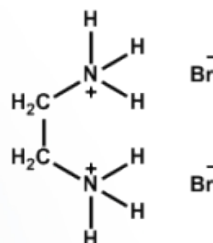
Formula	Me ₂ NHPrNH ₃ Br ₂
CAS#	N/A
Molecular Weight	264.00
Chemical Formula	C ₅ H ₁₆ Br ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS323113-05	5g
MS323113-10	10g
MS323113-50	50g
MS323113-100	100g
MS323113-500	500g
Larger quantities available on request	

n-Dodecylammonium bromide

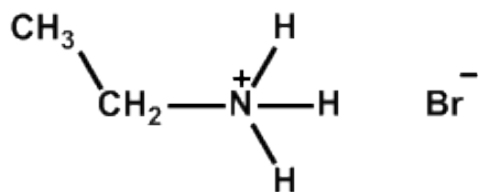
Formula	n-DodecNH ₃ Br
CAS#	26204-55-7
Molecular Weight	266.26
Chemical Formula	C ₁₂ H ₂₈ BrN
Aspect	White Powder

Product Code	Quantity
MS300880-05	5g
MS300880-10	10g
MS300880-50	50g
MS300880-100	100g
MS300880-500	500g
Larger quantities available on request	

Ethane-1,2-diammonium bromide

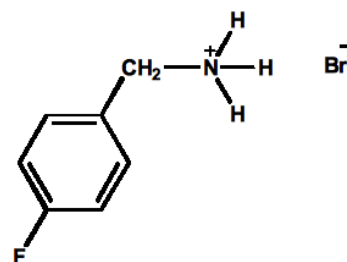
Formula	Et(NH ₃) ₂ Br ₂
CAS#	624-59-9
Molecular Weight	221.92
Chemical Formula	C ₂ H ₁₀ Br ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS302002-05	5g
MS302002-10	10g
MS302002-50	50g
MS302002-100	100g
MS302002-500	500g
Larger quantities available on request	

Ethylammonium bromide

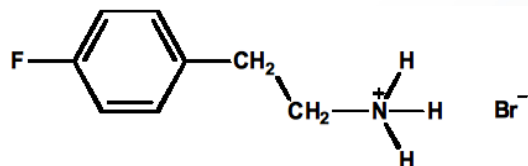
Formula	EtNH ₃ Br
CAS#	593-55-5
Molecular Weight	125.99
Chemical Formula	C ₂ H ₈ BrN
Aspect	White Powder

Product Code	Quantity
MS302000-05	5g
MS302000-10	10g
MS302000-50	50g
MS302000-100	100g
MS302000-500	500g
Larger quantities available on request	

4-Fluoro-benzylammonium bromide

Formula	4-F-BnNH ₃ Br
CAS#	N/A
Molecular Weight	206.06
Chemical Formula	C ₇ H ₉ FBrN
Aspect	White Powder

Product Code	Quantity
MS300730-05	5g
MS300730-10	10g
MS300730-50	50g
MS300730-100	100g
MS300730-500	500g
Larger quantities available on request	

4-Fluoro-phenethylammonium bromide

Formula	4-F-PhenEtNH ₃ Br
CAS#	1807536-06-6
Molecular Weight	220.08
Chemical Formula	C ₈ H ₁₁ BrFN
Aspect	White Powder

Product Code	Quantity
MS300720-05	5g
MS300720-10	10g
MS300720-50	50g
MS300720-100	100g
MS300720-500	500g
Larger quantities available on request	

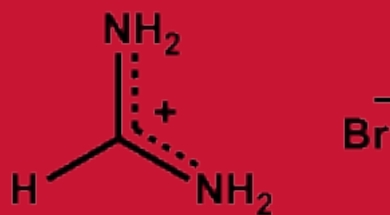
FORMAMIDINIUM BROMIDE

Greatcell Solar offers you the best quality and most affordable Formamidinium iodide and Formamidinium bromide in the market. With a superior quality, lowest moisture content and soaring batch-to-batch reproducibility, your results will be consistent. Greatcell Solar's Formamidinium iodide and Formamidinium bromide are free flowing powders, ammonium free and are snow white in appearance.

At Greatcell Solar we care about our product and your results; our products are dried, sealed and packaged under argon. This ensures your product, upon leaving our facility, reaches you unspoiled, protected from atmospheric contaminants.

Lastly all our products are identified with a unique batch number, that can be used to retrace vital manufacture information as well as analytical data.

N.B.: These products are deliquescent and air sensitive, open and use in an appropriate and safe environment.

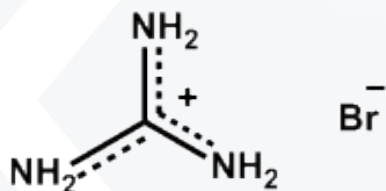


Formula	CH(NH ₂) ₂ Br
CAS#	146958-06-7
Molecular Weight	124.97
Chemical Formula	CH ₅ BrN ₂
Aspect	White Powder

Product Code	Quantity
MS350000-05	5g
MS350000-10	10g
MS350000-50	50g
MS350000-100	100g
MS350000-500	500g

Larger quantities available on request

Guanidinium bromide

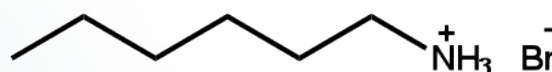


Formula	C(NH ₂) ₃ Br
CAS#	19244-98-5
Molecular Weight	139.98
Chemical Formula	CH ₆ BrN ₃
Aspect	White Powder

Product Code	Quantity
MS340000-05	5g
MS340000-10	10g
MS340000-50	50g
MS340000-100	100g
MS340000-500	500g

Larger quantities available on request

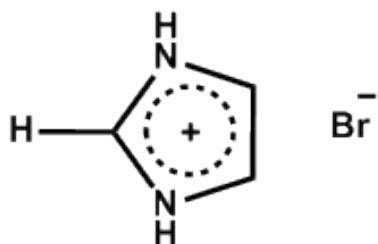
n-Hexylammonium bromide



Formula	n-HexNH ₃ Br
CAS#	7334-95-4
Molecular Weight	182.10
Chemical Formula	C ₆ H ₁₆ BrN
Aspect	White Powder

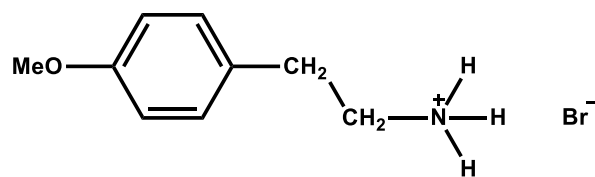
Product Code	Quantity
MS300860-05	5g
MS300860-10	10g
MS300860-50	50g
MS300860-100	100g
MS300860-500	500g

Larger quantities available on request

Imidazolium bromide

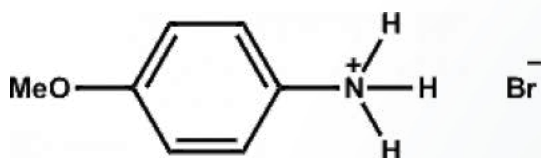
Formula	Imid.Br
CAS#	101023-55-6
Molecular Weight	148.99
Chemical Formula	$C_3H_5BrN_2$
Aspect	White Powder

Product Code	Quantity
MS370000-05	5g
MS370000-10	10g
MS370000-50	50g
MS370000-100	100g
MS370000-500	500g
Larger quantities available on request	

4-Methoxy-Phenethylammonium bromide

Formula	4-MeO-PhenEtNH3Br
CAS#	N/A
Molecular Weight	232.12
Chemical Formula	$C_9H_{14}BrNO$
Aspect	White Powder

Product Code	Quantity
MS300750-05	5g
MS300750-10	10g
MS300750-50	50g
MS300750-100	100g
MS300750-500	500g
Larger quantities available on request	

4-Methoxy-Phenylammonium bromide

Formula	4-MeO-PhenNH3Br
CAS#	116436-31-8
Molecular Weight	232.12
Chemical Formula	$C_9H_{14}BrNO$
Aspect	White Powder

Product Code	Quantity
MS300610-05	5g
MS300610-10	10g
MS300610-50	50g
MS300610-100	100g
MS300610-500	500g
Larger quantities available on request	

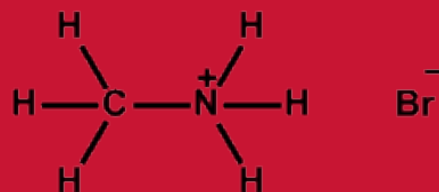
METHYLAMMONIUM BROMIDE

Greatcell Solar offers you the best quality and most affordable Methylammonium iodide and Methylammonium bromide in the market. With a superior quality, lowest moisture content and soaring batch-to-batch reproducibility, your results will be consistent. Greatcell Solar's Methylammonium iodide and Methylammonium bromide are free flowing powders and are snow white in appearance.

At Greatcell Solar we care about our product and your results; our products are dried, sealed and packaged under argon. This ensures your product, upon leaving our facility, reaches you undamaged, protected from atmospheric contaminants.

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N.B.: These products are hygroscopic and air sensitive, open and use in an appropriate and safe environment.

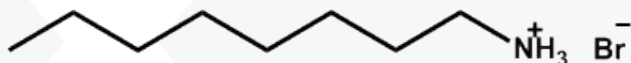


Formula	MeNH ₃ Br
CAS#	6876-37-5
Molecular Weight	111.97
Chemical Formula	CH ₆ BrN
Aspect	White Powder

Product Code	Quantity
MS301000-05	5g
MS301000-10	10g
MS301000-50	50g
MS301000-100	100g
MS301000-500	500g

Larger quantities available on request

n-Octylammonium bromide

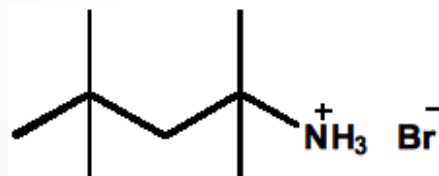


Formula	n-OctNH ₃ Br
CAS#	14846-47-0
Molecular Weight	210.16
Chemical Formula	C ₈ H ₂₀ BrN
Aspect	White Powder

Product Code	Quantity
MS305500-05	5g
MS305500-10	10g
MS305500-50	50g
MS305500-100	100g
MS305500-500	500g

Larger quantities available on request

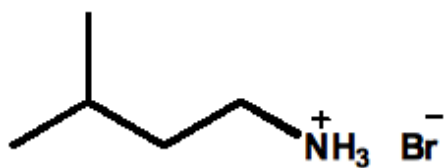
tert-Octylammonium bromide



Formula	tert-OctylNH ₃ Br
CAS#	1093859-61-0
Molecular Weight	210.16
Chemical Formula	C ₈ H ₂₀ BrN
Aspect	White Powder

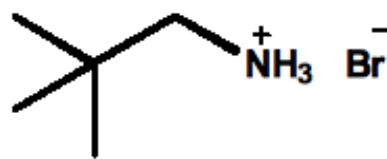
Product Code	Quantity
MS300830-05	5g
MS300830-10	10g
MS300830-50	50g
MS300830-100	100g
MS300830-500	500g

Larger quantities available on request

iso-Pentylammonium bromide

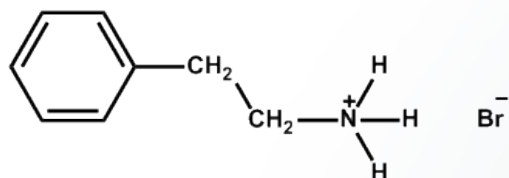
Formula	i-AmylNH ₃ Br
CAS#	N/A
Molecular Weight	168.08
Chemical Formula	C ₅ H ₁₄ BrN
Aspect	White Powder

Product Code	Quantity
MS300710-05	5g
MS300710-10	10g
MS300710-50	50g
MS300710-100	100g
MS300710-500	500g
Larger quantities available on request	

neo-Pentylammonium bromide

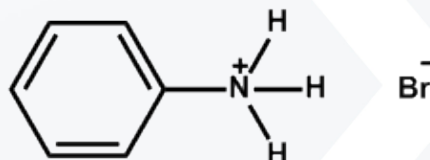
Formula	neo-AmylNH ₃ Br
CAS#	N/A
Molecular Weight	168.08
Chemical Formula	C ₅ H ₁₄ BrN
Aspect	White Powder

Product Code	Quantity
MS300740-05	5g
MS300740-10	10g
MS300740-50	50g
MS300740-100	100g
MS300740-500	500g
Larger quantities available on request	

Phenethylammonium bromide

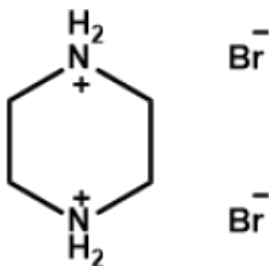
Formula	PhEtNH ₃ Br
CAS#	53916-94-2
Molecular Weight	202.09
Chemical Formula	C ₈ H ₁₂ BrN
Aspect	White Powder

Product Code	Quantity
MS309200-05	5g
MS309200-10	10g
MS309200-50	50g
MS309200-100	100g
MS309200-500	500g
Larger quantities available on request	

Phenylammonium bromide

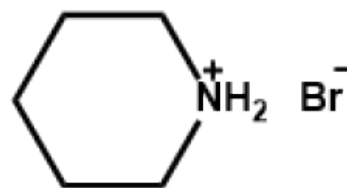
Formula	PhNH ₃ Br
CAS#	542-11-0
Molecular Weight	174.04
Chemical Formula	C ₆ H ₈ BrN
Aspect	White Powder

Product Code	Quantity
MS308000-05	5g
MS308000-10	10g
MS308000-50	50g
MS308000-100	100g
MS308000-500	500g
Larger quantities available on request	

Piperazine-1,4-diium bromide

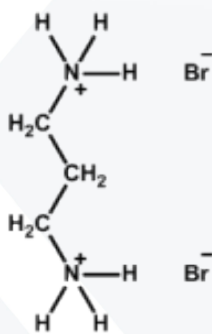
CAS#	59813-05-7
Molecular Weight	247.96
Chemical Formula	$C_4H_{12}Br_2N_2$
Aspect	White Powder

Product Code	Quantity
MS319500-05	5g
MS319500-10	10g
MS319500-50	50g
MS319500-100	100g
MS319500-500	500g
Larger quantities available on request	

Piperidinium bromide

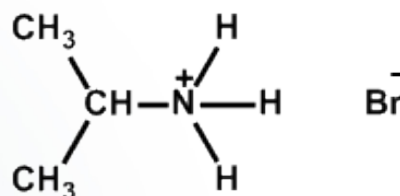
CAS#	14066-85-4
Molecular Weight	166.06
Chemical Formula	$C_5H_{12}BrN$
Aspect	White Powder

Product Code	Quantity
MS319800-05	5g
MS319800-10	10g
MS319800-50	50g
MS319800-100	100g
MS319800-500	500g
Larger quantities available on request	

Propane-1,3-diammonium bromide

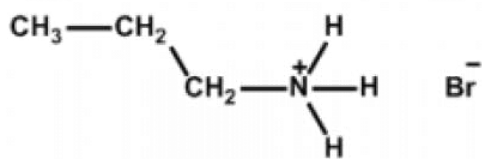
Formula	$n\text{-Pr}(\text{NH}_3)_2\text{Br}$
CAS#	18773-03-0
Molecular Weight	235.95
Chemical Formula	$C_3H_{12}Br_2N_2$
Aspect	White Powder

Product Code	Quantity
MS303003-05	5g
MS303003-10	10g
MS303003-50	50g
MS303003-100	100g
MS303003-500	500g
Larger quantities available on request	

iso-Propylammonium bromide

Formula	$i\text{-PrNH}_3\text{Br}$
CAS#	29552-58-7
Molecular Weight	140.02
Chemical Formula	$C_3H_{10}BrN$
Aspect	White Powder

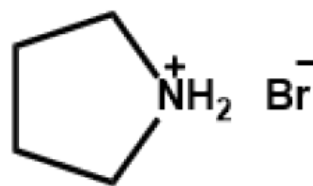
Product Code	Quantity
MS304000-05	5g
MS304000-10	10g
MS304000-50	50g
MS304000-100	100g
MS304000-500	500g
Larger quantities available on request	

n-Propylammonium bromide

Formula	n-PrNH ₃ Br
CAS#	4905-83-3
Molecular Weight	140.02
Chemical Formula	C ₃ H ₁₀ BrN
Aspect	White Powder

Product Code	Quantity
MS303000-05	5g
MS303000-10	10g
MS303000-50	50g
MS303000-100	100g
MS303000-500	500g

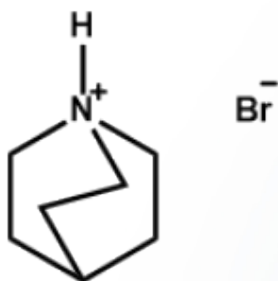
Larger quantities available on request

Pyrrolidinium bromide

Formula	PYRR·HBr
CAS#	55810-80-5
Molecular Weight	152.03
Chemical Formula	C ₄ H ₁₀ BrN
Aspect	White Powder

Product Code	Quantity
MS319700-05	5g
MS319700-10	10g
MS319700-50	50g
MS319700-100	100g
MS319700-500	500g

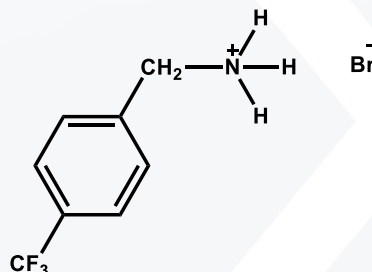
Larger quantities available on request

Quinuclidin-1-ium bromide

Formula	ABCO·HBr
CAS#	60662-68-2
Molecular Weight	192.10
Chemical Formula	C ₇ H ₁₄ BrN
Aspect	White Powder

Product Code	Quantity
MS329300-05	5g
MS329300-10	10g
MS329300-50	50g
MS329300-100	100g
MS329300-500	500g

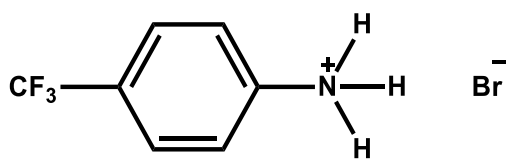
Larger quantities available on request

4-Trifluoromethyl-Benzylammonium bromide

Formula	4-CF ₃ BnNH ₃ Br
CAS#	N/A
Molecular Weight	256.06
Chemical Formula	C ₈ H ₉ F ₃ BrN
Aspect	White Powder

Product Code	Quantity
MS300780-05	5g
MS300780-10	10g
MS300780-50	50g
MS300780-100	100g
MS300780-500	500g

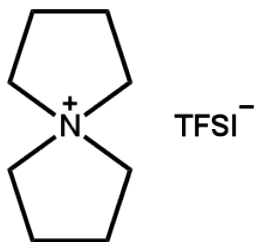
Larger quantities available on request

4-Trifluoromethyl-Phenylammonium bromide

Formula	4-CF ₃ -PhNH ₃ Br
CAS#	N/A
Molecular Weight	242.03
Chemical Formula	C ₇ H ₇ BrF ₃ N
Aspect	White Powder

Product Code	Quantity
MS300790-05	5g
MS300790-10	10g
MS300790-50	50g
MS300790-100	100g
MS300790-500	500g

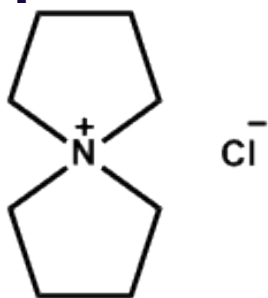
Larger quantities available on request

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

Formula	SpiroPyrTFSI
CAS#	706759-44-6
Molecular Weight	406.37
Chemical Formula	$C_{10}H_{16}F_6N_2O_4S_2$
Aspect	White Powder

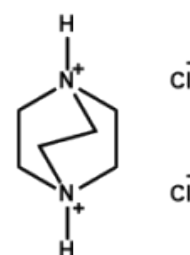
Product Code	Quantity
MS599705-05	5g
MS599705-10	10g
MS599705-50	50g
MS599705-100	100g
MS599705-500	500g

Larger quantities available on request

5-Azaspiro[4.4]nonan-5-ium chloride

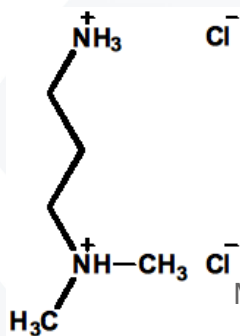
Formula	SpiroPyrCl
CAS#	98997-63-8
Molecular Weight	161.67
Chemical Formula	$C_8H_{16}ClN$
Aspect	White Powder

Product Code	Quantity
MS639797-05	5g
MS639797-10	10g
MS639797-50	50g
MS639797-100	100g
MS639797-500	500g
Larger quantities available on request	

1,4-Diazabicyclo[2.2.2]octane-1,4-diium chloride

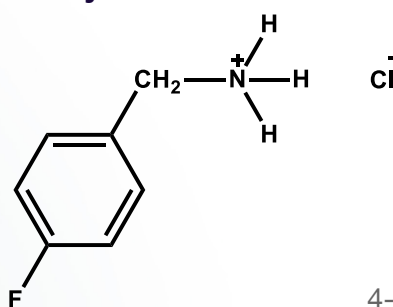
Formula	DABCO·2HCl
CAS#	49563-87-3
Molecular Weight	185.09
Chemical Formula	$C_6H_{14}Cl_2N_2$
Aspect	White Powder

Product Code	Quantity
MS629400-05	5g
MS629400-10	10g
MS629400-50	50g
MS629400-100	100g
MS629400-500	500g
Larger quantities available on request	

N,N-Dimethyl-1,3-propanediammonium chloride

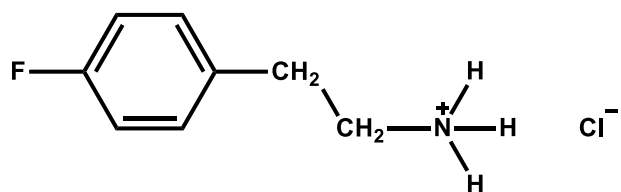
Formula	$Me_2NHPnNH_3Cl_2$
CAS#	52198-63-7
Molecular Weight	175.10
Chemical Formula	$C_5H_{16}Cl_2N_2$
Aspect	White Powder

Product Code	Quantity
MS623113-05	5g
MS623113-10	10g
MS623113-50	50g
MS623113-100	100g
MS623113-500	500g
Larger quantities available on request	

4-Fluoro-Benzylammonium chloride

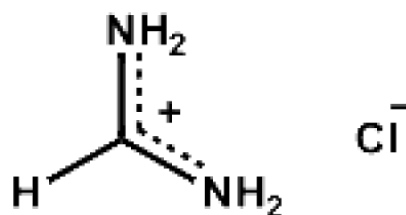
Formula	4-F-BnNH ₃ Cl
CAS#	659-41-6
Molecular Weight	161.60
Chemical Formula	C_7H_9FCIN
Aspect	White Powder

Product Code	Quantity
MS600730-05	5g
MS600730-10	10g
MS600730-50	50g
MS600730-100	100g
MS600730-500	500g
Larger quantities available on request	

4-Fluoro-Phenethylammonium chloride

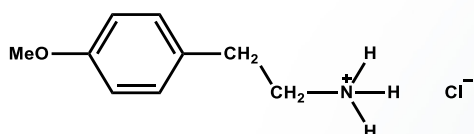
Formula	4-F-PhenEtNH ₃ Cl
CAS#	459-19-8
Molecular Weight	175.63
Chemical Formula	C ₈ H ₁₁ ClFN
Aspect	White Powder

Product Code	Quantity
MS600720-05	5g
MS600720-10	10g
MS600720-50	50g
MS600720-100	100g
MS600720-500	500g
Larger quantities available on request	

Formamidinium chloride

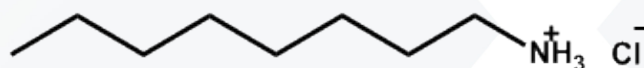
Formula	CH(NH ₂) ₂ Cl
CAS#	6313-33-3
Molecular Weight	80.52
Chemical Formula	CH ₃ ClN ₂
Aspect	White Powder

Product Code	Quantity
MS650000-05	5g
MS650000-10	10g
MS650000-50	50g
MS650000-100	100g
MS650000-500	500g
Larger quantities available on request	

4-Methoxy-Phenethylammonium chloride

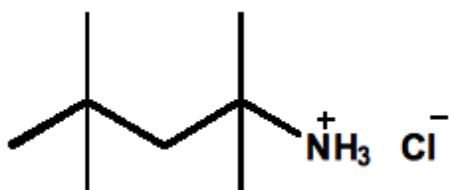
Formula	4-MeO-PhenEtNH ₃ Cl
CAS#	645-58-9
Molecular Weight	187.67
Chemical Formula	C ₉ H ₁₄ ClNO
Aspect	White Powder

Product Code	Quantity
MS600750-05	5g
MS600750-10	10g
MS600750-50	50g
MS600750-100	100g
MS600750-500	500g
Larger quantities available on request	

n-Octylammonium chloride

Formula	n-OctNH ₃ Cl
CAS#	142-95-0
Molecular Weight	165.70
Chemical Formula	C ₈ H ₂₀ ClN
Aspect	White Powder

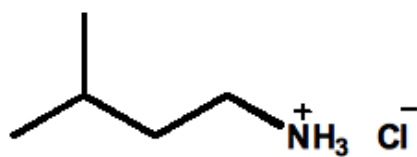
Product Code	Quantity
MS605500-05	5g
MS605500-10	10g
MS605500-50	50g
MS605500-100	100g
MS605500-500	500g
Larger quantities available on request	

tert-Octylammonium chloride

Formula	tert-OctylNH ₃ Cl
CAS#	58618-91-0
Molecular Weight	165.70
Chemical Formula	C ₈ H ₂₀ ClN
Aspect	White Powder

Product Code	Quantity
MS600830-05	5g
MS600830-10	10g
MS600830-50	50g
MS600830-100	100g
MS600830-500	500g

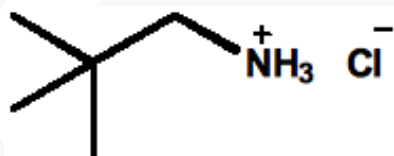
Larger quantities available on request

iso-Pentylammonium chloride

Formula	i-AmylNH ₃ Cl
CAS#	N/A
Molecular Weight	123.62
Chemical Formula	C ₅ H ₁₄ ClN
Aspect	White Powder

Product Code	Quantity
MS600710-05	5g
MS600710-10	10g
MS600710-50	50g
MS600710-100	100g
MS600710-500	500g

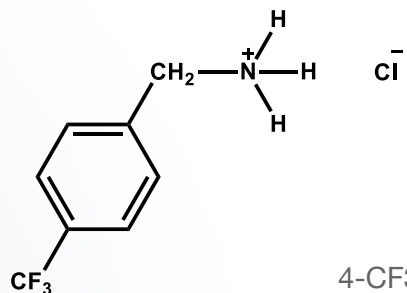
Larger quantities available on request

neo-Pentylammonium chloride

Formula	neo-AmylNH ₃ Cl
CAS#	15925-18-5
Molecular Weight	123.62
Chemical Formula	C ₅ H ₁₄ ClN
Aspect	White Powder

Product Code	Quantity
MS600740--05	5g
MS600740--10	10g
MS600740--50	50g
MS600740--100	100g
MS600740--500	500g

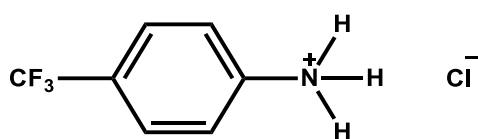
Larger quantities available on request

4-Trifluoromethyl-Benzylammonium chloride

Formula	4-CF ₃ BnNH ₃ Cl
CAS#	3047-99-2
Molecular Weight	211.61
Chemical Formula	C ₈ H ₉ F ₃ ClN
Aspect	White Powder

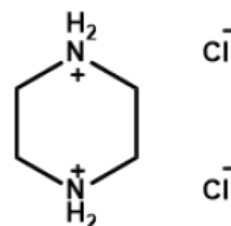
Product Code	Quantity
MS600780-05	5g
MS600780-10	10g
MS600780-50	50g
MS600780-100	100g
MS600780-500	500g

Larger quantities available on request

4-Trifluoromethyl-Phenylammonium chloride

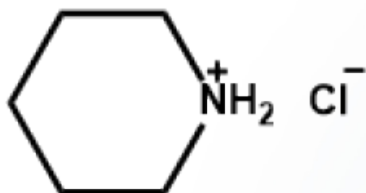
Formula	4-CF ₃ -PhNH ₃ Cl
CAS#	90774-69-9
Molecular Weight	197.59
Chemical Formula	C ₇ H ₇ ClF ₃ N
Aspect	White Powder

Product Code	Quantity
MS600790-05	5g
MS600790-10	10g
MS600790-50	50g
MS600790-100	100g
MS600790-500	500g
Larger quantities available on request	

Piperazine-1,4-diium chloride

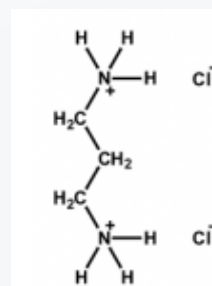
CAS#	142-64-3
Molecular Weight	159.06
Chemical Formula	C ₄ H ₁₂ Cl ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS619500-05	5g
MS619500-10	10g
MS619500-50	50g
MS619500-100	100g
MS619500-500	500g
Larger quantities available on request	

Piperidinium chloride

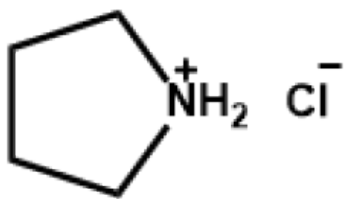
CAS#	6091-44-7
Molecular Weight	121.61
Chemical Formula	C ₅ H ₁₂ ClN
Aspect	White Powder

Product Code	Quantity
MS619800-05	5g
MS619800-10	10g
MS619800-50	50g
MS619800-100	100g
MS619800-500	500g
Larger quantities available on request	

Propane-1,3-diammonium chloride

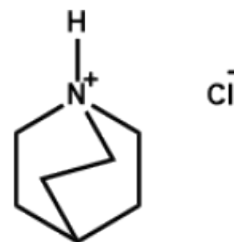
Formula	n-Pr(NH ₃) ₂ Cl ₂
CAS#	10517-44-9
Molecular Weight	147.05
Chemical Formula	C ₃ H ₁₂ Cl ₂ N ₂
Aspect	White Powder

Product Code	Quantity
MS603003-05	5g
MS603003-10	10g
MS603003-50	50g
MS603003-100	100g
MS603003-500	500g
Larger quantities available on request	

Pyrrolidinium chloride

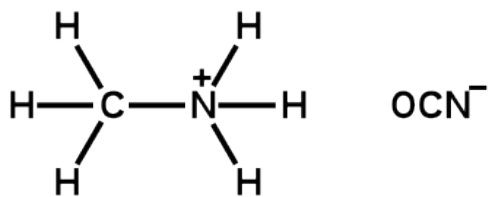
Formula	PYRR·HCl
CAS#	25150-61-2
Molecular Weight	107.58
Chemical Formula	C ₄ H ₁₀ ClN
Aspect	White Powder

Product Code	Quantity
MS619700-05	5g
MS619700-10	10g
MS619700-50	50g
MS619700-100	100g
MS619700-500	500g
Larger quantities available on request	

Quinuclidin-1-ium chloride

Formula	ABCO·HCl
CAS#	39896-06-5
Molecular Weight	147.65
Chemical Formula	C ₇ H ₁₄ ClN
Aspect	White Powder

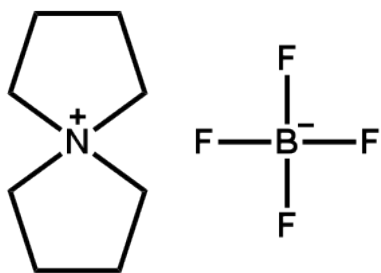
Product Code	Quantity
MS629300-05	5g
MS629300-10	10g
MS629300-50	50g
MS629300-100	100g
MS629300-500	500g
Larger quantities available on request	

Methylammonium cyanate

Formula	MeNH ₃ OCN
CAS#	63405-91-4
Molecular Weight	74.08
Chemical Formula	C ₂ H ₆ N ₂ O
Aspect	White Powder

Product Code	Quantity
MS501003-05	5g
MS501003-10	10g
MS501003-50	50g
MS501003-100	100g
MS501003-500	500g

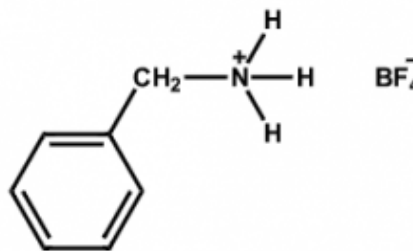
Larger quantities available on request

5-Azaspiro[4.4]nonan-5-ium**tetrafluoroborate**

Formula	SpiroPyrrBF ₄
CAS#	129211-47-8
Molecular Weight	213.02
Chemical Formula	C ₈ H ₁₆ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS599700-05	5g
MS599700-10	10g
MS599700-50	50g
MS599700-100	100g
MS599700-500	500g

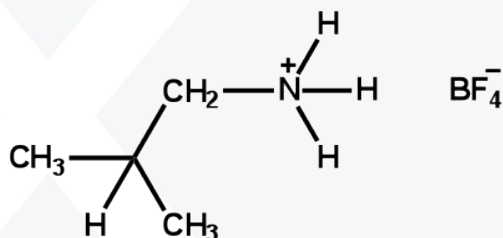
Larger quantities available on request

Benzylammonium tetrafluoroborate

Formula	BnNH ₃ BF ₄
CAS#	41579-49-1
Molecular Weight	194.97
Chemical Formula	C ₇ H ₁₀ BF ₄ N
Aspect	White powder

Product Code	Quantity
MS509100-05	5g
MS509100-10	10g
MS509100-50	50g
MS509100-100	100g
MS509100-500	500g

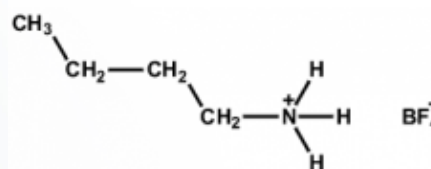
Larger quantities available on request

iso-Butylammonium tetrafluoroborate

Formula	i-BuNH ₃ BF ₄
CAS#	71852-72-7
Molecular Weight	160.95
Chemical Formula	C ₄ H ₁₂ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS507000-05	5g
MS507000-10	10g
MS507000-50	50g
MS507000-100	100g
MS507000-500	500g

Larger quantities available on request

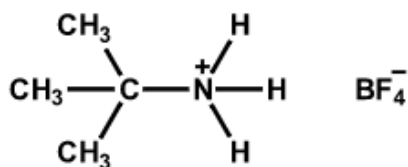
n-Butylammonium tetrafluoroborate

Formula	BuNH ₃ BF ₄
CAS#	71852-73-8
Molecular Weight	160.95
Chemical Formula	C ₄ H ₁₂ BF ₄ N
Aspect	White powder

Product Code	Quantity
MS505000-05	5g
MS505000-10	10g
MS505000-50	50g
MS505000-100	100g
MS505000-500	500g

Larger quantities available on request

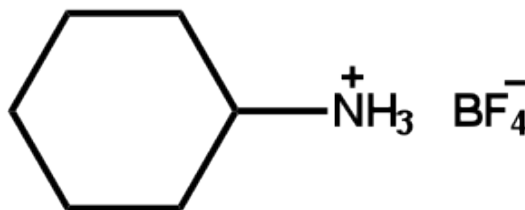
t-Butylammonium tetrafluoroborate



Formula	t-BuNH ₃ BF ₄
CAS#	24418-92-6
Molecular Weight	160.95
Chemical Formula	C ₄ H ₁₂ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS506000-05	5g
MS506000-10	10g
MS506000-50	50g
MS506000-100	100g
MS506000-500	500g
Larger quantities available on request	

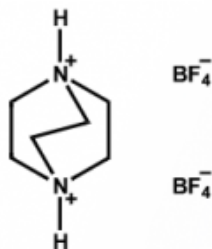
Cyclohexylammonium tetrafluoroborate



Formula	ChNH ₃ BF ₄
CAS#	71893-43-1
Molecular Weight	186.99
Chemical Formula	C ₆ H ₁₄ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS500840-05	5g
MS500840-10	10g
MS500840-50	50g
MS500840-100	100g
MS500840-500	500g
Larger quantities available on request	

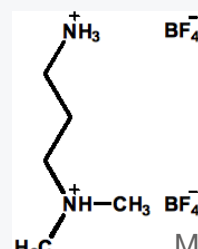
1,4-Diazabicyclo[2,2,2]octane-1,4-diium tetrafluoroborate



Formula	DABCO·2BF ₄
CAS#	N/A
Molecular Weight	160.95
Chemical Formula	C ₆ H ₁₄ B ₂ F ₈ N ₂
Aspect	White powder

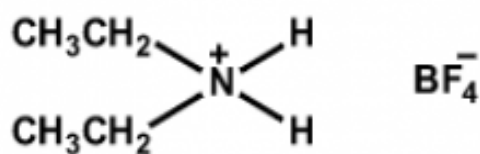
Product Code	Quantity
MS529400-05	5g
MS529400-10	10g
MS529400-50	50g
MS529400-100	100g
MS529400-500	500g
Larger quantities available on request	

N,N-Dimethyl-1,3-propanediammonium tetrafluoroborate



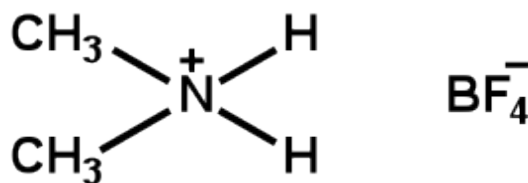
Formula	Me ₂ NHPrNH ₃ (BF ₄) ₂
CAS#	N/A
Molecular Weight	277.80
Chemical Formula	C ₅ H ₁₆ B ₂ F ₈ N ₂
Aspect	White powder

Product Code	Quantity
MS523114-05	5g
MS523114-10	10g
MS523114-50	50g
MS523114-100	100g
MS523114-500	500g
Larger quantities available on request	

Diethylammonium tetrafluoroborate

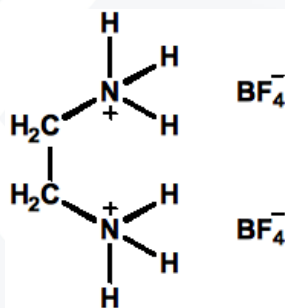
Formula	Et2NH2BF4
CAS#	17085-33- 5
Molecular Weight	160.95
Chemical Formula	C ₄ H ₁₂ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS512200-05	5g
MS512200-10	10g
MS512200-50	50g
MS512200-100	100g
MS512200-500	500g
Larger quantities available on request	

Dimethylammonium tetrafluoroborate

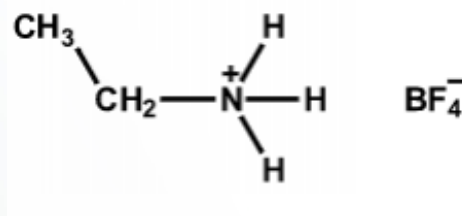
Formula	Me2NH2BF4
CAS#	16970-97-1
Molecular Weight	132.90
Chemical Formula	C ₂ H ₈ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS511100-05	5g
MS511100-10	10g
MS511100-50	50g
MS511100-100	100g
MS511100-500	500g
Larger quantities available on request	

Ethane-1,2-diammonium tetrafluoroborate

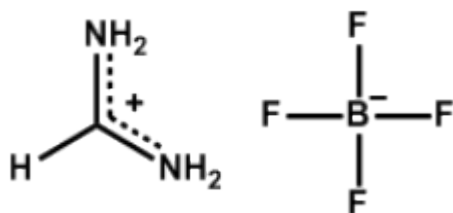
Formula	Et(NH3)2(BF4)2
CAS#	N/A
Molecular Weight	235.72
Chemical Formula	C ₂ H ₁₀ B ₂ F ₈ N ₂
Aspect	White Powder

Product Code	Quantity
MS502020-05	5g
MS502020-10	10g
MS502020-50	50g
MS502020-100	100g
MS502020-500	500g
Larger quantities available on request	

Ethylammonium tetrafluoroborate

Formula	EtNH3BF4
CAS#	12070-78-9
Molecular Weight	132.90
Chemical Formula	C ₂ H ₈ BF ₄ N
Aspect	White Powder

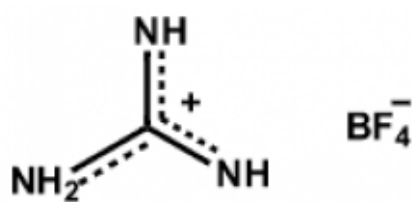
Product Code	Quantity
MS502000-05	5g
MS502000-10	10g
MS502000-50	50g
MS502000-100	100g
MS502000-500	500g
Larger quantities available on request	

Formamidinium tetrafluoroborate

Formula	CH(NH ₂) ₂ BF ₄
CAS#	N/A
Molecular Weight	131.87
Chemical Formula	CH ₅ BF ₄ N ₂
Aspect	White Powder

Product Code	Quantity
MS550000-05	5g
MS550000-10	10g
MS550000-50	50g
MS550000-100	100g
MS550000-500	500g

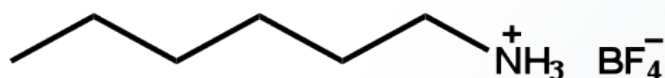
Larger quantities available on request

Guanidinium tetrafluoroborate

Formula	C(NH ₂) ₃ BF ₄
CAS#	36595-00- 3
Molecular Weight	146.88
Chemical Formula	CH ₆ BF ₄ N ₃
Aspect	White Powder

Product	Code Quantity
MS540000-05	5g
MS540000-10	10g
MS540000-50	50g
MS540000-100	100g
MS540000-500	500g

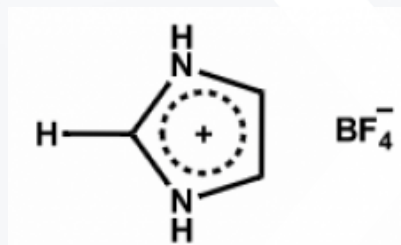
Larger quantities available on request

n-Hexylammonium tetrafluoroborate

Formula	n-HexNH ₃ BF ₄
CAS#	41579-47-9
Molecular Weight	378.01
Chemical Formula	C ₆ H ₁₆ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS500860-05	5g
MS500860-10	10g
MS500860-50	50g
MS500860-100	100g
MS500860-500	500g

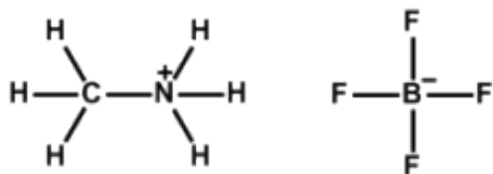
Larger quantities available on request

Imidazolium tetrafluoroborate

Formula	Imid.BF ₄
CAS#	112725-76- 5
Molecular Weight	155.89
Chemical Formula	C ₃ H ₅ BF ₄ N ₂
Aspect	White Powder

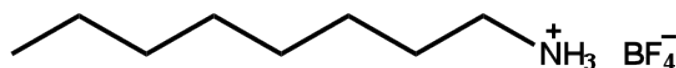
Product Code	Quantity
MS570000-05	5g
MS570000-10	10g
MS570000-50	50g
MS570000-100	100g
MS570000-500	500g

Larger quantities available on request

Methylammonium tetrafluoroborate

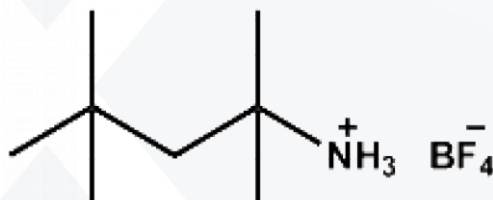
Formula	MeNH ₃ BF ₄
CAS#	42539-74-2
Molecular Weight	118.87
Chemical Formula	CH ₆ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS501000-05	5g
MS501000-10	10g
MS501000-50	50g
MS501000-100	100g
MS501000-500	500g
Larger quantities available on request	

n-Octylammonium tetrafluoroborate

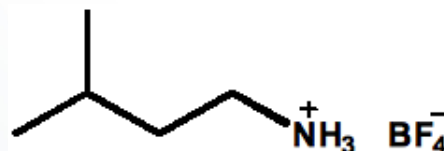
Formula	n-OctNH ₃ BF ₄
CAS#	790269-39-5
Molecular Weight	217.06
Chemical Formula	C ₈ H ₂₀ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS505500-05	5g
MS505500-10	10g
MS505500-50	50g
MS505500-100	100g
MS505500-500	500g
Larger quantities available on request	

tert-Octylammonium tetrafluoroborate

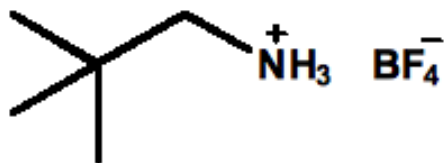
Formula	tert-OctylNH ₃ BF ₄
CAS#	N/A
Molecular Weight	217.06
Chemical Formula	C ₈ H ₂₀ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS500830-05	5g
MS500830-10	10g
MS500830-50	50g
MS500830-100	100g
MS500830-500	500g
Larger quantities available on request	

iso-Pentylammonium tetrafluoroborate

Formula	i-AmylNH ₃ BF ₄
CAS#	150178-33-9
Molecular Weight	174.97
Chemical Formula	C ₅ H ₁₄ BF ₄ N
Aspect	White Powder

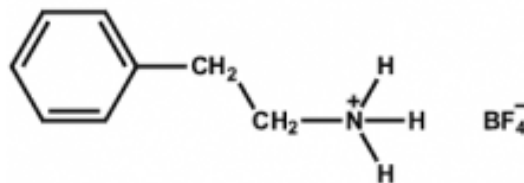
Product Code	Quantity
MS500710-05	5g
MS500710-10	10g
MS500710-50	50g
MS500710-100	100g
MS500710-500	500g
Larger quantities available on request	

neo-Pentylammonium tetrafluoroborate

Formula	neo-AmylNH ₃ BF ₄
CAS#	N/A
Molecular Weight	174.98
Chemical Formula	C ₅ H ₁₄ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS500740-05	5g
MS500740-10	10g
MS500740-50	50g
MS500740-100	100g
MS500740-500	500g

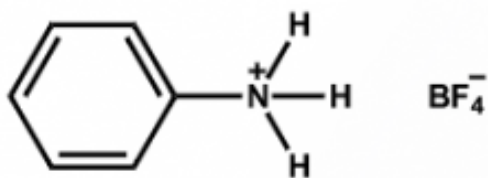
Larger quantities available on request

Phenethylammonium tetrafluoroborate

Formula	PhEtNH ₃ BF ₄
CAS#	N/A
Molecular Weight	208.99
Chemical Formula	C ₈ H ₁₂ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS509200-05	5g
MS509200-10	10g
MS509200-50	50g
MS509200-100	100g
MS509200-500	500g

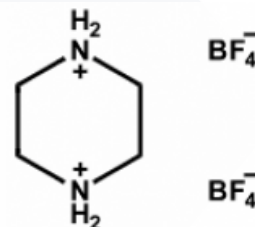
Larger quantities available on request

Phenylammonium tetrafluoroborate

Formula	PhNH ₃ BF ₄
CAS#	3796-29-0
Molecular Weight	180.94
Chemical Formula	C ₆ H ₈ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS508000-05	5g
MS508000-10	10g
MS508000-50	50g
MS508000-100	100g
MS508000-500	500g

Larger quantities available on request

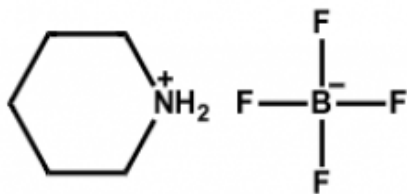
Piperazine-1,4-diium tetrafluoroborate

Formula	PPZ·2BF ₄
CAS#	N/A
Molecular Weight	261.76
Chemical Formula	C ₄ H ₁₂ B ₂ F ₈ N ₂
Aspect	White Powder

Product Code	Quantity
MS519500-05	5g
MS519500-10	10g
MS519500-50	50g
MS519500-100	100g
MS519500-500	500g

Larger quantities available on request

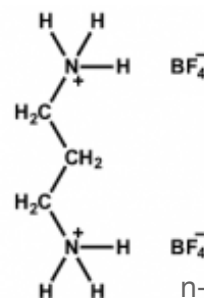
Piperidinium tetrafluoroborate



Formula	PPDBF4
CAS#	20935-77-7
Molecular Weight	172.96
Chemical Formula	$C_5H_{12}BF_4N$
Aspect	White Powder

Product Code	Quantity
MS519800-05	5g
MS519800-10	10g
MS519800-50	50g
MS519800-100	100g
MS519800-500	500g
Larger quantities available on request	

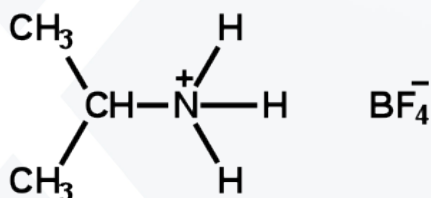
Propane-1,3- diammonium tetrafluoroborate



Formula	$n\text{-Pr}(\text{NH}_3)_2(\text{HBF}_4)_2$
CAS#	N/A
Molecular Weight	249.75
Chemical Formula	$C_3H_{12}B_2F_8N_2$
Aspect	White Powder

Product Code	Quantity
MS503030-05	5g
MS503030-10	10g
MS503030-50	50g
MS503030-100	100g
MS503030-500	500g
Larger quantities available on request	

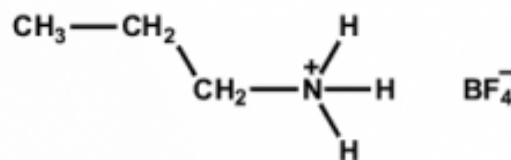
iso-Propylammonium tetrafluoroborate



Formula	i-PrNH ₃ BF ₄
CAS#	71852-74-9
Molecular Weight	146.92
Chemical Formula	$C_3H_{10}BF_4N$
Aspect	White Powder

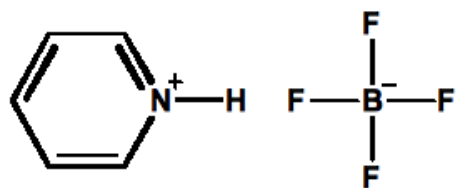
Product Code	Quantity
MS504000-05	5g
MS504000-10	10g
MS504000-50	50g
MS504000-100	100g
MS504000-500	500g
Larger quantities available on request	

n-Propylammonium tetrafluoroborate



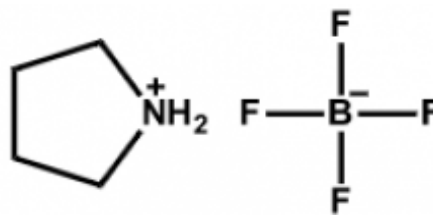
Formula	n-PrNH ₃ BF ₄
CAS#	71852-75-0
Molecular Weight	146.92
Chemical Formula	$C_3H_{10}BF_4N$
Aspect	White Powder

Product Code	Quantity
MS503000-05	5g
MS503000-10	10g
MS503000-50	50g
MS503000-100	100g
MS503000-500	500g
Larger quantities available on request	

Pyridinium tetrafluoroborate

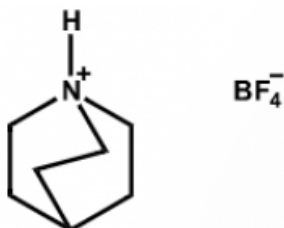
Formula	PyBF ₄
CAS#	505-07-7
Molecular Weight	166.91
Chemical Formula	C ₅ H ₆ BF ₄ N
Aspect	White Powder

Product Code	Quantity
MS529810-05	5g
MS529810-10	10g
MS529810-50	50g
MS529810-100	100g
MS529810-500	500g
Larger quantities available on request	

Pyrrolidinium tetrafluoroborate

Formula	PYRRBF ₄
CAS#	95647-26-0
Molecular Weight	158.93
Chemical Formula	C ₄ H ₁₀ BF ₄ N
Aspect	White Powder

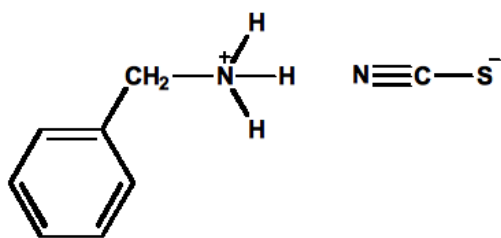
Product Code	Quantity
MS519700-05	5g
MS519700-10	10g
MS519700-50	50g
MS519700-100	100g
MS519700-500	500g
Larger quantities available on request	

Quinuclidin-1-ium tetrafluoroborate

Formula	ABCO·HBF ₄
CAS#	936025-25-1
Molecular Weight	199.00
Chemical Formula	C ₇ H ₁₄ BF ₄ N
Aspect	White Powder

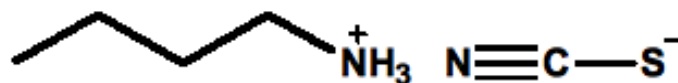
Product Code	Quantity
MS529300-05	5g
MS529300-10	10g
MS529300-50	50g
MS529300-100	100g
MS529300-500	500g

Larger quantities available on request

Benzylammonium thiocyanate

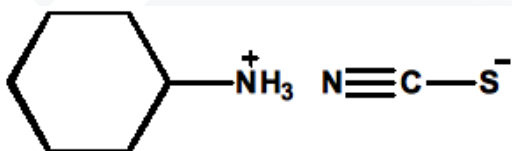
Formula	BnNH ₃ SCN
CAS#	51571-89-2
Molecular Weight	166.24
Chemical Formula	C ₈ H ₁₀ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS509101-05	5g
MS509101-10	10g
MS509101-50	50g
MS509101-100	100g
MS509101-500	500g
Larger quantities available on request	

n-Butylammonium thiocyanate

Formula	n-BuNH ₃ SCN
CAS#	25162-84-9
Molecular Weight	132.23
Chemical Formula	C ₅ H ₁₂ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS505001-05	5g
MS505001-10	10g
MS505001-50	50g
MS505001-100	100g
MS505001-500	500g
Larger quantities available on request	

Cyclohexylammonium thiocyanate

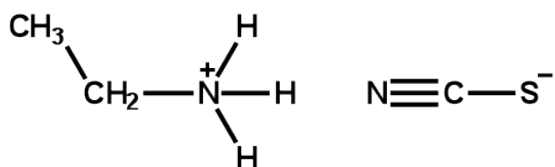
Formula	ChNH ₃ SCN
CAS#	96943-17-8
Molecular Weight	158.26
Chemical Formula	C ₇ H ₁₄ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS500841-05	5g
MS500841-10	10g
MS500841-50	50g
MS500841-100	100g
MS500841-500	500g
Larger quantities available on request	

n-Dodecylammonium thiocyanate

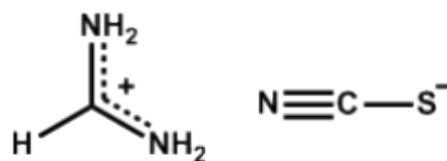
Formula	n-DodecNH ₃ SCN
CAS#	22031-31-8
Molecular Weight	244.44
Chemical Formula	C ₁₃ H ₂₈ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS500881-05	5g
MS500881-10	10g
MS500881-50	50g
MS500881-100	100g
MS500881-500	500g
Larger quantities available on request	

Ethylammonium thiocyanate

Formula	EtNH ₃ SCN
CAS#	25153-19-9
Molecular Weight	104.17
Chemical Formula	C ₃ H ₈ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS502001-05	5g
MS502001-10	10g
MS502001-50	50g
MS502001-100	100g
MS502001-500	500g
Larger quantities available on request	

Formamidinium thiocyanate

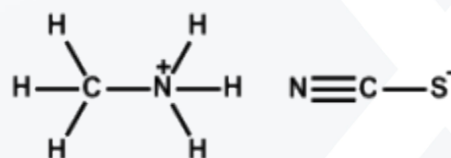
Formula	CH(NH ₂) ₂ SCN
CAS#	1821033-48-0
Molecular Weight	103.15
Chemical Formula	CH ₅ N ₃ S
Aspect	White Powder

Product Code	Quantity
MS550001-05	5g
MS550001-10	10g
MS550001-50	50g
MS550001-100	100g
MS550001-500	500g
Larger quantities available on request	

n-Hexylammonium thiocyanate

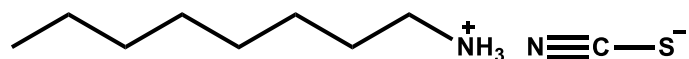
Formula	n-HexNH ₃ SCN
CAS#	25162-85-0
Molecular Weight	160.28
Chemical Formula	C ₇ H ₁₆ N ₂ S
Aspect	Waxy Solid

Product Code	Quantity
MS500861-05	5g
MS500861-10	10g
MS500861-50	50g
MS500861-100	100g
MS500861-500	500g
Larger quantities available on request	

Methylammonium thiocyanate

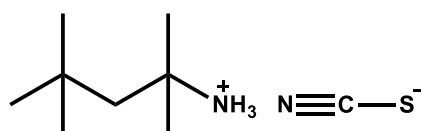
Formula	MeNH ₃ SCN
CAS#	61540-63-4
Molecular Weight	90.15
Chemical Formula	C ₂ H ₆ N ₂ S
Aspect	Beige Powder

Product Code	Quantity
MS501001-05	5g
MS501001-10	10g
MS501001-50	50g
MS501001-100	100g
MS501001-500	500g
Larger quantities available on request	

n-Octylammonium thiocyanate

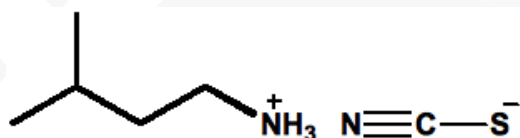
Formula	n-OctNH ₃ SCN
CAS#	25162-86-1
Molecular Weight	188.33
Chemical Formula	C ₉ H ₂₀ N ₂ S
Aspect	Yellow Quasi Solid

Product Code	Quantity
MS505501-05	5g
MS505501-10	10g
MS505501-50	50g
MS505501-100	100g
MS505501-500	500g
Larger quantities available on request	

tert-Octylammonium thiocyanate

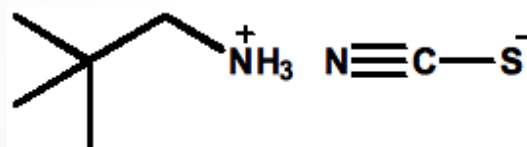
Formula	tert-OctylNH ₃ SCN
CAS#	41115-58-6
Molecular Weight	188.33
Chemical Formula	C ₉ H ₂₀ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS500831-05	5g
MS500831-10	10g
MS500831-50	50g
MS500831-100	100g
MS500831-500	500g
Larger quantities available on request	

iso-Pentylammonium thiocyanate

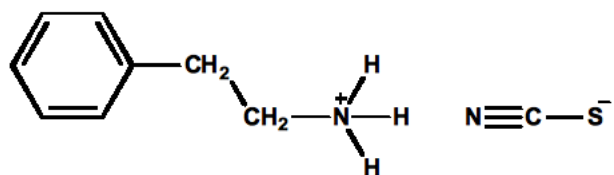
Formula	i-AmylNH ₃ SCN
CAS#	N/A
Molecular Weight	146.25
Chemical Formula	C ₆ H ₁₄ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS500711-05	5g
MS500711-10	10g
MS500711-50	50g
MS500711-100	100g
MS500711-500	500g
Larger quantities available on request	

neo-Pentylammonium thiocyanate

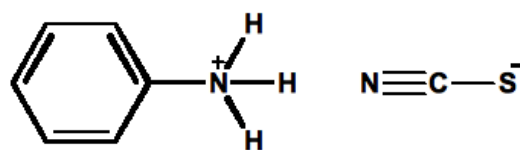
Formula	neo-AmylNH ₃ SCN
CAS#	61540-71-4
Molecular Weight	146.25
Chemical Formula	C ₆ H ₁₄ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS500741-05	5g
MS500741-10	10g
MS500741-50	50g
MS500741-100	100g
MS500741-500	500g
Larger quantities available on request	

Phenethylammonium thiocyanate

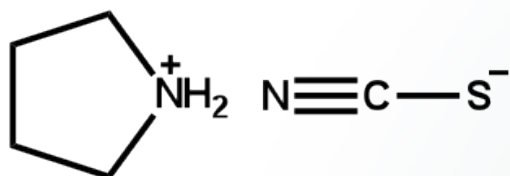
Formula	PhEtNH ₃ SCN
CAS#	N/A
Molecular Weight	180.27
Chemical Formula	C ₉ H ₁₂ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS509201-05	5g
MS509201-10	10g
MS509201-50	50g
MS509201-100	100g
MS509201-500	500g
Larger quantities available on request	

Phenylammonium thiocyanate

Formula	PhNH ₃ SCN
CAS#	27248-14-2
Molecular Weight	152.22
Chemical Formula	C ₇ H ₈ N ₂ S
Aspect	White Powder

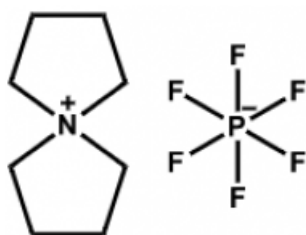
Product Code	Quantity
MS508001-05	5g
MS508001-10	10g
MS508001-50	50g
MS508001-100	100g
MS508001-500	500g
Larger quantities available on request	

Pyrrolidinium thiocyanate

Formula	PYRR·SCN
CAS#	217309-80-3
Molecular Weight	130.21
Chemical Formula	C ₅ H ₁₀ N ₂ S
Aspect	White Powder

Product Code	Quantity
MS519701-05	5g
MS519701-10	10g
MS519701-50	50g
MS519701-100	100g
MS519701-500	500g
Larger quantities available on request	

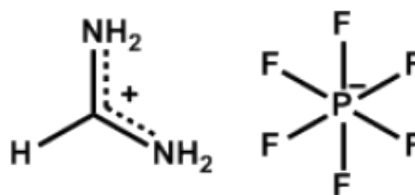
5-Azaspiro[4.4]nonan-5-ium hexafluorophosphate



Formula	SpiroPyrrPF6
CAS#	129211-50-3
Molecular Weight	271.18
Chemical Formula	$C_8H_{16}F_6NP$
Aspect	White Powder

Product Code	Quantity
MS599702-05	5g
MS599702-10	10g
MS599702-50	50g
MS599702-100	100g
MS599702-500	500g
Larger quantities available on request	

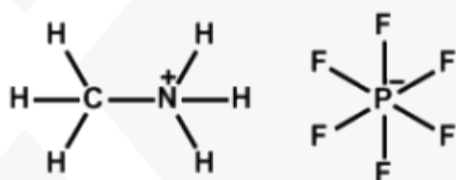
Formamidinium hexafluorophosphate



Formula	$CH(NH_2)_2PF_6$
CAS#	N/A
Molecular Weight	190.03
Chemical Formula	$CH_5F_6N_2P$
Aspect	White Powder

Product Code	Quantity
MS550002-05	5g
MS550002-10	10g
MS550002-50	50g
MS550002-100	100g
MS550002-500	500g
Larger quantities available on request	

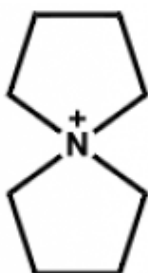
Methylammonium hexafluorophosphate



Formula	$MeNH_3PF_6$
CAS#	28302-50-3
Molecular Weight	177.03
Chemical Formula	CH_6PF_6N
Aspect	White Powder

Product Code	Quantity
MS501002-05	5g
MS501002-10	10g
MS501002-50	50g
MS501002-100	100g
MS501002-500	500g
Larger quantities available on request	

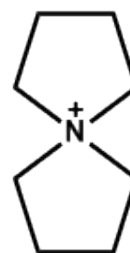
5-Azaspiro[4.4]nonan-5-ium bis(trifluoromethane)sulfonimide



Formula	SpiroPyrTFSI
CAS#	706759-44-6
Molecular Weight	406.37
Chemical Formula	$C_{10}H_{16}F_6N_2O_4S_2$
Aspect	White Powder

Product Code	Quantity
MS599705-05	5g
MS599705-10	10g
MS599705-50	50g
MS599705-100	100g
MS599705-500	500g
Larger quantities available on request	

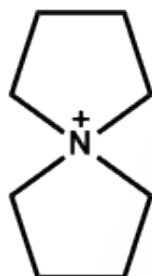
5-Azaspiro[4.4]nonan-5-ium bromide



Formula	SpiroPyrBr
CAS#	16450-38-7
Molecular Weight	206.12
Chemical Formula	$C_8H_{16}BrN$
Aspect	White Powder

Product Code	Quantity
MS339797-05	5g
MS339797-10	10g
MS339797-50	50g
MS339797-100	100g
MS339797-500	500g
Larger quantities available on request	

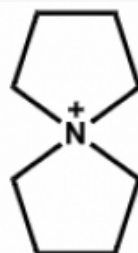
5-Azaspiro[4.4]nonan-5-ium chloride



Formula	SpiroPyrCl
CAS#	98997-63-8
Molecular Weight	161.67
Chemical Formula	$C_8H_{16}ClN$
Aspect	White Powder

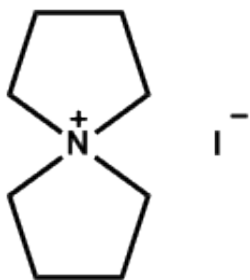
Product Code	Quantity
MS639797-05	5g
MS639797-10	10g
MS639797-50	50g
MS639797-100	100g
MS639797-500	500g
Larger quantities available on request	

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



Formula	SpiroPyrPF6
CAS#	129211-50-3
Molecular Weight	271.18
Chemical Formula	$C_8H_{16}F_6NP$
Aspect	White Powder

Product Code	Quantity
MS599702-05	5g
MS599702-10	10g
MS599702-50	50g
MS599702-100	100g
MS599702-500	500g
Larger quantities available on request	

5-Azaspiro[4.4]nonan-5-ium iodide

Formula

CAS#

Molecular Weight

Chemical Formula

Aspect

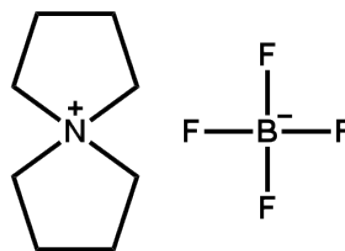
SpiroPyrrI

45650-35-9

253.12

 $C_8H_{16}IN$

White Powder

**5-Azaspiro[4.4]nonan-5-ium
tetrafluoroborate**

Formula

CAS#

Molecular Weight

Chemical Formula

Aspect

SpiroPyrrBF4

129211-47-8

213.02

 $C_8H_{16}BF_4N$

White Powder

Product Code

MS139797-05

MS139797-10

MS139797-50

MS139797-100

MS139797-500

Larger quantities available on request

Quantity

5g

10g

50g

100g

500g

Product Code

MS599700-05

MS599700-10

MS599700-50

MS599700-100

MS599700-500

Larger quantities available on request

Quantity

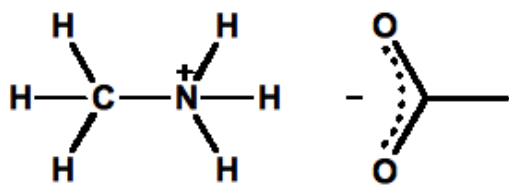
5g

10g

50g

100g

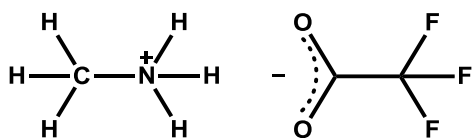
500g

Methylammonium acetate

Formula	MeNH ₃ OAc
CAS#	6998-30-7
Molecular Weight	92.12
Chemical Formula	C ₃ H ₁₀ NO ₂
Aspect	White Powder

Product Code	Quantity
MS701001-05	5g
MS701001-10	10g
MS701001-50	50g
MS701001-100	100g
MS701001-500	500g

Larger quantities available on request

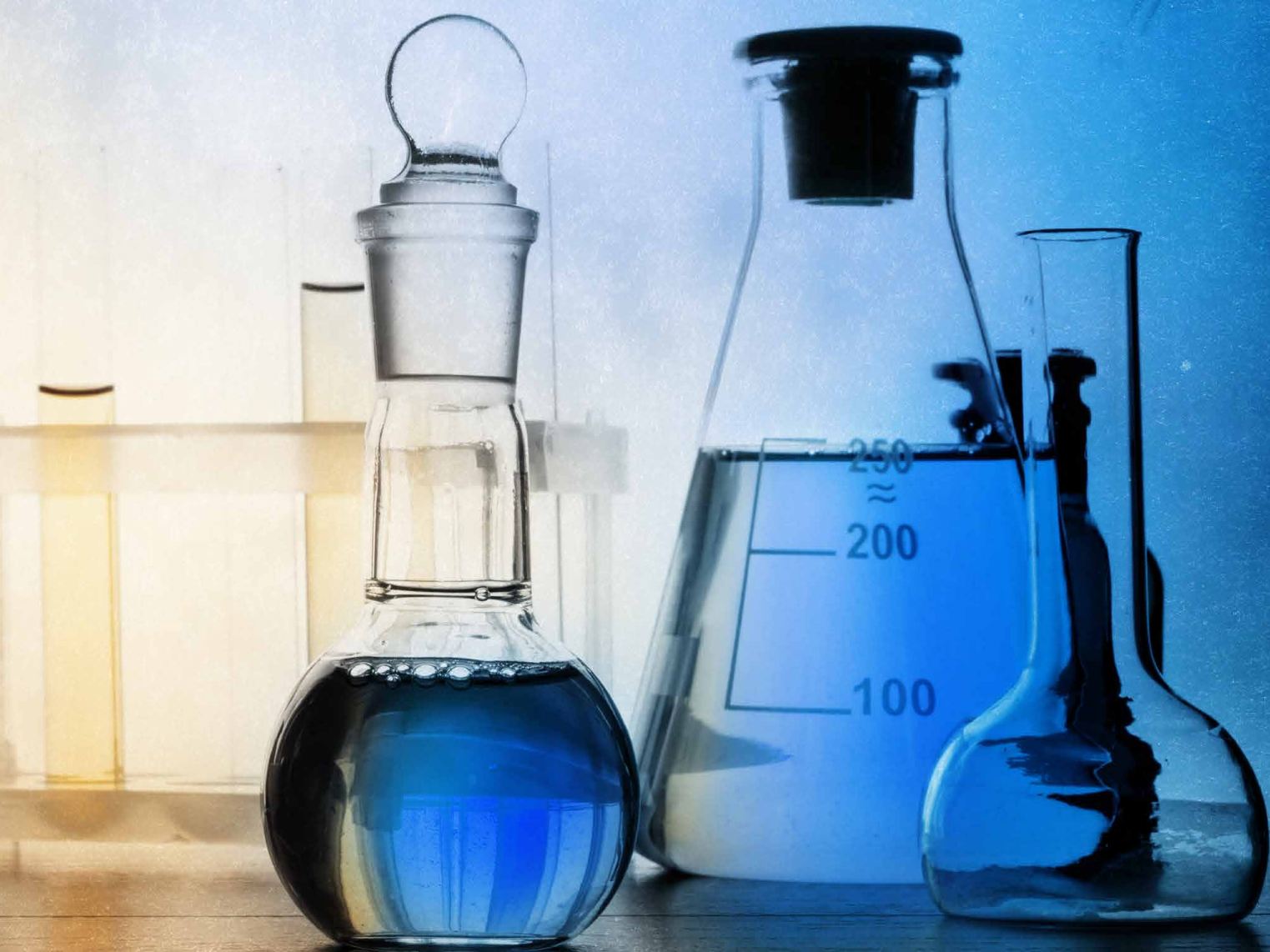
Methylammonium trifluoroacetate

Formula	MeNH ₃ TFA
CAS#	107326-29-4
Molecular Weight	146.09
Chemical Formula	C ₃ H ₇ F ₃ NO ₂
Aspect	White Powder

Product Code	Quantity
MS701005-05	5g
MS701005-10	10g
MS701005-50	50g
MS701005-100	100g
MS701005-500	500g

Larger quantities available on request

HOLE TRANSPORT MATERIALS, DOPANTS AND COBALT COMPLEXES



HOLE TRANSPORT MATERIALS, DOPANTS AND COBALT COMPLEXES

Guaranteed Performance - Highest Purity

GreatCell Solar offers the chemical industry's best quality Hole Transport Material and Dopants for the Solid State Dye Solar Cell technology.

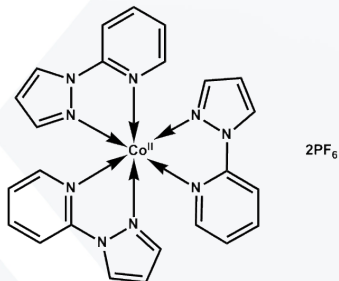
All GreatCell Solar Hole Transport Material and Dopants provide guaranteed performance, high reproducibility, stable/consistent results, and are of the highest purity.

Your order of Hole Transport Material and Dopants is chemically manufactured in our advanced Australian laboratory and world-leading ssDSC upscale facility under strict quality controls and processing standards.

All of our Cobalt Complexes have a purity level of >98%.



FK 102 Co(II) PF₆ Salt

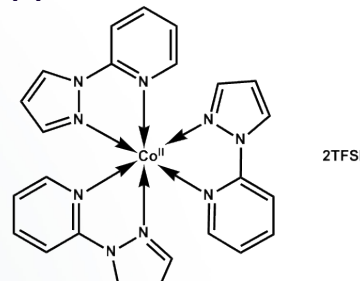


Formula	Co[PyPz] ₃ [PF ₆] ₂
CAS#	N/A
Molecular Weight	784.35
Chemical Formula	C ₂₄ H ₂₁ CoN ₉ P ₂ F ₁₂
Aspect	Orange Powder

Product Code	Quantity
MS210104-05	5g
MS210104-10	10g
MS210104-50	50g
MS210104-100	100g
MS210104-500	500g
MS210104-1000	1000g

Larger quantities available on request

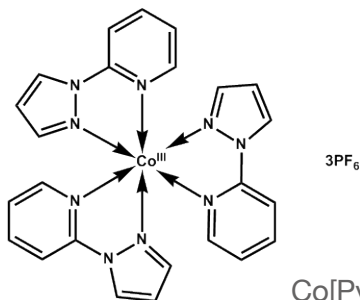
FK 102 Co(II) TFSI Salt



Formula:	Co[PyPz] ₃ [TFSI] ₂
CAS#	N/A
Molecular Weight:	1054.72
Chemical Formula	C ₂₈ H ₂₁ CoN ₁₁ O ₈ S ₄ F ₁₂
Aspect:	Orange Powder

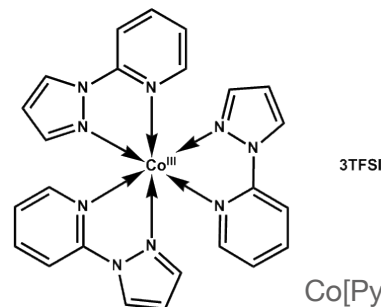
Product Code	Quantity
MS210105-05	5g
MS210105-10	10g
MS210105-50	50g
MS210105-100	100g
MS210105-500	500g
MS210105-1000	1000g

Larger quantities available on request

FK 102 Co(III) PF₆ Salt

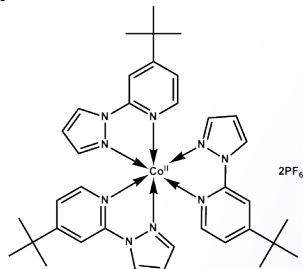
Formula	Co[PyPz]3[PF ₆]3
CAS#	1346416-70-3
Molecular Weight	929.31
Chemical Formula	C ₂₄ H ₂₁ CoN ₉ P ₃ F ₁₈
Aspect	Orange Powder

Product Code	Quantity
MS220104-05	5g
MS220104-10	10g
MS220104-50	50g
MS220104-100	100g
MS220104-500	500g
MS220104-1000	1000g
Larger quantities available on request	

FK 102 Co(III) TFSI Salt

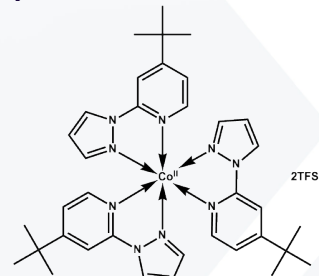
Formula	Co[PyPz]3[TFSI]3
CAS#	N/A
Molecular Weight	1334.87
Chemical Formula	C ₃₀ H ₂₁ CoN ₁₂ O ₁₂ S ₆ F ₁₈
Aspect	Orange Powder

Product Code	Quantity
MS220105-05	5g
MS220105-10	10g
MS220105-50	50g
MS220105-100	100g
MS220105-500	500g
MS220105-1000	1000g
Larger quantities available on request	

FK 209 Co(II) PF₆ salt

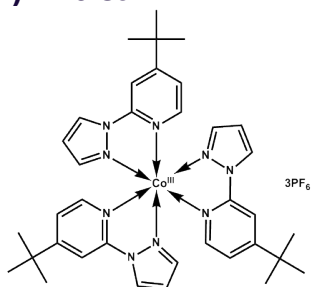
Formula	Co[t-BuPyPz]3[PF ₆]2
CAS#	N/A
Molecular Weight	952.68
Chemical Formula	C ₃₆ H ₄₅ CoN ₉ P ₂ F ₁₂
Aspect	Orange Powder

Product Code	Quantity
MS210304-05	5g
MS210304-10	10g
MS210304-50	50g
MS210304-100	100g
MS210304-500	500g
Larger quantities available on request	

FK 209 Co(II) TFSI salt

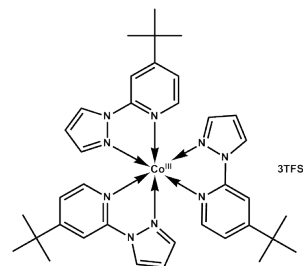
Formula	Co[t-BuPyPz]3[TFSI]2
CAS#	N/A
Molecular Weight	1223.02
Chemical Formula	C ₄₀ H ₄₅ CoN ₁₁ O ₈ S ₄ F ₁₂
Aspect	Orange powder

Product code	Quantity
MS210305-05	5g
MS210305-10	10g
MS210305-50	50g
MS210305-100	100g
MS210305-500	500g
Larger quantities available on request	

FK 209 Co(III) PF₆ salt

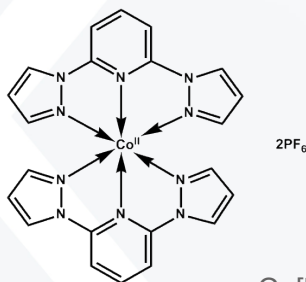
Formula	Co[t-BuPyPz] ₃ [PF ₆] ₃
CAS#	N/A
Molecular Weight	1097.64
Chemical Formula	C ₃₆ H ₄₅ CoN ₉ P ₃ F ₁₈
Aspect	Orange Powder

Product Code	Quantity
MS220304-05	5g
MS220304-10	10g
MS220304-50	50g
MS220304-100	100g
MS220304-500	500g
Larger quantities available on request	

FK 209 Co(III) TFSI salt

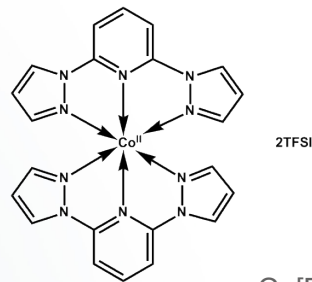
Formula	Co[t-BuPyPz] ₃ [TFSI] ₃
CAS#	1447938-61-5
Molecular Weight	1503.16
Chemical Formula	C ₄₂ H ₄₅ CoN ₁₂ O ₁₂ S ₆ F ₁₈
Aspect	Orange Powder

Product Code	Quantity
MS220305-05	5g
MS220305-10	10g
MS220305-50	50g
MS220305-100	100g
MS220305-500	500g
Larger quantities available on request	

FK 269 Co(II) PF₆ salt

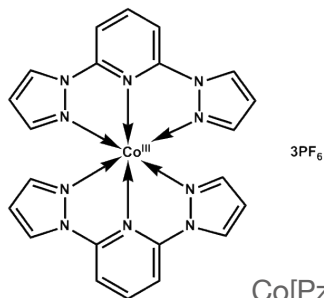
Formula	Co[PzPyPz] ₂ [PF ₆] ₂
CAS#	N/A
Molecular Weight	771.31
Chemical Formula	C ₂₂ H ₁₈ CoN ₁₀ P ₂ F ₁₂
Aspect	Orange Powder

Product Code	Quantity
MS210204-05	5g
MS210204-10	10g
MS210204-50	50g
MS210204-100	100g
MS210204-500	500g
Larger quantities available on request	

FK 269 Co(II) TFSI salt

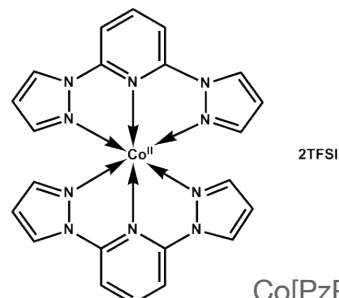
Formula:	Co[PzPyPz] ₂ [TFSI] ₂
CAS#	N/A
Molecular Weight	1041.67
Chemical Formula	C ₂₆ H ₁₈ CoN ₁₂ O ₈ S ₄ F ₁₂
Aspect:	Orange Powder

Product Code	Quantity
MS210205-05	5g
MS210205-10	10g
MS210205-50	50g
MS210205-100	100g
MS210205-500	500g
Larger quantities available on request	

FK 269 Co(III) PF₆ salt

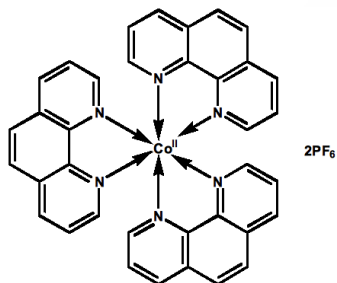
Formula	Co[PzPyPz] ₂ [PF ₆] ₃
CAS#	N/A
Molecular Weight	916.27
Chemical Formula	C ₂₂ H ₁₈ CoN ₁₀ P ₃ F ₁₈
Aspect	Orange Powder

Product Code	Quantity
MS220204-05	5g
MS220204-10	10g
MS220204-50	50g
MS220204-100	100g
MS220204-500	500g
Larger quantities available on request	

FK 269 Co(III) TFSI salt

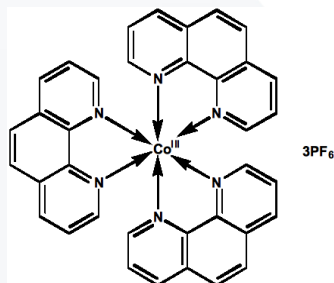
Formula	Co[PzPyPz] ₂ [TFSI] ₃
CAS#	N/A
Molecular Weight	1321.83
Chemical Formula	C ₂₆ H ₁₈ CoN ₁₃ O ₁₂ S ₆ F ₁₈
Aspect	Orange Powder

Product Code	Quantity
MS220205-05	5g
MS220205-10	10g
MS220205-50	50g
MS220205-100	100g
MS220205-500	500g
Larger quantities available on request	

(1,10-Phen)₃Co(II) PF₆ Salt

Formula	Co[Phen] ₃ [PF ₆] ₂
CAS#	31876-74-1
Molecular Weight	889.48
Chemical Formula	C ₃₆ H ₂₄ CoF ₁₂ N ₆ P ₂
Aspect	Mustard powder

Product Code	Quantity
MS210604-05	5g
MS210604-10	10g
MS210604-50	50g
MS210604-100	100g
MS210604-500	500g
Larger quantities available on request	

(1,10-Phen)₃Co(III) PF₆ Salt

Formula	Co[Phen] ₃ [PF ₆] ₃
CAS#	28277-59-0
Molecular Weight	1034.44
Chemical Formula	C ₃₆ H ₂₄ CoF ₁₈ N ₆ P ₃
Aspect	Mustard powder

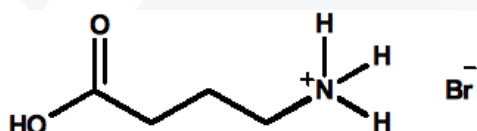
Product Code	Quantity
MS220604-05	5g
MS220604-10	10g
MS220604-50	50g
MS220604-100	100g
MS220604-500	500g
Larger quantities available on request	

ADDITIVES AND MODIFIERS

The use of additives and modifiers increases the connectivity between perovskite crystals and the mesoporous titania. The additives also act as surfactants and modify the wettability of the components thus increasing the silkiness during the deposition process.



4-ABAB (4-Ammonium butyric acid bromide)

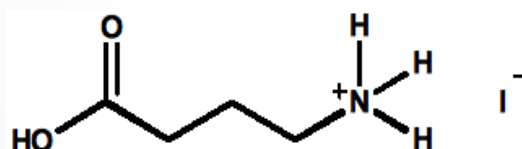


Formula	(NH ₃)BrPrCO ₂ H
CAS#	N/A
Molecular Weight	184.03
Chemical Formula	C ₄ H ₁₀ BrNO ₂
Aspect	White Powder

Product Code	Size
MS400032-05	5g
MS400032-10	10g
MS400032-50	50g
MS400032-100	100g
MS400032-500	500g

Larger quantities available on request

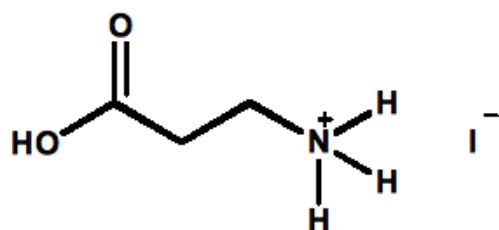
4-ABAI (4-Ammonium butyric acid iodide)



Formula	(NH ₃)IPrCO ₂ H
CAS#	N/A
Molecular Weight	231.03
Chemical Formula	C ₄ H ₁₀ INO ₂
Aspect	White Powder

Product Code	Size
MS400033-05	5g
MS400033-10	10g
MS400033-50	50g
MS400033-100	100g
MS400033-500	500g

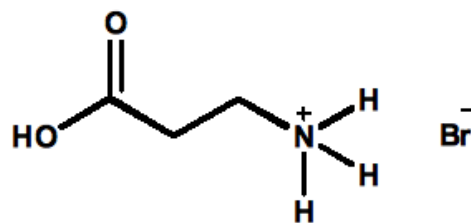
Larger quantities available on request

3-APAI (3-Ammonium propionic acid iodide)

Formula	(NH ₃)IEtCO ₂ H
CAS#	N/A
Molecular Weight	217.01
Chemical Formula	C ₃ H ₈ INO ₂
Aspect	White Powder

Product Code	Size
MS400023-05	5g
MS400023-10	10g
MS400023-50	50g
MS400023-100	100g
MS400023-500	500g

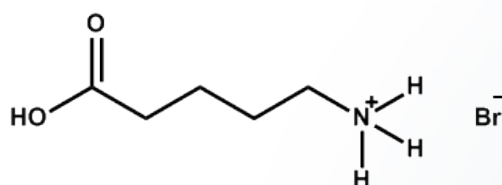
Larger quantities available on request

3-APAB (3-Ammonium propionic acid bromide)

Formula	(NH ₃)BrEtCO ₂ H
CAS#	N/A
Molecular Weight	170.01
Chemical Formula	C ₃ H ₈ BrNO ₂
Aspect	White Powder

Product Code	Size
MS400022-05	5g
MS400022-10	10g
MS400022-50	50g
MS400022-100	100g
MS400022-500	500g

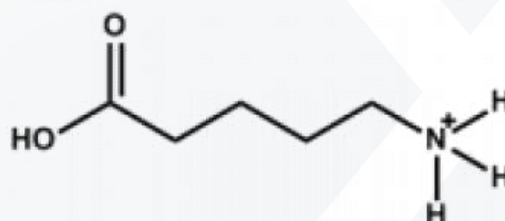
Larger quantities available on request

5-AVAB (5-Ammonium valeric acid bromide)

Formula	(NH ₃)BrBuCO ₂ H
CAS#	N/A
Molecular Weight	198.06
Chemical Formula	C ₅ H ₁₂ BrNO ₂
Aspect	White Powder

Product Code	Size
MS400042-05	5g
MS400042-10	10g
MS400042-50	50g
MS400042-100	100g
MS400042-500	500g

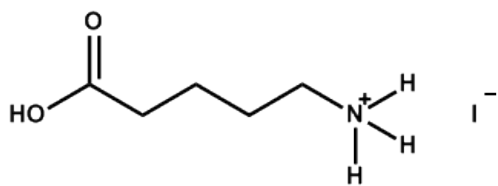
Larger quantities available on request

5-AVAC (5-Ammonium valeric acid chloride)

Formula	(NH ₃)ClBuCO ₂ H
CAS#	N/A
Molecular Weight	153.61
Chemical Formula	C ₅ H ₁₂ ClNO ₂
Aspect	White Powder

Product Code	Size
MS400041-05	5g
MS400041-10	10g
MS400041-50	50g
MS400041-100	100g
MS400041-500	500g

Larger quantities available on request

5-AVAI (5-Ammonium valeric acid iodide)

Formula	(NH ₃)IBuCO ₂ H
CAS#	1705581-28-7
Molecular Weight	245.06
Chemical Formula	C ₅ H ₁₂ INO ₂
Aspect	White Powder

Product Code	Size
MS400043-05	5g
MS400043-10	10g
MS400043-50	50g
MS400043-100	100g
MS400043-500	500g

Larger quantities available on request

TITANIA & PLATINUM PASTES

Optimised for Excellent Performance

Greatcell Solar manufactures a selection of titania (working electrode) and platinum (counter electrode) pastes for use in the production of DSC electrodes.

Greatcell Solar's suite of high quality pastes are optimised to provide excellent performance levels in a variety of DSC applications and device variations.

Typically, Greatcell Solar standard paste films are applied by screen printing or doctor blading.



BL-1 Blocking Layer



Aspect	Clear viscous Liquid
Suggested Mesh Screen	100T
Product Code	Quantity
MS002500-10	10g
MS002500-20	20g
MS002500-50	50g
MS002500-100	100g
MS002500-200	200g
MS002500-500	500g
MS002500-1000	1000g
Larger quantities available on request	

MPT-20



Aspect	Cream Paste
Average Nanoparticle Size (active)	20nm
Suggested Mesh Screen	180T
Sintered Layer	300-350 nm
Product Code	Quantity
MS002400-10	10g
MS002400-20	20g
MS002400-50	50g
MS002400-100	100g
MS002400-200	200g
MS002400-500	500g
MS002400-1000	1000g
Larger quantities available on request	

18NR-AO Active Opaque Titania Paste

Aspect	Off White Paste
Average Nanoparticle Size (scatter)	Up to 450nm
Average Nanoparticle Size (active)	20nm
Suggested Mesh Screen	43T
Sintered Layer	7-8µm opaque

Product Code	Quantity
MS002270-10	10g
MS002270-20	20g
MS002270-50	50g
MS002270-100	100g
MS002270-200	200g
MS002270-500	500g
MS002270-1000	1000g

Larger quantities available on request

WER2-O Reflector Titania Paste

Aspect	White Paste
Average Nanoparticle Size (scatter)	150-250nm
Suggested Mesh Screen	90T (43T for thicker layers)
Sintered Layer	3µm opaque

Product Code	Quantity
MS002260-10	10g
MS002260-20	20g
MS002260-50	50g
MS002260-100	100g
MS002260-200	200g
MS002260-500	500g
MS002260-1000	1000g
Larger quantities available on request	

CELS Counter Electrode Solution

Aspect	Orange Liquid
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Product Code	Quantity
MS006220-05	5g
MS006220-10	10g
MS006220-50	50g
MS006220-100	100g
MS006220-200	200g

Larger quantities available on request

PT1 Platinum Paste

Aspect	Clear Amber Viscous Liquid
Suggested Mesh Screen	100T

Product Code	Quantity
MS006210-10	10g
MS006210-50	50g
MS006210-100	100g
MS006210-200	200g
MS006210-500	500g
MS006210-1000	1000g

Larger quantities available on request

30 NR-D

Aspect	Off White Paste
Average Nanoparticle Size (active)	30nm
Suggested Mesh Screen	43T
Sintered Layer	5-6µm transparent

Product Code	Quantity
MS002300-10	10g
MS002300-20	20g
MS002300-50	50g
MS002300-100	100g
MS002300-200	200g
MS002300-500	500g
MS002300-1000	1000g
Larger quantities available on request	

90-T Transparent Titania Paste - Thin use

Aspect	Amber Paste
Average Nanoparticle Size (active)	20nm
Suggested Mesh Screen	90T
Sintered Layer	3µm transparent

Product Code	Quantity
MS002290-10	10g
MS002290-20	20g
MS002290-50	50g
MS002290-100	100g
MS002290-200	200g
MS002290-500	500g
MS002290-1000	1000g
Larger quantities available on request	

18NR-T TRANSPARENT TITANIA PASTE

Use Greatcell Solar's 18NR-T Transparent Titania Paste in applications that require a transparent sintered titania film with a large surface/volume ratio.

This paste is formulated to yield sintered film thicknesses of 6-7µm when screen printed with a 43T mesh.

Greatcell Solar's 18NR-T Transparent Titania Paste has highly dispersed and stable anatase nanoparticles. It is optimised for screen printing using a synthetic 43T mesh screen (or similar).

After drying, this paste must be fired at or above 500°C. This results in a transparent sintered layer, with a film thickness of approximately 6-7µm for one printed layer and ~12µm for two printed layers, when using a 43T mesh screen. The paste exhibits optimal rheological properties that provide good surface uniformity and contains organic binders specially formulated to provide versatile porosity suitable for a range of dye/electrolyte systems.



Aspect	Amber Paste
Average Nanoparticle Size (active)	20nm
Suggested Mesh Screen	43T
Sintered Layer	6-7µm transparent

Product Code	Quantity
MS002010-10	10g
MS002010-20	20g
MS002010-50	50g
MS002010-100	100g
MS002010-200	200g
MS002010-500	500g
MS002010-1000	1000g
Larger quantities available on request	

DYES & SENSITIZERS

Best Quality Sensitising Dyes

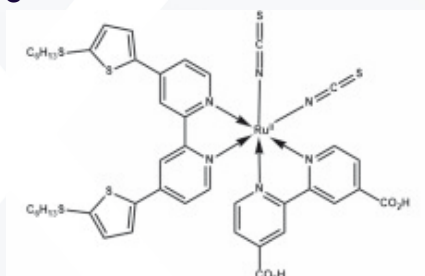
All Greatcell Solar dyes provide guaranteed performance, high reproducibility, stable/consistent results, and are of the highest purity.

Greatcell Solar is continually developing new dyes to increase DSC device efficiency, long-term stability and panchromatic absorptivity. Other organic and ruthenium dyes are available upon request. Dyes are available to purchase in a range of quantities from grams to kilograms.

Your order of sensitising dyes is chemically manufactured in our advanced Australian laboratory and world-leading DSC upscale facility under strict quality controls and processing standards.



C106 Dye

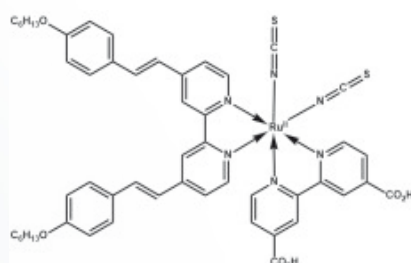


Formula
 RuLL' (NCS)_2 (L=2,2'-bipyridyl-4,4'-dicarboxylic acid; L'=4,4'-bis(5-(hexylthio)thiophen-2-yl)-2,2'-bipyridine))

CAS#	1152310-69-4
Molecular Weight	1014.32
Chemical Formula	$\text{C}_{44}\text{H}_{44}\text{N}_6\text{O}_4\text{RuS}_6$
Aspect	Black Powder
Product Code	Quantity
MS003630-01	1g
MS003630-05	5g
MS003630-10	10g
MS003630-50	50g
MS003630-100	100g

Larger quantities available on request

K19 Dye

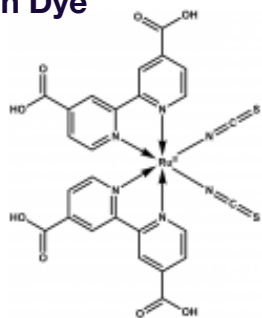


Formula
 RuLL' (NCS)_2 (L=2,2'-bipyridyl-4,4'-dicarboxylic acid; L'=4,4'-bis((E)-4-(hexyloxy)styryl)-2,2'-bipyridine))

CAS#	847665-45-6
Molecular Weight	1022.21
Chemical Formula	$\text{C}_{52}\text{H}_{52}\text{N}_6\text{O}_6\text{RuS}_2$
Aspect	Black Powder
Product Code	Quantity
MS003810-01	1g
MS003810-05	5g
MS003810-10	10g
MS003810-50	50g
MS003810-100	100g

Larger quantities available on request

N3 Foundation Dye



Formula

$\text{RuL}_2(\text{NCS})_2$ (L=2,2'-bipyridyl-4,4'-dicarboxylic acid)

CAS#

141460-19-7

Molecular Weight

705.64

Chemical Formula

$\text{C}_{26}\text{H}_{16}\text{N}_6\text{O}_8\text{RuS}_2$

Aspect

Maroon Crystalline Powder

Product Code

Quantity

MS003330-01

1g

MS003330-05

5g

MS003330-10

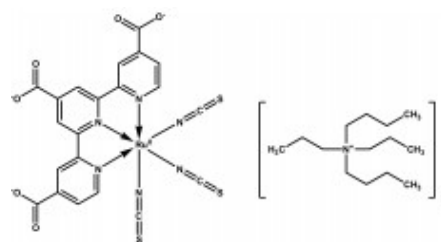
10g

MS003330-50

50g

Larger quantities available on request

N749 Black Dye



Formula

$[\text{RuL}(\text{NCS})_3]$: 3 TBA (L=2,2':6',2''-terpyridyl-4,4',4''-tricarboxylic acid; TBA=tetra-n-butylammonium)

CAS#

359415-47-7

Molecular Weight

1364.98

Chemical Formula

$\text{C}_{69}\text{H}_{117}\text{N}_9\text{O}_6\text{RuS}_3$

Aspect

Dark Green Powder

Product Code

Quantity

MS003610-01

1g

MS003610-05

5g

MS003610-10

10g

MS003610-50

50g

MS003610-100

100g

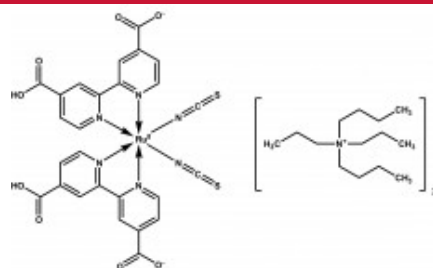
Larger quantities available on request

N719 INDUSTRY STANDARD DYE

Use Greatcell Solar's N719 Industry Standard Dye to produce Dye Solar Cells with higher cell voltage than the N3 Foundation Dye. Recommended application in 0.2-0.3mM solution with ethanol or acetonitrile/tert-butanol (1:1, vol:vol).

Greatcell Solar's N719 Industry Standard Dye is a modification of the N3 Foundation Dye with changes that increase cell voltage. It is the most common high performance dye, often called the industry's "workhorse dye".

N719 Industry Standard Dye is more soluble than N3 Foundation Dye in polar solvents. Like all Greatcell Solar dyes, Greatcell Solar's N719 Industry Standard Dye offers guaranteed performance, high reproducibility, stable/consistent results, and has a purity level of >95%.



Formula

$[\text{RuL}_2(\text{NCS})_2]$: 2 TBA (L=2,2'-bipyridyl-4,4'-dicarboxylic acid; TBA=tetra-n-butylammonium)

CAS#

207347-46-4

Molecular Weight

1188.55

Chemical Formula

$\text{C}_{58}\text{H}_{86}\text{N}_8\text{O}_8\text{RuS}_2$

Aspect

Maroon Crystalline Powder

Product Code

Quantity

MS003190-01

1g

MS003190-05

5g

MS003190-10

10g

MS003190-50

50g

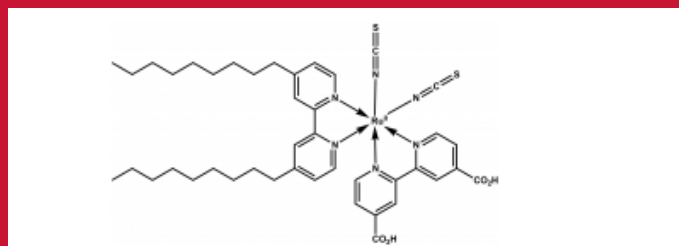
Larger quantities available on request

Z907 HYDROPHOBIC DYE

Use Greatcell Solar's Z907 Hydrophobic Dye when experimenting with hydrophobic systems. Recommended application in 0.2-0.3mM concentration in acetonitrile/tert-butanol (1:1, vol:vol).

Greatcell Solar's Z907 Hydrophobic Dye very efficiently sensitises wide band-gap oxide semiconductors, like titanium dioxide.

Like all Greatcell Solar Dyes, Greatcell Solar's Z907 Hydrophobic Dye offers guaranteed performance, high reproducibility, stable/consistent results, and has a purity level of >95%.



Formula
 RuLL' (NCS)_2 (L=2,2'-bipyridyl-4,4'-dicarboxylic acid; L'=4,4'-dinonyl-2,2'-bipyridine)

CAS# 207347-46-4

Molecular Weight 1188.55

Chemical Formula $\text{C}_{58}\text{H}_{86}\text{N}_8\text{O}_8\text{RuS}_2$

Aspect Black Crystalline Powder

Product Code	Quantity
MS003500-01	1g
MS003500-05	5g
MS003500-10	10g
MS003500-50	50g
MS003500-100	100g

Larger quantities available on request

LIGANDS & INTERMEDIATES

Building blocks for Ruthenium-based Dyes

Greatcell Solar offers bipyridine- and terpyridine-based ligands for the synthesis of ruthenium-based dyes and general metallo-organic complexes.

Bipyridine and terpyridine ligands are fundamental building blocks for the manufacture of ruthenium-based dyes. They are the binding ligands used to attached the dye to the titanium dioxide. Greatcell Solar also offers a variety of ligands for additional research purposes.

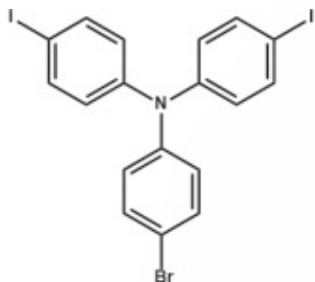
Talk to the Greatcell Solar Sales Team if your require more information about Greatcell Solar's building blocks for ruthenium-based dyes.



Range of products

Select additional items from Greatcell Solar's comprehensive range of DSC materials and equipment to complement your ligand purchase. Greatcell Solar offers specialist laboratory equipment package solutions, plus industry leading DSC training and consulting services from our expert team.

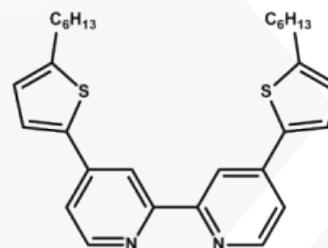
4-Bromo-N,N-bis(4-iodophenyl)aniline



CAS#	N/A
Molecular Weight	576.01
Chemical Formula	$C_{18}H_{12}BrI_2N$
Aspect	Cream Powder

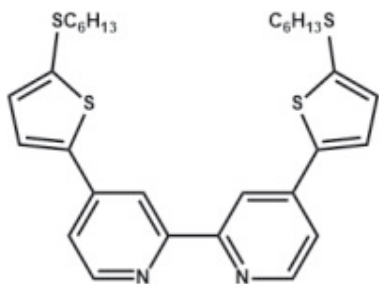
Product Code	Quantity
MS003823-05	5g
MS003823-10	10g
MS003823-50	50g
MS003823-100	100g
MS003823-500	500g
MS003823-1000	1000g
Larger quantities available on request	

C101 Ligand



Formula	C101-L
CAS#	1047684-56-9
Molecular Weight	488.75
Chemical Formula	$C_{30}H_{36}N_2S_2$
Aspect	Cream Powder

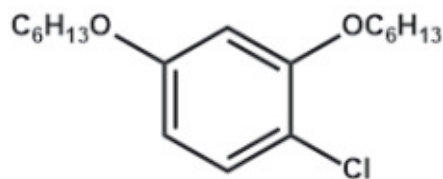
Product Code	Quantity
MS003645-01	1g
MS003645-05	5g
MS003645-10	10g
MS003645-50	50g
MS003645-100	100g
Larger quantities available on request	

C106 Ligand

Formula	C106-L
CAS#	1146182-96-8
Molecular Weight	552.88
Chemical Formula	$C_{30}H_{36}N_2S_4$
Aspect	Yellow Powder

Product Code	Quantity
MS003635-01	1g
MS003635-05	5g
MS003635-10	10g
MS003635-50	50g
MS003635-100	100g

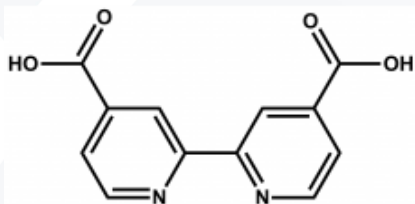
Larger quantities available on request

1-Chloro-2,4-bis(hexyloxy)benzene

CAS#	851228-26-7
Molecular Weight	312.87
Chemical Formula	$C_{18}H_{29}ClO_2$
Aspect	Colourless Liquid

Product Code	Quantity
MS003821-05	5g
MS003821-10	10g
MS003821-50	50g
MS003821-100	100g
MS003821-500	500g
MS003821-1000	1000g

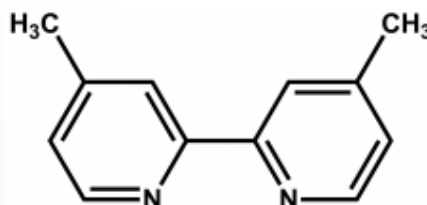
Larger quantities available on request

DCBP Anchoring Ligand

Formula	2,2'-bipyridine-4,4' dicarboxylic acid
CAS#	6813-38-3
Molecular Weight	244.20
Chemical Formula	$C_{12}H_8N_2O_4$
Aspect	White Powder

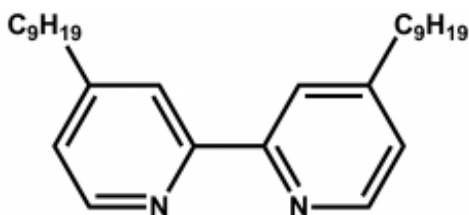
Product Code	Quantity
MS003100-10	10g
MS003100-50	50g
MS003100-100	100g
MS003100-500	500g
MS003100-1000	1000g

Larger quantities available on request

DMBP Building Block Ligand

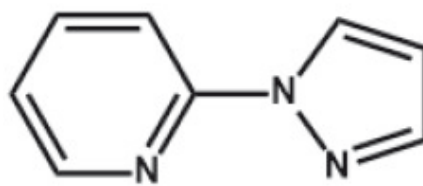
Formula	4,4'-dimethyl-2,2'-bipyridine
CAS#	1134-35-6
Molecular Weight	184.24
Chemical Formula	$C_{12}H_{12}N_2$
Aspect	White Powder

Product Code	Quantity
MS003030-10	10g
MS003030-50	50g
MS003030-100	100g
Larger quantities available on request	

DNBP Hydrophobic Ligand

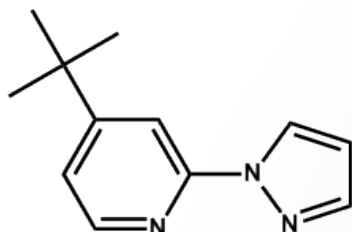
Formula	4,4'-dinonyl-2,2'-bipyridine
CAS#	142646-58-0
Molecular Weight	408.66
Chemical Formula	C ₂₈ H ₄₄ N ₂
Aspect	White Powder

Product Code	Quantity
MS003520-10	10g
MS003520-50	50g
MS003520-100	100g
MS003520-500	500g
MS003520-1000	1000g
Larger quantities available on request	

FK 102 Ligand

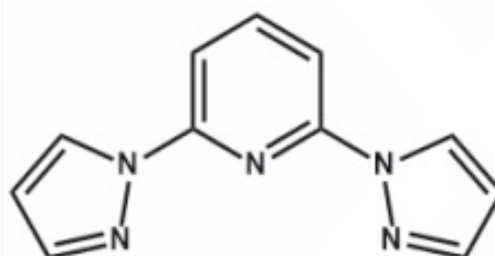
Formula	PyPz
CAS#	25700-11-2
Molecular Weight	145.16
Chemical Formula	C ₈ H ₇ N ₃
Aspect	White Powder

Product Code	Quantity
MS200100-05	5g
MS200100-10	10g
MS200100-50	50g
MS200100-100	100g
MS200100-500	500g
MS200100-1000	1000g
Larger quantities available on request	

FK 209 Ligand

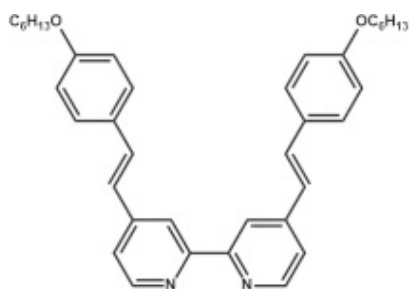
Formula	t-Bu-PyPz
CAS#	1361941-59-4
Molecular Weight	201.30
Chemical Formula	C ₁₂ H ₁₅ N ₃
Aspect	White Powder

Product Code	Quantity
MS200300-05	5g
MS200300-10	10g
MS200300-50	50g
MS200300-100	100g
MS200300-500	500g
Larger quantities available on request	

FK 269 Ligand

Formula	PzPyPz
CAS#	123640-38-0
Molecular Weight	211.23
Chemical Formula	C ₁₁ H ₉ N ₅
Aspect	White Powder

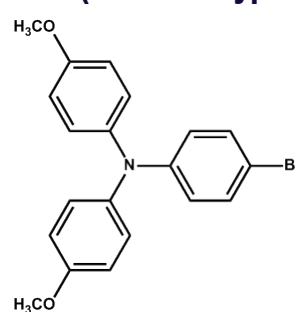
Product Code	Quantity
MS200200-05	5g
MS200200-10	10g
MS200200-50	50g
MS200200-100	100g
MS200200-500	500g
MS200200-1000	1000g
Larger quantities available on request	

K19 Ligand

Formula	K19-L
CAS#	874628-17-8
Molecular Weight	560.77
Chemical Formula	$C_{38}H_{44}N_2O_2$
Aspect	Off-White Powder

Product Code	Quantity
MS003815-01	1g
MS003815-05	5g
MS003815-10	10g
MS003815-50	50g
MS003815-100	100g

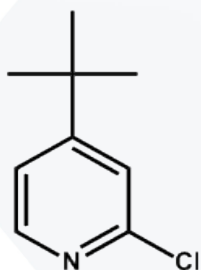
Larger quantities available on request

4-Bromo-N,N-bis(4-methoxyphenyl)aniline

CAS#	194416-45-0
Molecular Weight	384.27
Chemical Formula	$C_{20}H_{18}BrNO_2$
Aspect	Beige Solid

Product Code	Quantity
MS008500-5	5g
MS008500-10	10g
MS008500-50	50g
MS008500-100	100g

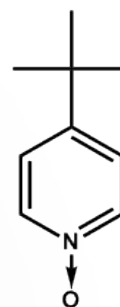
Larger quantities available on request

4-(tert-Butyl)-2-chloropyridine

Formula	4-tBu-2-ClPy
CAS#	81167-60-4
Molecular Weight	169.65
Chemical Formula	$C_9H_{12}ClN$
Aspect	Colourless Liquid

Product Code	Quantity
MS003900-05	5g
MS003900-10	10g
MS003900-50	50g
MS003900-100	100g
MS003900-500	500g
MS003900-1000	1000g

Larger quantities available on request

4-(tert-Butyl)pyridine-N-oxide

Formula	4-tBu-Py-N-O
CAS#	23569-17-7
Molecular Weight	151.21
Chemical Formula	$C_9H_{13}NO$
Aspect	Light Beige Powder

Product Code	Quantity
MS003910-05	5g
MS003910-10	10g
MS003910-50	50g
MS003910-100	100g
MS003910-500	500g

Larger quantities available on request

ELECTROLYTES & COMPONENTS

Guaranteed Performance - Highest Purity

GreatCell Solar manufactures a variety of high purity liquid iodide electrolytes optimised to suite a range of DSC applications. Greatcell Solar's range of electrolytes is manufactured under strict quality control standards at our laboratory and DSC up-scale facility at Greatcell Solar's headquarters in Australia.

Visit Greatcell Solar's website for a comprehensive range of materials and equipment to support your activities. If you have specific needs, require advice or would like to place a custom order, please contact Greatcell Solar's Sales Team.



Ethyl Isopropyl Sulfone



EL-HPE High Performance Electrolyte



Formula	EtiPrSO2	Redox Couple	I3-/I- - triiodide/iodide
CAS#	4853-75-2	Additives	Inorganic iodide Salt, Organic iodide
Molecular Weight	136.21		Salt, imidazole Compound
Chemical Formula	C5H12O2S	Solvent	3-methoxypropionitrile
Aspect	Clear Liquid		
Solvent	High Boiling Point Polar Solvent	Product Code	Size
Product Code	Quantity	MS005616-10	10 ml
MS005470-05	5g	MS005616-20	20 ml
MS005470-10	10g	MS005616-50	50 ml
MS005470-20	20g	MS005616-100	100 ml
MS005470-50	50g	MS005616-200	200 ml
MS005470-100	100g	Larger quantities available on request	
MS005470-200	200g		
MS005470-500	500g		
MS005470-1000	1000g		
Larger quantities available on request			

EL-HSE High Stability Electrolyte

Redox Couple	I_3^-/I^- - triiodide/iodide
Additives	Inorganic iodide Salt, Organic iodide Salt, Imidazole Compound
Solvent	3-Methoxypropionitrile

Product Code	Size
MS005616-10	10 ml
MS005616-20	20 ml
MS005616-50	50 ml
MS005616-100	100 ml
MS005616-200	200 ml

Larger quantities available on request

EL-HTE High Temperature Electrolyte

Redox Couple	I_3^-/I^- - triiodide/iodide
Additives	Inorganic iodide Salt, Organic iodide Salt, Imidazole Compound
Solvent	3-Butoxypropionitrile

Product Code	Size
MS005617-10	10 ml
MS005617-20	20 ml
MS005617-50	50 ml
MS005617-100	100 ml
MS005617-200	200 ml

Larger quantities available on request

Ultra High Stability Electrolyte

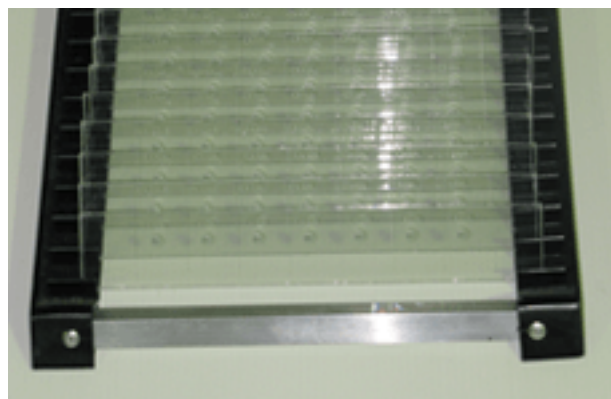
Redox Couple	I_3^-/I^- - triiodide/iodide
Additives	Inorganic iodide Salt, Organic iodide Salt, Imidazole Compound
Solvent	Ethyl Isopropyl Sulfone

Product Code	Size
MS005621-10	10 ml
MS005621-20	20 ml
MS005621-50	50 ml
MS005621-100	100 ml
MS005621-200	200 ml
MS005621-500	500 ml

Larger quantities available on request

GLASS SUBSTRATES

Greatcell Solar offers a range of TEC-glass structural and conductive substrates required to assemble a DSC device. Glass substrates are available, with glass in plate form, to suit any requirements. Greatcell Solar test cell electrodes are optimised for use with Greatcell Solar assembly and test equipment, specifically the Greatcell Solar Test Cell Assembly Machine and Fill-Hole Sealer.



TEC7 Glass Plates 2.2mm



Glass Type	Soda-lime
Conducting Layer	FTO (Fluorine doped tin oxide)
Sheet Resistance	7Ω/sq
Sheet Thickness	2.2mm

Product Code	Size
MS001790-01	100mm x 100mm 1 plate
MS001790-05	100mm x 100mm 5 plates
MS001790-10	100mm x 100mm 1 x 10-pack
MS001790-50	100mm x 100mm 5 x 10-pack
MS001790-100	100mm x 100mm 10 x 10-pack
MS001790-500	100mm x 100mm 50 x 10-pack
MS001795-01	300mm x 300mm 1 plate
MS001795-05	300mm x 300mm 1 x 5-pack
MS001795-25	300mm x 300mm 5 x 5-pack
MS001795-50	300mm x 300mm 10 x 5-pack
MS001795-250	300mm x 300mm 50 x 5-pack
MS001795-500	300mm x 300mm 100 x 5-pack

TEC7 Glass Plates 3.2mm



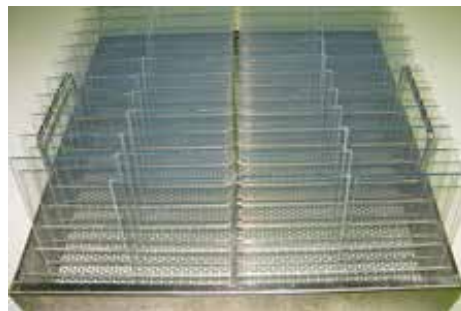
Glass Type	Soda-lime
Conducting Layer	FTO (Fluorine doped tin oxide)
Sheet Resistance	7Ω/sq
Sheet Thickness	3.2mm

Product Code	Size
MS001780-01	100mm x 100mm 1 plate
MS001780-05	100mm x 100mm 5 plates
MS001780-10	100mm x 100mm 1 x 10-pack
MS001780-50	100mm x 100mm 5 x 10-pack
MS001780-100	100mm x 100mm 10 x 10-pack
MS001780-500	100mm x 100mm 50 x 10-pack
MS001785-01	300mm x 300mm 1 plate
MS001785-05	300mm x 300mm 1 x 5-pack
MS001785-25	300mm x 300mm 5 x 5-pack
MS001785-50	300mm x 300mm 10 x 5-pack
MS001785-250	300mm x 300mm 50 x 5-pack
MS001785-500	300mm x 300mm 100 x 5-pack

TEC8 Glass Plates 2.2mm

Glass Type	Soda-lime
Conducting Layer	FTO (Fluorine doped tin oxide)
Sheet Resistance	8Ω/sq
Sheet Thickness	2.2mm

Product Code	Size
MS001695-01	100mm x 100mm 1 plate
MS001695-05	100mm x 100mm 5 plates
MS001695-10	100mm x 100mm 1 x 10-pack
MS001695-50	100mm x 100mm 5 x 10-pack
MS001695-100	100mm x 100mm 10 x 10-pack
MS001695-500	100mm x 100mm 50 x 10-pack
MS001705-01	300mm x 300mm 1 plate
MS001705-05	300mm x 300mm 1 x 5-pack
MS001705-25	300mm x 300mm 5 x 5-pack
MS001705-50	300mm x 300mm 10 x 5-pack
MS001705-250	300mm x 300mm 50 x 5-pack
MS001705-500	300mm x 300mm 100 x 5-pack

TEC8 Glass Plates 3.2mm

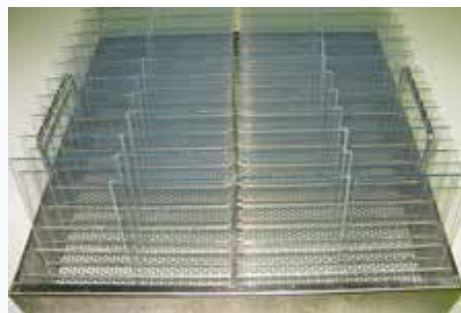
Glass Type	Soda-lime
Conducting Layer	FTO (Fluorine doped tin oxide)
Sheet Resistance	8Ω/sq
Sheet Thickness	3.2mm

Product Code	Size
MS001690-01	100mm x 100mm 1 plate
MS001690-05	100mm x 100mm 5 plates
MS001690-10	100mm x 100mm 1 x 10-pack
MS001690-50	100mm x 100mm 5 x 10-pack
MS001690-100	100mm x 100mm 10 x 10-pack
MS001690-500	100mm x 100mm 50 x 10-pack
MS001700-01	300mm x 300mm 1 plate
MS001700-05	300mm x 300mm 1 x 5-pack
MS001700-25	300mm x 300mm 5 x 5-pack
MS001700-50	300mm x 300mm 10 x 5-pack
MS001700-250	300mm x 300mm 50 x 5-pack
MS001700-500	300mm x 300mm 100 x 5-pack

TEC15 Glass Plates 2.2mm

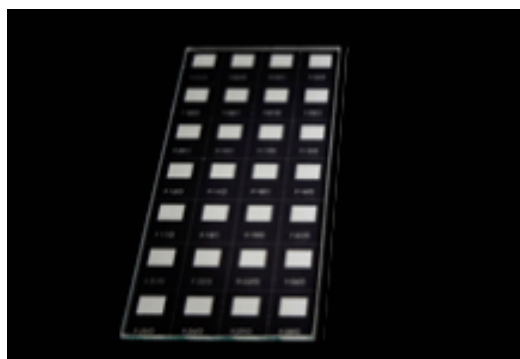
Glass Type	Soda-lime
Conducting Layer	FTO (Fluorine doped tin oxide)
Sheet Resistance	15Ω/sq
Sheet Thickness	2.2mm

Product Code	Size
MS001675-01	100mm x 100mm 1 plate
MS001675-05	100mm x 100mm 5 plates
MS001675-10	100mm x 100mm 1 x 10-pack
MS001675-50	100mm x 100mm 5 x 10-pack
MS001675-100	100mm x 100mm 10 x 10-pack
MS001675-500	100mm x 100mm 50 x 10-pack
MS001705-01	300mm x 300mm 1 plate
MS001705-05	300mm x 300mm 1 x 5-pack
MS001705-25	300mm x 300mm 5 x 5-pack
MS001705-50	300mm x 300mm 10 x 5-pack
MS001705-250	300mm x 300mm 50 x 5-pack
MS001705-500	300mm x 300mm 100 x 5-pack

TEC15 Glass Plates 3.2mm

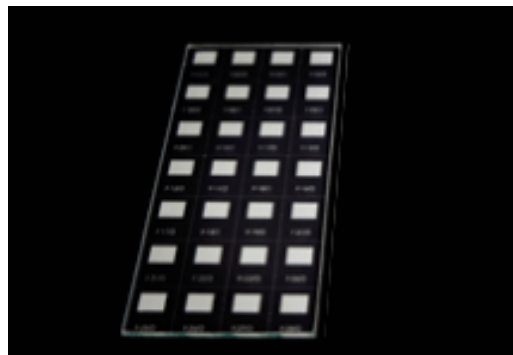
Glass Type	Soda-lime
Conducting Layer	FTO (Fluorine doped tin oxide)
Sheet Resistance	15Ω/sq
Sheet Thickness	3.2mm

Product Code	Size
MS001670-01	100mm x 100mm 1 plate
MS001670-05	100mm x 100mm 5 plates
MS001670-10	100mm x 100mm 1 x 10-pack
MS001670-50	100mm x 100mm 5 x 10-pack
MS001670-100	100mm x 100mm 10 x 10-pack
MS001670-500	100mm x 100mm 50 x 10-pack
MS001680-01	300mm x 300mm 1 plate
MS001680-05	300mm x 300mm 1 x 5-pack
MS001680-25	300mm x 300mm 5 x 5-pack
MS001680-50	300mm x 300mm 10 x 5-pack
MS001680-250	300mm x 300mm 50 x 5-pack
MS001680-500	300mm x 300mm 100 x 5-pack

TiO₂ Coated Test Cell Glass Electrodes (Opaque)

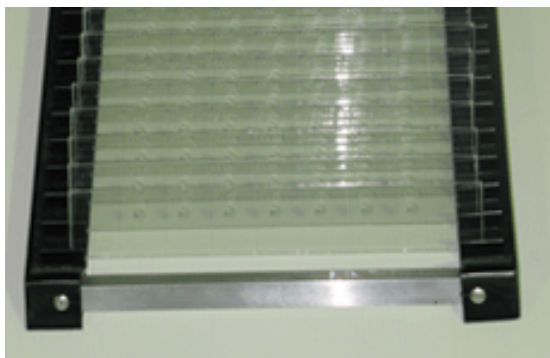
Glass Type	TEC15 (FTO)
Sheet Thickness	3.2mm
Printed Layer	Dyesol's 18NR-AO Active Opaque Titania Paste
Layer Thickness	14µm ± 1µm
Printed Active Layer	8mm x 11mm
Electrode Area When Pre-Cut	20mm x 23mm
Quantities	1 set = 28 electrodes

Product Code	Size
MS001610	161x80x3.2mm (28 electrodes plate)

TiO₂ Coated Test Cell Glass Electrodes (Transparent)

Glass Type	TEC15, (FTO)
Sheet Thickness	3.2mm
Printed Layer	Dyesol's 18NR-T Transparent Titania Paste
Layer Thickness	12µm ± 1µm
Printed Active Layer	8mm x 11mm
Electrode Area When Pre-Cut	20mm x 23mm
Quantities	1 set = 28 electrodes

Product Code	Size
MS001630	161x80x3.2mm (28 electrodes plate)

Pt Coated Test Cell Counter Electrodes (drilled)

Glass Type	TEC15 (FTO)
Conducting Layer	Dyesol's PT1 Platinum Paste
Sheet Thickness	3.2mm
Electrode Area	when cut 30mm x 20mm
Quantities	1 set = 28 electrodes, uncut: 4 plates of 7 electrodes
Printed Area	20mm x 20mm

Product Code	Size
MS001651	30x180x3.2mm

SEALANTS

Greatcell Solar offers a range of high quality sealing materials suitable for sealing a DSC device. Greatcell Solar's thermoplastic materials are available as free-standing films, gaskets, and foil laminate.

Greatcell Solar also offers a range of hermetic sealing polymers for sealing DSC devices for longer term applications.

Please contact Greatcell Solar purchase@greatcellsolar.com for custom laser cutting and include a dimensioned drawing of your gasket requirements.



Two Part Thermal Cure Epoxy Compound - Clear

Curing Temperature	120°C
Mixing Ratio by Weight	100:40
Mixing Ratio by volume	2:1
Viscosity (mixed)	4,500 - 5,500 mPa.s measured at shear rate of 10 sec ⁻¹ (25°C)
Pot Life (140g mix)	40-45 minutes

Product Code	Quantity
MS11111-50	50g
MS11111-100	100g
MS11111-250	250g

Two Part Thermal Cure Epoxy Compound - Opaque

Curing Temperature	120°C
Mixing Ratio by Weight	100:15.8
Viscosity (mixed)	18,000 - 22,000 mPa.s measured at shear rate of 10 sec ⁻¹ (25°C)
Pot Life (140g mix)	40-45 minutes

Product Code	Quantity
MS22222-50	50g
MS22222-100	100g
MS22222-250	250g

Aluminium Thermoplastic Laminate

Sealing Temperature	140-170°C
Melting Point	127°C
Freeze Point	113°C
Vicat Softening Point	110°C
Film Size	~300mm x 200mm

Product Code	Size
MS004655	300x200mm x 1 sheet
MS004656-10	300x200mm x 10 sheets

High Temperature Thermoplastic Sealant

Sealing Temperature	140-170°C
Melting Point	127°C
Freeze Point	113°C
Vicat Softening Point	110°C
Film Thickness Options	25µm or 50µm
Gasket Size Options	Pre-cut to 19x16mm outer and 13x10mm inner, or custom laser cut to your dimensions

Film Size	Size
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Product Code	Size
MS004610	300x200mmx30µm thick x 1 sheet
MS004610-10	300x200mmx30µm thick x 10 sheets
MS004611	19x16mmx30µm thick x 1 Gasket
MS004620	300x200mmx50µm thick x 1 sheet
MS004620-10	300x200mmx50µm thick x 10 sheets
MS004621	19x16mmx50µm thick x 1 Gasket

Low Temperature Thermoplastic Sealant

Sealing Temperature	110-130°C
Melting Point	93°C
Freeze Point	61°C
Vicat Softening Point	65°C
Film Thickness Options	30µm or 50µm
Gasket Size Options	Pre-cut to 19x16mm outer and 13x10mm inner, or custom laser cut to your dimensions.

Film Size	Size
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Product Code	Size
MS004610	300x200mmx30µm thick x 1 sheet
MS004610-10	300x200mmx30µm thick x 10 sheets
MS004611	19x16mmx30µm thick x 1 Gasket
MS004620	300x200mmx50µm thick x 1 sheet
MS004620-10	300x200mmx50µm thick x 10 sheets
MS004621	19x16mmx50µm thick x 1 Gasket

Two Part Hermetic Sealing Compound

Curing Temperature	Room Temperature
Mixing Ratio by Weight	100:44
Mixing Ratio by volume	2.5:1

Product Code	Quantity
MS004670-50	50g
MS004670-100	100g
MS004670-250	250g

Two Part Neutral Assembly Polymer

Quantities	75ml as a pre-loaded syringe suitable for use in Dyesol's Primary Seal & Interconnect Dispenser
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Curing Temperature	40-80°C
Mixing Ratio by Volume	1:1

Product Code	Quantity
MS004680-50	50g
MS004680-100	100g
MS004680-250	250g

Two Part Interconnect Polymer

Quantities	65ml as a pre-loaded syringe suitable for use in Dyesol's Primary Seal & Interconnect Dispenser
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Curing Temperature	50-80°C
Mixing Ratio by Volume	1:1

Product Code	Quantity
MS004685	50g

SILVER INK

CONDUCTIVE INKS

GreatCell Solar's conductive inks use an innovative technology during manufacture. The result—inks that provide exceptionally high conductivity at low cure temperature, which makes Greatcell Solar's DYAG conductive inks ideal for use in plastic/printed electronics.

BENEFITS

- Specially formulated inks
- Provide exceptionally high conductivity at low cure temperatures
- Idea for use in plastic/printed electronics
- Can be used with conventional screen print technology
- Excellent adhesion and solderability
- Flexible to match substrate

In DYAG conductive inks, two dimensional silver flakes are suspended in reactive organo-silver fluids. On curing at 160-180oC the organo-silver component decomposes to generate nano-sized silver particles that act as a “chemical-weld” between the silver flakes giving exceptionally high conductivity at low cure temperature.

A RANGE OF APPLICATIONS

- Grid lines on PV products such as DSC or OPV
- Bus bars on ITO sputtered surfaces
- Radio frequency identification (RFID) antennas
- EMI/RFI shielding of polyimide flexible circuits
- Polymer thick film circuitry
- Anode coatings for tantalum capacitors
- Flexible electronic circuit boards
- Smart labels and packaging
- Solid-state lighting

DYAG inks are manufactured under stringent quality control protocols and quality assurance procedures.

DYAG50 CONDUCTIVE PRINTING INKS

Greatcell Solar's DYAG50 Conductive Silver Printing Ink is a specially formulated ink which provides exceptionally high conductive at low cure temperatures.

This highly conductive ink provides extremely low resistance of printed conducting tracks essential for the photo-voltaic industry and is a key enabler in plastic electronics such as DSSC, OPV, and CdTe solar cells etc., by providing lowest track resistances of printed current collectors.



DYAG50 SPECIFICATIONS

VISCOSITY	13,000 - 17,000 Pa.S measured at shear rate of 10 Sec ⁻¹ (25°C)
SOLIDS	75 - 85%
RESISTIVITY	At a 180°C cure temperature, vol-ume resistivity is 5-6μΩ cm, and sheet resistivity is 2.0 - 2.4 mΩ / square / mil.
PRODUCT CODE	QUANTITY
MS006320-250	250g
MS006320-500	500g
Larger quantities available on request.	