

Chemistry - Green Chemistry

Ionic Liquids

Characteristics

An ionic liquid is a liquid that essentially contains only ions.

Ionic liquids are electrically conductive and have extremely low vapor pressure. Additional properties are diverse. Many have low combustibility, excellent thermal stability, a wide liquid range, and favorable solvating properties for diverse compounds. Many classes of chemical reactions, such as Diels-Alder & Friedel-Crafts reactions, can be performed using ionic liquids as solvents.

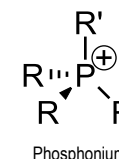
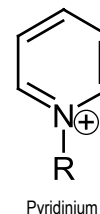
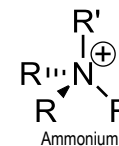
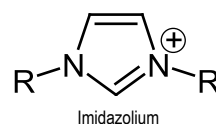
Recent work has shown that ionic liquids can serve as solvents for biocatalysis. Because of their distinctive properties, ionic liquids are attracting increasing attention in many fields, including organic chemistry, electrochemistry, catalysis, physical chemistry, and engineering.

Safety and Green Chemistry

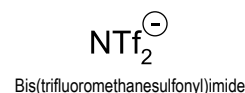
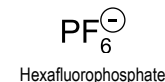
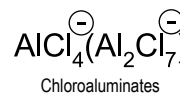
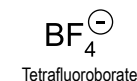
Due to their non-volatility (effectively eliminating a major pathway for environmental release and contamination), ionic liquids have been considered as having a low impact on the environment and human health, and thus recognized as solvents for green (environmental) chemistry.

Whilst maintaining the ability to dissolve a wide range of organic /inorganic compounds, the extremely low vapour pressures, thermal stability & non-flammable characteristics of ionic liquids (unlike volatile organic solvents), do not vaporise into the air & effectively eliminate a major route of environmental contamination.

Cations



Anions



R, R' : alkyl chain (Me, Et, Bu..., C12-C18).

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Ionic Liquids : Acetates - Benzoates - Bromides

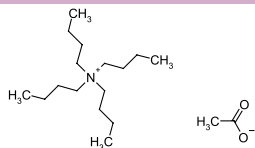
Acetates Alkylammoniums

IN498

Tetra-n-butylammonium acetate

C₁₈H₃₉NO₂ MW 301,52

1g..... 5g



Acetates Phosphoniums

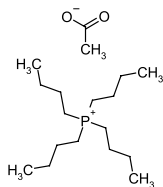
JG593

Tetra-n-butylphosphonium acetate,

70% w/w in methanol

C₁₈H₃₉O₂P MW 318,48

100g..... 500g



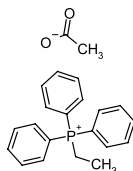
JG633

Ethyltriphenylphosphonium acetate,

70% w/w in methanol

C₂₂H₂₃O₂P MW 350,40

100g..... 500g..... 2,5kg



Benzoates Alkylammoniums

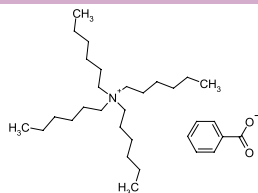
36819

Tetrahexylammonium benzoate

75% in methanol

C₃₁H₅₇NO₂ MW 475,81

1g..... 5g..... 25g



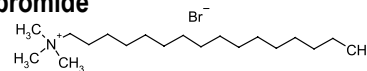
Bromides Alkylammoniums

12910

Hexadecyltrimethylammonium bromide

C₁₉H₄₂BrN MW 364,46

100g..... 500g..... 5kg

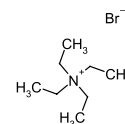


04985

Tetraethylammonium bromide

C₈H₂₀BrN MW 210,16

250g..... 1kg..... 5kg

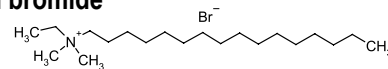


25552

Cetyldimethylethylammonium bromide

C₂₀H₄₄BrN MW 378,48

25g..... 100g..... 500g

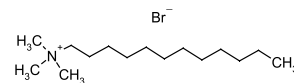


30853

Dodecyltrimethylammonium bromide

C₁₅H₃₄BrN MW 308,35

10g..... 50g..... 250g

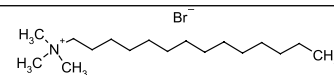


25917

Tetradecyltrimethylammonium bromide

C₁₇H₃₈BrN MW 336,40

25g..... 100g..... 500g

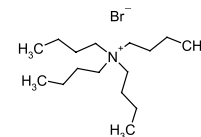


07620

Tetrabutylammonium bromide

C₁₆H₃₆BrN MW 322,38

100g..... 500g..... 2,5kg

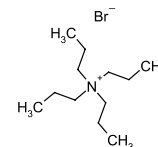


15455

Tetrapropylammonium bromide

C₁₂H₂₈BrN MW 266,27

500g..... 2,5kg



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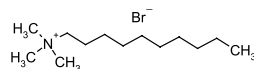
Ionic Liquids : Bromides

41492

Decyltrimethylammonium bromide

C13H30BrN MW 280,29

10g..... 50g

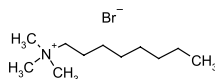


31041

Trimethyloctylammonium bromide

C11H26BrN MW 252,24

5g..... 25g..... 100g

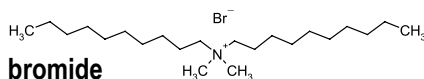


B6426

Didecyldimethylammonium bromide

C22H48BrN MW 406,54

100g..... 500g

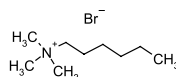


A2318

N-hexyltrimethylammonium bromide

C9H22BrN MW 224,19

5g..... 25g

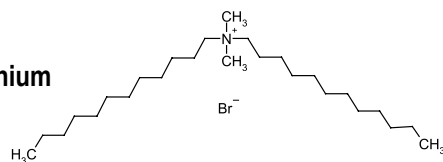


38859

Didodecyldimethylammonium bromide

C26H56BrN MW 462,65

2g..... 10g

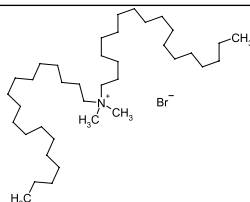


36731

Dimethyldioctadecylammonium bromide

C38H80BrN MW 630,97

1g..... 5g

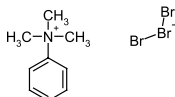


04969

Phenyltrimethylammonium tribromide

C9H14Br3N MW 375,93

50g..... 250g..... 1kg

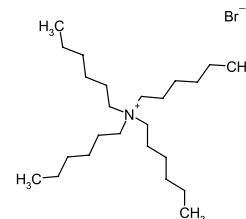


15385

Tetrahexylammonium bromide

C24H52BrN MW 434,59

10g..... 50g..... 250g

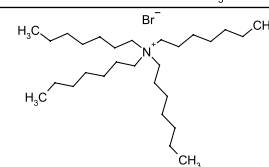


15384

Tetraheptylammonium bromide

C28H60BrN MW 490,70

5g..... 25g..... 100g

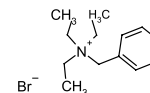


05318

Benzyltriethylammonium bromide

C13H22BrN MW 272,23

25g..... 100g..... 500g

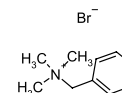


05317

Benzyltrimethylammonium bromide

C10H16BrN MW 230,15

25g..... 100g

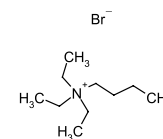


C5476

Butyltriethylammonium bromide

C10H24BrN MW 238,21

25g..... 100g

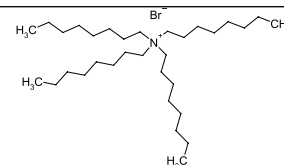


15448

Tetraoctylammonium bromide

C32H68BrN MW 546,81

10g..... 50g..... 250g

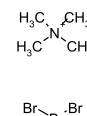


15423

Tetramethylammonium tribromide

C4H12Br3N MW 313,86

25g..... 100g



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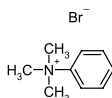
Ionic Liquids : Bromides

04786

Phenyltrimethylammonium bromide

C₉H₁₄BrN MW 216,12

25g..... 100g..... 500g

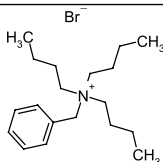


10656

Benzyltributylammonium bromide

C₁₉H₃₄BrN MW 356,39

25g..... 50g..... 250g

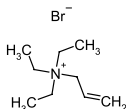


AH315

Allyl triethylammonium bromide

C₉H₂₀BrN MW 222,17

10g..... 50g..... 250g

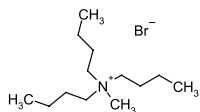


15640

Tributyl methylammonium bromide

C₁₃H₃₀BrN MW 280,29

10g..... 50g..... 250g

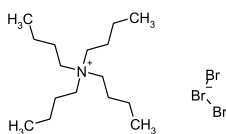


JE791

Tetra-n-butylammonium tribromide, 95%

C₁₆H₃₆Br₃N MW 482,18

25g..... 100g

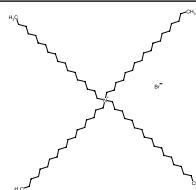


JB367

Tetraoctadecylammonium bromide, 98%

C₇₂H₁₄₈BrN MW 1107,89

1g..... 5g

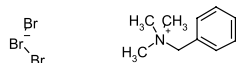


82827

Benzyltrimethylammonium tribromide

C₁₀H₁₆Br₃N MW 389,96

1g..... 5g..... 25g



Bromides

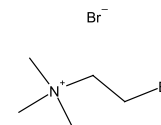
Bromoalkylammoniums

04090

(2-bromoethyl)trimethylammonium bromide

C₅H₁₃Br₂N MW 246,97

10g..... 50g



Bromides

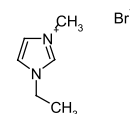
Imidazoliums

CH576

1-ethyl-3-methylimidazolium bromide

C₆H₁₁BrN₂ MW 191,07

10g..... 50g

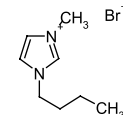


BJ260

1-butyl-3-methylimidazolium bromide

C₈H₁₅BrN₂ MW 219,13

5g

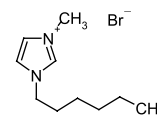


CH577

1-hexyl-3-methylimidazolium bromide

C₁₀H₁₉BrN₂ MW 247,18

25g

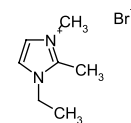


CH572

1-ethyl-2,3-dimethylimidazolium bromide

C₇H₁₃BrN₂ MW 205,10

25g

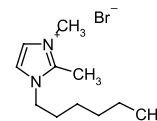


CH575

1-hexyl-2,3-dimethylimidazolium bromide

C₁₁H₂₁BrN₂ MW 261,21

25g



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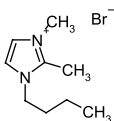
Ionic Liquids : Bromides

CH574

1-butyl-2,3-dimethylimidazolium bromide

C₉H₁₇BrN₂ MW 233,15

25g



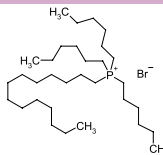
Bromides Phosphoniums

LE313

Trihexyl(tetradecyl)phosphonium bromide

C₃₂H₆₈BrP MW 563,78

10g..... 50g

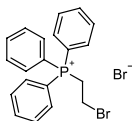


AH480

(2-bromoethyl)triphenylphosphonium bromide

C₂₀H₁₉Br₂P MW 450,16

5g..... 25g..... 100g

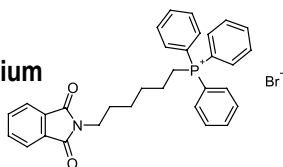


AH515

6-phthalimidoethyl triphenylphosphonium bromide

C₃₂H₃₁BrNO₂P MW 572,49

5g..... 25g..... 100g

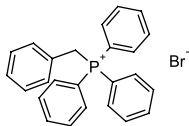


A3756

Benzyltriphenylphosphonium bromide

C₂₅H₂₂BrP MW 433,33

10g..... 250g

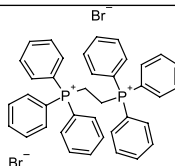


36050

1,2-ethylenebis(triphenylphosphonium bromide)

C₃₈H₃₄Br₂P₂ MW 712,45

25g..... 100g

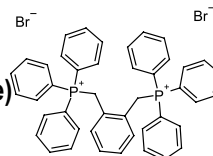


81826

O-xylenebis(triphenylphosphoniumbromide)

C₄₄H₃₈Br₂P₂ MW 788,55

10g..... 50g

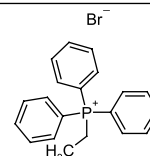


01718

Ethyltriphenylphosphonium bromide

C₂₀H₂₀BrP MW 371,26

25g..... 100g..... 500g

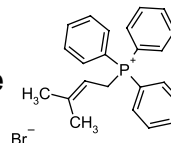


67318

3,3-dimethylallyltriphenylphosphonium bromide

C₂₃H₂₄BrP MW 411,33

5g..... 25g

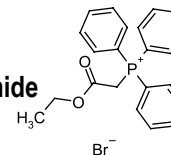


00621

(carbethoxymethyl)triphenylphosphonium bromide

C₂₂H₂₂BrO₂P MW 429,30

25g..... 100g..... 500g

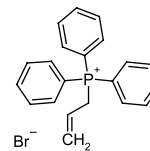


00088

Allyltriphenylphosphonium bromide

C₂₁H₂₀BrP MW 383,27

50g..... 250g

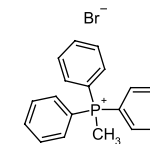


04562

Methyl triphenylphosphonium bromide

C₁₉H₁₈BrP MW 357,23

50g..... 250g..... 1kg

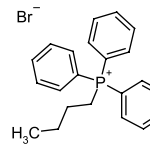


00597

Butyltriphenyl phosphonium bromide

C₂₂H₂₄BrP MW 399,31

25g..... 100g..... 500g



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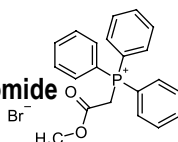
Ionic Liquids : Bromides

62530

Carbomethoxymethyl-triphenylphosphonium bromide

C₂₁H₂₀BrO₂P MW 415,27

25g..... 100g..... 500g

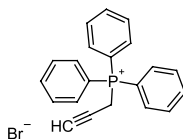


14914

Propargyltriphenylphosphonium bromide

C₂₁H₁₈BrP MW 381,26

5g..... 25g..... 100g

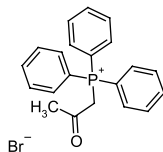


C7767

Acetonyltriphenylphosphonium bromide

C₂₁H₂₀BrOP MW 399,27

5g..... 25g

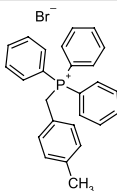


C7790

4-methylbenzyltriphenylphosphonium bromide

C₂₆H₂₄BrP MW 447,36

5g..... 25g

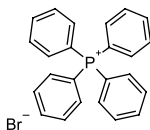


15453

Tetraphenylphosphonium bromide

C₂₄H₂₀BrP MW 419,30

10g..... 50g..... 100g

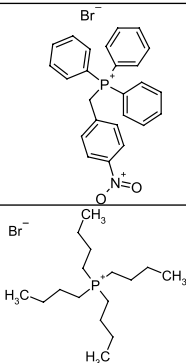


C7792

4-nitrobenzyltriphenylphosphonium bromide

C₂₅H₂₁BrNO₂P MW 478,33

5g..... 25g

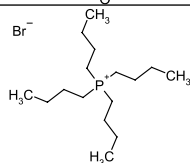


07322

Tetrabutylphosphonium bromide

C₁₆H₃₆BrP MW 339,34

25g..... 100g

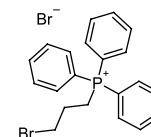


04782

(3-bromopropyl)triphenylphosphonium bromide

C₂₁H₂₁Br₂P MW 464,18

25g..... 100g

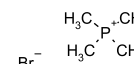


AG548

Tetramethylphosphonium bromide

C₄H₁₂BrP MW 171,02

1g..... 5g

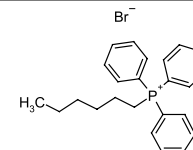


C7761

Hexyltriphenylphosphonium bromide

C₂₄H₂₈BrP MW 427,37

25g..... 100g..... 500g

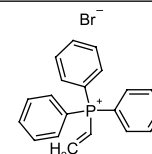


05456

Vinyltriphenylphosphonium bromide

C₂₀H₁₈BrP MW 369,24

5g..... 25g..... 100g

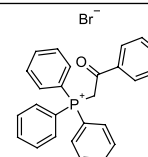


05503

Phenacyltriphenylphosphonium bromide

C₂₆H₂₂BrOP MW 461,34

5g..... 25g..... 100g

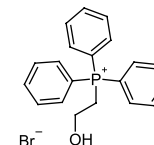


C7786

2-hydroxyethyltriphenylphosphonium bromide

C₂₀H₂₀BrOP MW 387,26

25g..... 100g

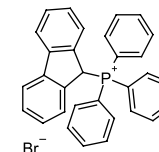


AZ091

(9-fluorenyl)triphenylphosphonium bromide

C₃₁H₂₄BrP MW 507,41

1g..... 5g



Chemistry - Green Chemistry

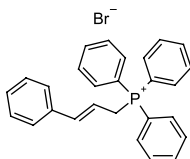
Ionic Liquids : Bromides

39624

Cinnamyltriphenylphosphonium bromide

C27H24BP⁺ MW 459,37

25g..... 100g

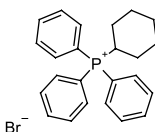


19676

Cyclohexyltriphenylphosphoniumbromide

C24H26BrP⁺ MW 425,35

5g..... 25g..... 100g

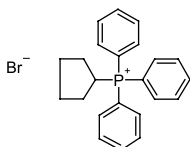


C7779

Cyclopentyltriphenylphosphonium bromide

C23H24BrP⁺ MW 411,33

10g..... 50g..... 250g

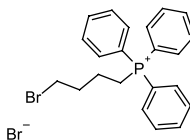


E9702

4-bromobutyl triphenylphosphonium bromide

C22H23Br2P⁺ MW 478,21

10g..... 50g

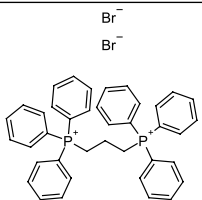


C7797

Trimethylene-bistriphenylphosphonium bromide

C39H36Br2P2⁺ MW 726,48

5g..... 25g..... 100g

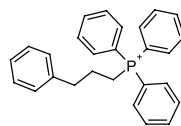


81821

3-phenylpropyltriphenylphosphonium bromide

C27H26BrP⁺ MW 461,39

10g..... 50g..... 250g

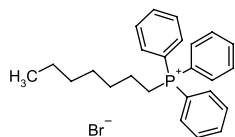


C7762

Heptyltriphenylphosphonium bromide

C25H30BrP⁺ MW 441,40

5g..... 25g

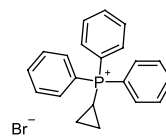


05844

Cyclopropyltriphenylphosphonium bromide

C21H20BrP⁺ MW 383,27

5g..... 25g..... 100g

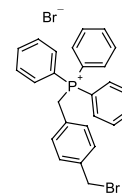


AG536

{4-(bromomethyl)benzyl}triphenylphosphonium bromide

C26H23Br2P⁺ MW 526,26

25g..... 100g..... 500g

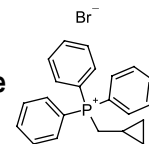


C7780

Cyclopropylmethyltriphenylphosphonium bromide

C22H22BrP⁺ MW 397,30

5g..... 25g

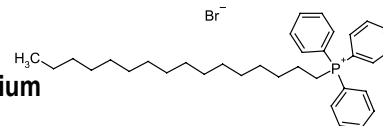


29821

Hexadecyltriphenylphosphonium bromide

C34H48BrP⁺ MW 567,64

10g..... 5g..... 100g

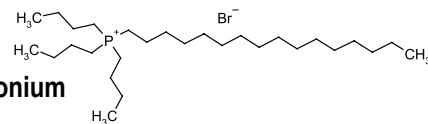


12909

Hexadecyltributylphosphonium bromide

C28H60BrP⁺ MW 507,67

5g..... 25g..... 100g

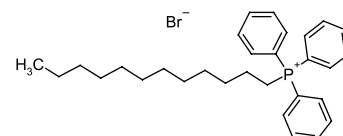


R7223

Dodecyl(triphenyl)phosphonium bromide

C30H40BrP⁺ MW 511,53

10g..... 50g..... 250g



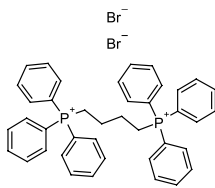
Chemistry - Green Chemistry

Ionic Liquids : Bromides

C7796

Tetramethylene-bistriphenylphosphonium bromide

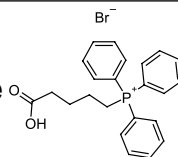
C₄₀H₃₈Br₂P₂ MW 740,50
10g..... 50g..... 250g



05885

(4-carboxybutyl)triphenylphosphonium bromide

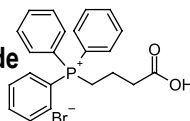
C₂₃H₂₄BrO₂P MW 443,32
25g..... 100g..... 500g



C6756

3-carboxypropyl triphenyl phosphonium bromide

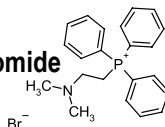
C₂₂H₂₂BrO₂P MW 429,30
25g..... 100g..... 500g



25795

2-(dimethylaminoethyl)triphenylphosphonium bromide

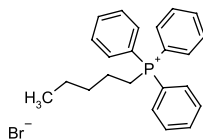
C₂₂H₂₅BrNP MW 414,33
10g..... 50g



C7760

Pentyltriphenylphosphonium bromide

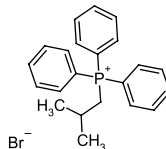
C₂₃H₂₆BrP MW 413,34
25g..... 100g..... 500g



D0999

Isobutyltriphenylphosphonium bromide

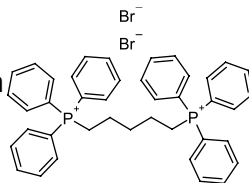
C₂₂H₂₄BrP MW 399,31
5g..... 25g..... 100g



AZ097

Pentamethylenebis(triphenylphosphonium bromide)

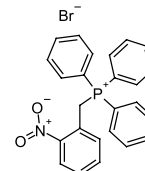
C₄₁H₄₀Br₂P₂ MW 754,53
5g..... 25g



C7791

2-nitrobenzyltriphenylphosphonium bromide

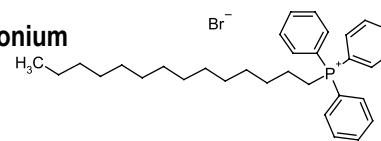
C₂₅H₂₁BrNO₂P MW 478,33
2g..... 10g



C7795

N-tetradecyltriphenylphosphonium bromide

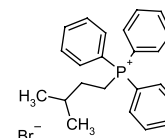
C₃₂H₄₄BrP MW 539,59
25g..... 100g



94328

2-[(4-methylphenyl)thio]nicotinamide

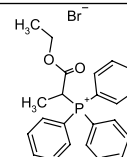
C₂₃H₂₆BrP MW 413,34
10g..... 50g..... 250g



84840

Carboethoxyethyl triphenylphosphonium bromide

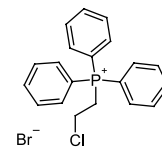
C₂₃H₂₄BrO₂P MW 443,32
25g..... 100g..... 500g



C7776

2-chloroethyltriphenylphosphonium bromide

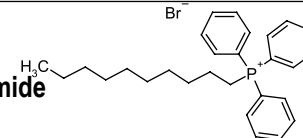
C₂₀H₁₉BrClP MW 405,71
10g..... 50g



AH014

N-decyl triphenylphosphonium bromide

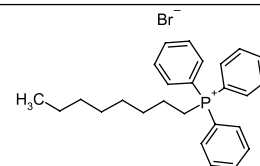
C₂₈H₃₆BrP MW 483,48
25g..... 100g..... 500g



C7763

Octyltriphenylphosphonium bromide

C₂₆H₃₂BrP MW 455,42
5g..... 25g..... 100g



Chemistry - Green Chemistry

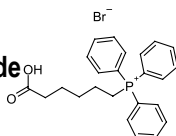
Ionic Liquids : Bromides

72970

(5-carboxypentyl)(triphenyl)phosphonium bromide

C₂₄H₂₆BrO₂P MW 457,35

1g..... 5g

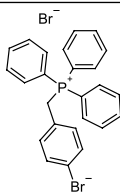


C6213

((4-bromophenyl)methyl)triphenylphosphonium bromide

C₂₅H₂₁Br₂P MW 512,23

5g

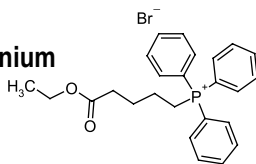


AZ212

(4-ethoxycarbonylbutyl)triphenylphosphonium bromide

C₂₅H₂₈BrO₂P MW 471,38

5g..... 25g

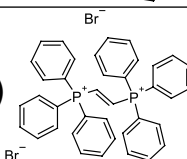


AZ095

1,2-vinylenebis(triphenylphosphonium bromide)

C₃₈H₃₂Br₂P₂ MW 710,43

10g..... 50g

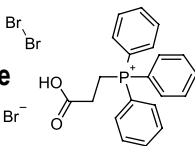


AH098

2-carboxyethyltriphenylphosphoniumtribromide

C₂₁H₂₀Br₃O₂P MW 575,08

25g

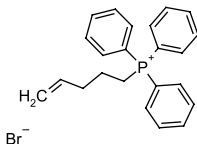


C7794

4-pentenyltriphenylphosphonium bromide

C₂₃H₂₄BrP MW 411,33

1g..... 5g..... 25g

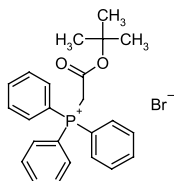


CH934

(tert-butoxycarbonylmethyl)triphenylphosphonium bromide

C₂₄H₂₆BrO₂P MW 457,35

5g

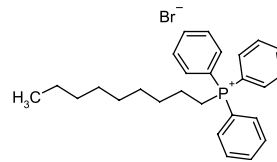


C7793

N-nonyltriphenylphosphonium bromide

C₂₇H₃₄BrP MW 469,45

5g..... 25g

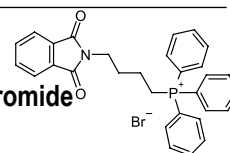


AH288

4-phthalimidobutyl triphenylphosphonium bromide

C₃₀H₂₇BrNO₂P MW 544,43

5g..... 25g..... 100g

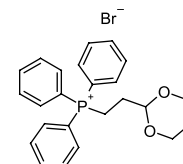


25803

2-(1,3-dioxan-2-yl)ethyltriphenylphosphonium bromide

C₂₄H₂₆BrO₂P MW 457,35

5g..... 25g

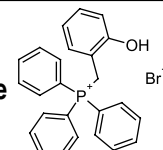


31452

(2-hydroxybenzyl)triphenylphosphonium bromide

C₂₅H₂₂BrOP MW 449,33

10g..... 50g

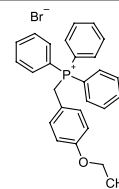


54330

(4-ethoxybenzyl)triphenylphosphonium bromide

C₂₇H₂₆BrOP MW 477,39

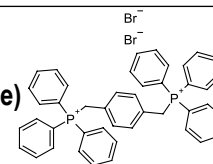
5g..... 25g



03216

P-xylylenebis(triphenylphosphonium bromide)

C₄₄H₃₈Br₂P₂ MW 788,55



Chemistry - Green Chemistry

Ionic Liquids : Bromides - Chlorides

Bromides Pyridiniums

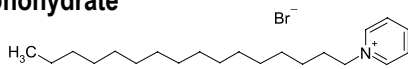
12907

Cetylpyridinium bromide monohydrate

C₂₁H₃₈BrN

MW 384,45

50g



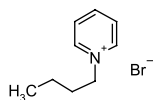
M0729

1-n-butylpyridinium bromide

C₉H₁₄BrN

MW 216,12

5g..... 25g



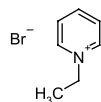
AG549

1-ethylpyridinium bromide

C₇H₁₀BrN

MW 188,07

25g..... 100g..... 500g



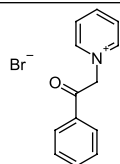
AH289

N-phenacylpyridinium bromide

C₁₃H₁₂BrNO

MW 278,15

10g..... 50g



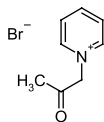
AH442

N-acetylpyridinium bromide

C₈H₁₀BrNO

MW 216,08

2g..... 10g..... 50g



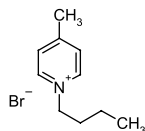
CH872

1-butyl-4-methylpyridinium bromide

C₁₀H₁₆BrN

MW 230,15

5g..... 25g



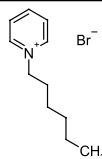
CH578

1-hexylpyridinium bromide

C₁₁H₁₈BrN

MW 244,18

25g



Chlorides Ammoniums

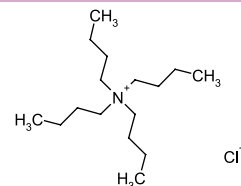
JE027

**Tetra-n-butylammonium chloride,
50% w/w aq. soln.**

C₁₆H₃₆ClN

MW 277,93

5g..... 25g



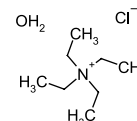
03940

Tetraethylammonium chloride monohydrate

C₈H₂₂ClNO

MW 183,72

25g..... 100g..... 500g



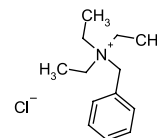
05300

Benzyltriethylammonium chloride

C₁₃H₂₂ClN

MW 227,78

100g..... 500g



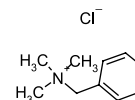
10659

Benzyltrimethylammonium chloride

C₁₀H₁₆ClN

MW 185,70

100g..... 500g..... 2,5kg



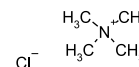
02945

Tetramethylammonium chloride

C₄H₁₂ClN

MW 109,60

250g..... 1kg..... 5kg



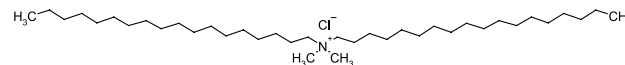
42665

Di-octadecyldimethylammonium chloride

C₃₈H₈₀ClN

MW 586,52

50g..... 250g..... 1kg



Chemistry - Green Chemistry

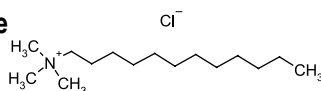
Ionic Liquids : Chlorides

38858

Dodecyltrimethylammonium chloride

C15H34ClN MW 263,90

5g..... 25g..... 100g

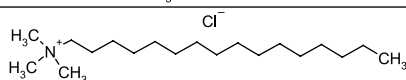


IN580

Hexadecyltrimethylammonium chloride , 95+%

C19H42ClN MW 320,01

5g..... 25g..... 100g

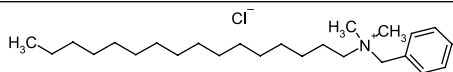


JE346

Benzylcetyldimethylammonium chloride hydrate, 95%

C25H46ClN MW 396,11

10g..... 50g..... 250g

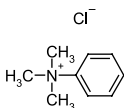


08050

Phenyltrimethylammonium chloride

C9H14ClN MW 171,67

100g..... 500g

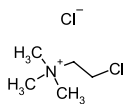


11307

2-chloroethyltrimethylammonium chloride

C5H13Cl2N MW 158,07

5g..... 25g..... 100g

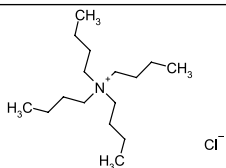


15343

Tetrabutylammonium chloride

C16H36ClN MW 277,93

25g..... 100g

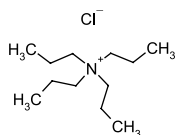


39945

Tetra-propylammonium chloride

C12H28ClN MW 221,82

1g..... 5g..... 25g



51477

Tetradecyltrimethylammonium chloride

C17H38ClN MW 291,95

5g..... 25g

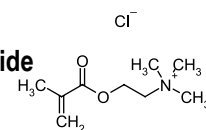


C8415

Dimethylaminoethyl methacrylate methylchloride

C9H18ClNO2 MW 207,70

100g..... 500g

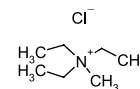


JE129

Triethylmethylammonium chloride, 98%

C7H18ClN MW 151,68

50g

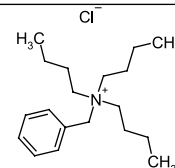


07676

Benzyltributylammonium chloride

C19H34ClN MW 311,94

100g..... 500g..... 2,5kg

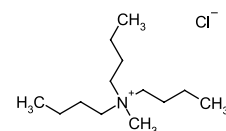


15641

Tributyl methylammonium chloride

C13H30ClN MW 235,84

10g..... 100g..... 500g



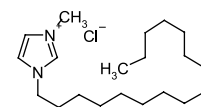
Chlorides Imidazoliums

CH592

1-hexadecyl-3-methylimidazolium chloride monohydrate

C20H39ClN2 MW 343,00

10g



Chemistry - Green Chemistry

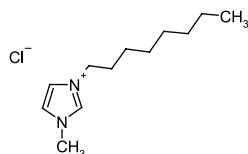
Ionic Liquids : Chlorides

CH585

1-octyl-3-methylimidazolium chloride

C₁₂H₂₃ClN₂ MW 230,78

25g

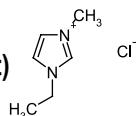


U3109

1-ethyl-3-methylimidazolium chloride (for molten salt)

C₆H₁₁ClN₂ MW 146,62

5g..... 25g..... 250g

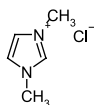


CH856

1,3-dimethylimidazolium chloride

C₅H₉ClN₂ MW 132,59

5g

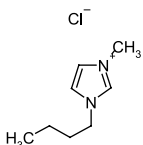


BJ261

1-butyl-3-methylimidazolium chloride

C₈H₁₅ClN₂ MW 174,68

5g..... 10g..... 50g

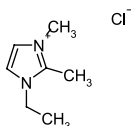


CH579

1-ethyl-2,3-dimethylimidazolium chloride

C₇H₁₃ClN₂ MW 160,65

25g

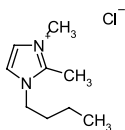


CH580

1-butyl-2,3-dimethylimidazolium chloride

C₉H₁₇ClN₂ MW 188,70

5g..... 25g

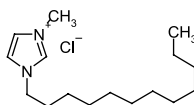


CH587

1-dodecyl-3-methylimidazolium chloride

C₁₆H₃₁ClN₂ MW 286,89

10g

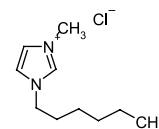


CH584

1-hexyl-3-methylimidazolium chloride

C₁₀H₁₉ClN₂ MW 202,73

5g..... 25g

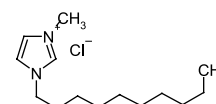


CH586

1-decyl-3-methylimidazolium chloride

C₁₄H₂₇ClN₂ MW 258,84

10g

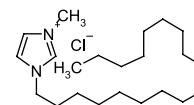


CH593

1-octadecyl-3-methylimidazolium chloride

C₂₂H₄₃ClN₂ MW 371,05

10g

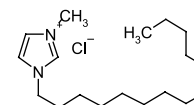


CH589

1-tetradecyl-3-methylimidazolium chloride

C₁₈H₃₅ClN₂ MW 314,95

10g



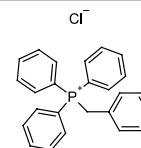
Chlorides Phosphoniums

10662

Benzyl(triphenyl)phosphonium chloride

C₂₅H₂₂ClP MW 388,88

25g..... 100g..... 500g

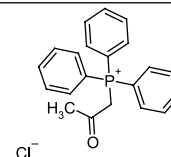


05891

Acetyltriphenylphosphonium chloride

C₂₁H₂₀ClOP MW 354,82

25g..... 100g..... 500g

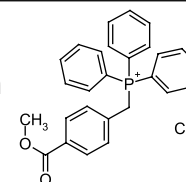


AH214

4-carbomethoxybenzyl triphenylphosphonium chloride

C₂₇H₂₄ClO₂P MW 446,92

1g..... 5g..... 25g



Chemistry - Green Chemistry

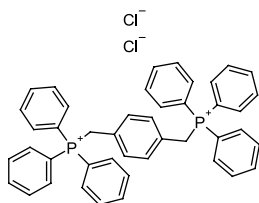
Ionic Liquids : Chlorides

C7799

**P-xylenebis
(triphenylphosphoniumchloride)**

C44H38Cl₂P₂ MW 699,65

5g..... 25g

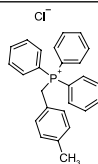


C6227

4-methylbenzyltriphenylphosphonium chloride

C26H24ClP MW 402,91

10g..... 50g..... 250g

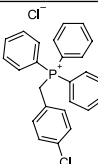


C7775

4-chlorobenzyltriphenylphosphonium chloride

C25H21Cl₂P MW 423,33

25g..... 100g..... 500g

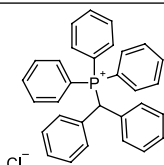


C7768

Benzhydryl triphenylphosphonium chloride

C31H26ClP MW 464,98

25g..... 100g

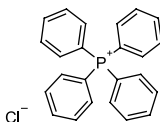


15454

Tetraphenylphosphonium chloride

C24H20ClP MW 374,85

10g..... 50g

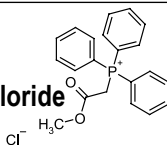


33982

((carbomethoxy)methyl)triphenylphosphonium chloride

C21H20ClO₂P MW 370,82

50g..... 250g

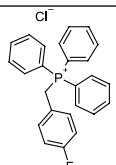


57069

4-fluorobenzyltriphenylphosphonium chloride

C25H21ClF₂P MW 406,87

5g..... 25g..... 100g

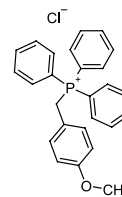


B3570

4-methoxybenzyltriphenylphosphonium chloride

C26H24ClOP MW 418,91

10g..... 50g

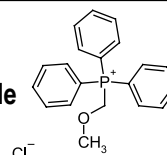


03443

(methoxymethyl)(triphenyl)phosphonium chloride

C20H20ClOP MW 342,81

25g..... 100g..... 500g

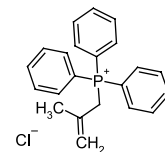


C7788

2-methylallyltriphenylphosphonium chloride

C22H22ClP MW 352,85

10g..... 50g..... 250g

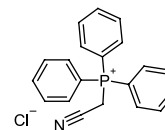


92475

Cyanomethyltriphenylphosphonium chloride

C20H17ClNP MW 337,79

5g..... 25g..... 100g

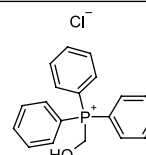


B3562

Hydroxymethyltriphenylphosphonium chloride

C19H18ClOP MW 328,78

10g..... 50g..... 250g

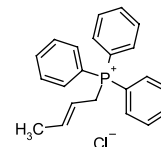


U9686

(2-butenyl)triphenylphosphonium chloride

C22H22ClP MW 352,85

5g..... 25g

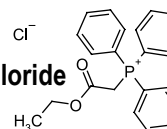


09989

Ethoxycarbonylmethyltriphenylphosphonium chloride

C22H22ClO₂P MW 384,85

5g..... 25g..... 100g



Chemistry - Green Chemistry

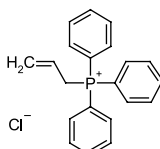
Ionic Liquids : Chlorides

10196

Allyl(triphenyl)phosphonium chloride

C21H20ClP MW 338,82

25g..... 100g..... 500g

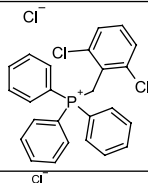


AG541

2,6-dichlorobenzyl triphenylphosphonium chloride

C25H20Cl3P MW 457,77

5g..... 25g..... 100g

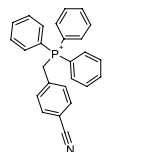


40648

(4-cyanobenzyl)triphenylphosphonium chloride

C26H21ClNP MW 413,89

5g..... 25g

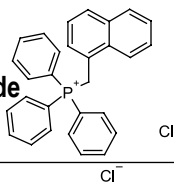


AZ025

(1-naphthylmethyl)triphenylphosphonium chloride

C29H24ClP MW 438,94

5g..... 25g

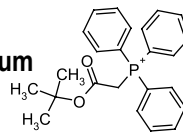


40525

(tert-butoxycarbonylmethyl)triphenylphosphonium

C24H26ClO2P MW 412,90

5g..... 25g..... 100g

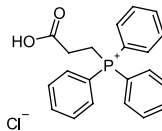


AH566

(2-carboxyethyl)triphenylphosphonium chloride

C21H20ClO2P MW 370,82

5g..... 25g..... 100g

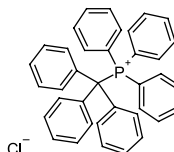


AH268

Triphenylmethyl triphenylphosphonium chloride

C37H30ClP MW 541,08

10g..... 50g..... 250g

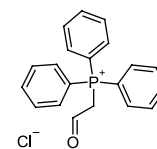


12645

Formylmethyltriphenylphosphonium chloride

C20H18ClOP MW 340,79

10g..... 50g

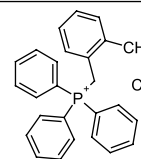


C6225

2-methylbenzyltriphenylphosphonium chloride

C26H24ClP MW 402,91

10g..... 50g..... 250g

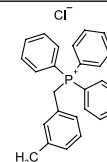


C6226

3-methylbenzyltriphenyl phosphonium chloride

C26H24ClP MW 402,91

10g..... 50g

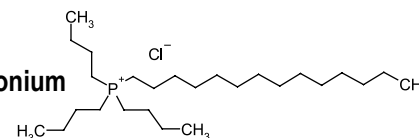


D9978

Tributyl(tetradecyl)phosphonium chloride

C26H56ClP MW 435,16

25g..... 100g..... 500g

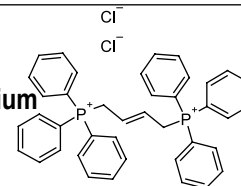


BJ318

Trans-2-butene-1,4-bis(triphenylphosphonium chloride)

C40H36Cl2P2 MW 649,59

10g..... 50g

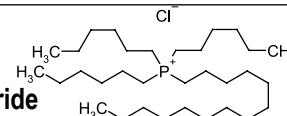


LE318

Trihexyl(tetradecyl)phosphonium chloride

C32H68ClP MW 519,33

10g..... 50g



Chemistry - Green Chemistry

Ionic Liquids : Dicyanamides - Ferrates - Hexafluoroantimonates - Hexafluorophosphates

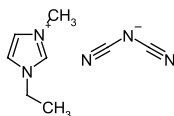
Dicyanamides Imidazoliums

CH862

1-ethyl-3-methylimidazolium dicyanamide

C₈H₁₁N₅ MW 177,21

1g..... 5g



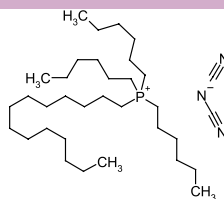
Dicyanamides Phosponiums

LE144

Trihexyl(tetradecyl)phosphonium dicyanamide

C₃₄H₆₈N₃P MW 549,91

10g..... 50g



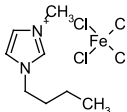
Ferrates Imidazoliums

CH868

1-butyl-3-methylimidazolium tetrachloroferrate

C₈H₁₅Cl₄FeN₂ MW 336,88

5g



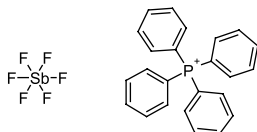
Hexafluoroantimonates Phosponiums

U9672

Tetraphenylphosphonium hexafluoroantimonate

C₂₄H₂₀F₆PSb MW 575,14

5g..... 25g..... 100g



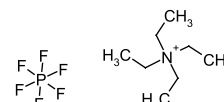
Hexafluorophosphates Ammoniums

IP812

Tetraethylammonium hexafluorophosphate

C₈H₂₀F₆NP MW 275,22

2g..... 10g..... 50g

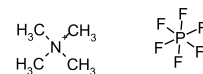


02946

Tetramethylammonium hexafluorophosphate

C₄H₁₂F₆NP MW 219,11

25g..... 100g..... 500g

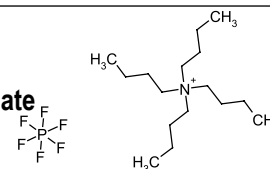


15347

Tetrabutylammonium hexafluorophosphate

C₁₆H₃₆F₆NP MW 387,44

25g..... 100g..... 500g

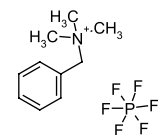


51350

Benzyltrimethylammonium hexafluorophosphate

C₁₀H₁₆F₆NP MW 295,21

25g..... 100g



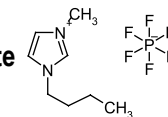
Hexafluorophosphates Imidazoliums

BU924

1-butyl-3-methylimidazolium hexafluorophosphate

C₈H₁₅F₆N₂P MW 284,19

5g..... 25g

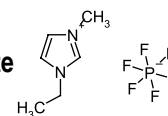


D9824

1-ethyl-3-methylimidazolium hexafluorophosphate

C₆H₁₁F₆N₂P MW 256,13

2g..... 10g..... 50g



Chemistry - Green Chemistry

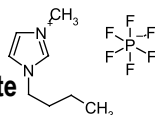
Ionic Liquids : Hexafluorophosphates - Iodides

U1802

1-n-butyl-3-methylimidazolium hexafluorophosphate

C8H15F6N2P MW 284,19

5g..... 25g..... 100g

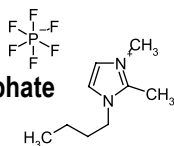


CH870

1-butyl-2,3-dimethylimidazolium hexafluorophosphate

C9H17F6N2P MW 298,21

5g

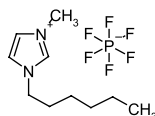


CH604

1-hexyl-3-methylimidazolium hexafluorophosphate

C10H19F6N2P MW 312,24

5g..... 25g

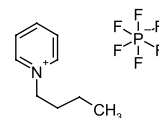


BJ262

1-n-butylpyridinium hexafluorophosphate

C9H14F6NP MW 281,18

5g..... 25g

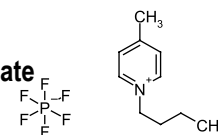


CH873

1-butyl-4-methylpyridinium hexafluorophosphate

C10H16F6NP MW 295,21

5g..... 25g

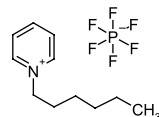


CH606

1-hexylpyridinium hexafluorophosphate

C11H18F6NP MW 309,24

25g



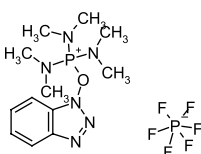
Hexafluorophosphates Phosphoniums

10604

Benzotriazol-1-yl-oxy-tris(dimethylamino)phosphonium hexafluorophosphate

C12H22F6N6OP2 MW 442,29

1g..... 5g..... 25g

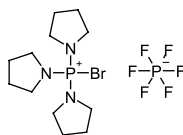


E7222

Bromo-tris-pyrrolidinophosphonium hexafluorophosphate

C12H24BrF6N3P2 MW 466,19

1g..... 5g

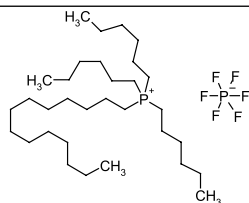


LE301

Trihexyl(tetradecyl)phosphonium hexafluorophosphate

C32H68F6P2 MW 628,84

10g..... 50g



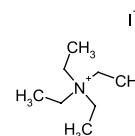
Iodides Ammoniums

15321

Tetraethylammonium iodide

C8H20IN MW 257,16

50g..... 250g..... 1kg

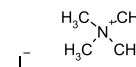


15419

Tetramethylammonium iodide

C4H12IN MW 201,05

100g..... 500g

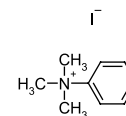


04942

Phenyltrimethylammonium iodide

C9H14IN MW 263,12

25g..... 100g..... 500g



Chemistry - Green Chemistry

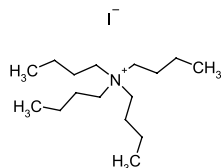
Ionic Liquids : Iodides

05005

Tetrabutylammonium iodide

C₁₆H₃₆I N MW 369,38

50g..... 250g..... 1kg

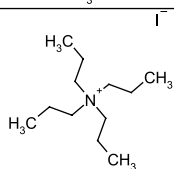


15457

Tetrapropylammonium iodide

C₁₂H₂₈I N MW 313,27

25g..... 100g

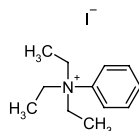


U9590

Phenyltriethylammonium iodide

C₁₂H₂₀I N MW 305,20

10g..... 50g

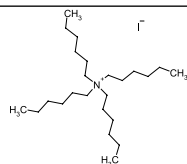


15388

Tetrahexylammonium iodide

C₂₄H₅₂I N MW 481,59

5g..... 25g

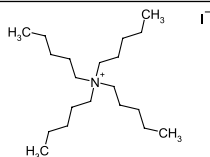


15450

Tetrapentylammonium iodide

C₂₀H₄₄I N MW 425,48

5g..... 25g..... 100g

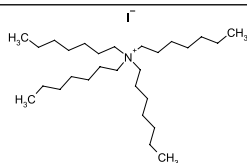


AH102

Tetra-n-heptylammonium iodide

C₂₈H₆₀I N MW 537,70

5g..... 25g..... 100g

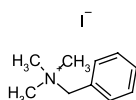


AZ114

Benzyltrimethylammonium iodide

C₁₀H₁₆I N MW 277,15

25g..... 100g

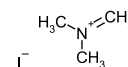


63567

n,n-dimethylmethyleammonium iodide

C₃H₈I N MW 185,01

10g..... 50g..... 250g

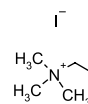


20156

Iodomethyltrimethylammonium iodide

C₄H₁₁I₂ N MW 326,95

5g..... 25g..... 100g

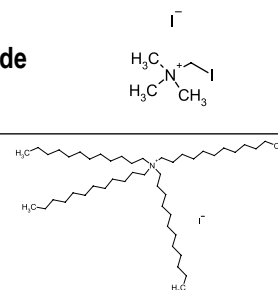


C9275

Tetra-n-dodecylammonium iodide

C₄₈H₁₀₀I N MW 818,24

2g..... 10g

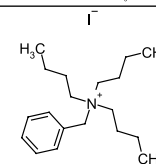


AH326

Benzyl tri-n-butylammonium iodide

C₁₉H₃₄I N MW 403,39

25g..... 100g



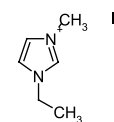
Iodides Imidazoliums

BK173

1-ethyl-3-methylimidazolium iodide

C₆H₁₁I N₂ MW 238,07

5g

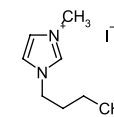


CH864

1-butyl-3-methylimidazolium iodide

C₈H₁₅I N₂ MW 266,13

5g

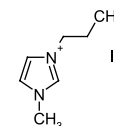


CH863

1-methyl-3-propylimidazolium iodide

C₇H₁₃I N₂ MW 252,10

5g



Chemistry - Green Chemistry

Ionic Liquids : Iodides - Nitrates

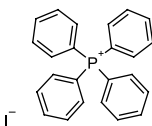
Iodides Phosphoniums

30530

Methyl(triphenyl)phosphonium iodide

C24H20IP MW 466,31

25g..... 100g..... 500g

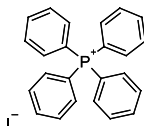


C7766

Tetraphenylphosphonium iodide

C24H20IP MW 466,31

5g..... 100g

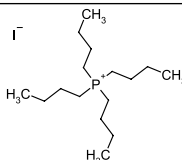


CI086

Tetra-n-butylphosphonium iodide

C16H36IP MW 386,34

5g..... 25g..... 100g

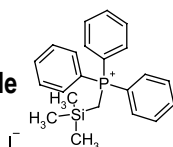


AZ090

(trimethylsilylmethyl)triphenylphosphonium iodide

C22H26IPSi MW 476,42

1g..... 5g

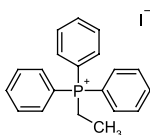


B3558

Ethyltriphenylphosphonium iodide

C20H20IP MW 418,26

25g..... 100g

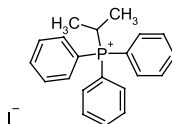


B3568

Isopropyltriphenylphosphonium iodide

C21H22IP MW 432,29

10g..... 100g..... 250g

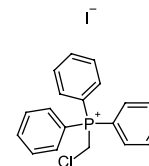


AZ167

(chloromethyl)triphenylphosphonium iodide

C19H17ClIP MW 438,68

10g..... 50g



Iodides Pyridiniums

D2692

N-aminopyridinium iodide

C5H7IN2 MW 222,03

5g..... 25g

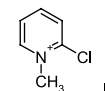


07994

2-chloro-1-methylpyridinium iodide

C6H7ClIN MW 255,49

25g..... 100g..... 500g

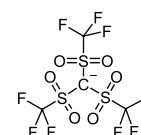
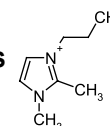


LE196

1,2-dimethyl-3-propylimidazolium tris (trifluoromethylsulfonyl)methide

C12H15F9N2O6S3 MW 550,44

2g



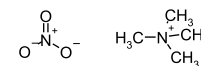
Nitrates Ammoniums

IP537

Tetramethylammonium nitrate

C4H12N2O3 MW 136,15

10g..... 50g..... 250g

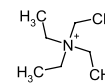


IP538

Tetraethylammonium nitrate, 35% w/w aq. soln.

C8H20N2O3 MW 192,26

50ml..... 250ml..... 1L



Chemistry - Green Chemistry

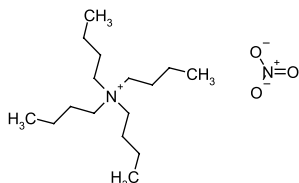
Ionic Liquids : Nitrates - Phosphates - Sulfates

15350

Tetrabutylammonium nitrate

C₁₆H₃₆N₂O₃ MW 304,48

5g..... 25g..... 100g



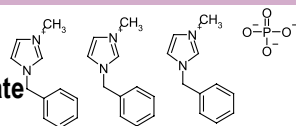
Phosphates Imidazoliums

CG763

1-benzyl-3-methylimidazoliumphosphate

C₃₃H₃₉N₆O₄P MW 614,69

5g

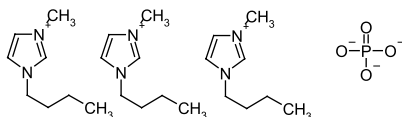


CG771

1-butyl-3-methylimidazolium phosphate

C₂₄H₄₅N₆O₄P MW 512,64

5g

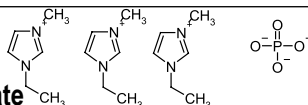


LE387

1-ethyl-3-methylimidazolium phosphate

C₁₈H₃₃N₆O₄P MW 428,48

5g

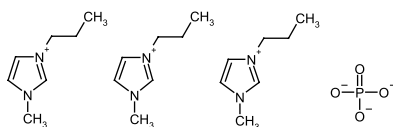


LE246

1-methyl-3-propylimidazolium phosphate

C₂₁H₃₉N₆O₄P MW 470,56

5g

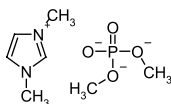


CH857

1,3-dimethylimidazolium dimethyl phosphate

C₇H₁₅N₂O₄P MW 222,18

5g



Sulfates

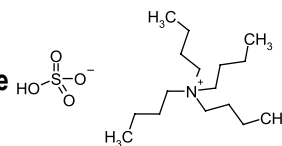
Alkylammoniums

05760

Tetrabutylammonium hydrogen sulfate

C₁₆H₃₇N₂O₄S MW 339,54

50g..... 250g..... 1kg

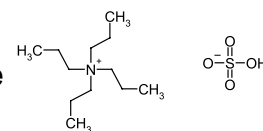


D0050

Tetrapropylammonium hydrogensulphate

C₁₂H₂₉N₂O₄S MW 283,43

1g..... 5g..... 25g



Sulfates

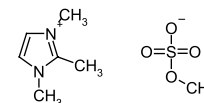
Imidazoliums

BA237

1,2,3-trimethylimidazolium methylsulfate

C₇H₁₄N₂O₄S MW 222,26

5g

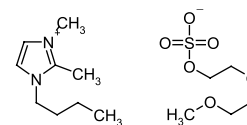


LE332

1-butyl-2,3-dimethylimidazolium diethyleneglycolmonomethylether sulfate

C₁₄H₂₈N₂O₆S MW 352,45

5g

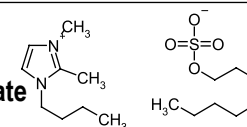


CG766

1-butyl-2,3-dimethylimidazolium octylsulfate

C₁₇H₃₄N₂O₄S MW 362,54

5g

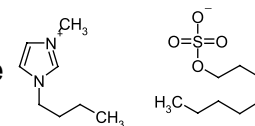


CG770

1-butyl-3-methylimidazolium octylsulfate

C₁₆H₃₂N₂O₄S MW 348,51

5g



Chemistry - Green Chemistry

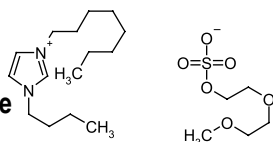
Ionic Liquids : Sulfates - Sulfonylimides

LE406

**1-methyl-3-octylimidazolium
diethyleneglycolmonomethylether sulfate**

C20H40N2O6S MW 436,62

5g

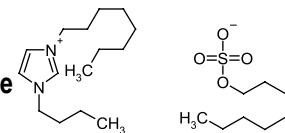


LE248

1-methyl-3-octylimidazolium octylsulfate

C23H46N2O4S MW 446,70

5g

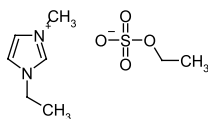


CH859

1-ethyl-3-methylimidazolium ethyl sulfate

C8H16N2O4S MW 236,29

5g..... 25g

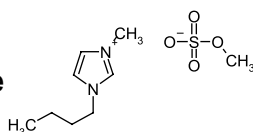


CG769

1-butyl-3-methylimidazolium methylsulfate

C9H18N2O4S MW 250,32

5g

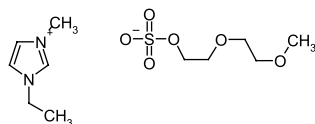


CH860

**1-ethyl-3-methylimidazolium
2(2-methoxyethoxy)ethyl sulfate**

C11H22N2O6S MW 310,37

5g..... 25g



Sulfates

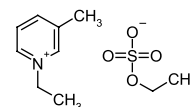
Pyridiniums

CH874

1-ethyl-3-methylpyridinium ethyl sulfate

C10H17NO4S MW 247,32

5g

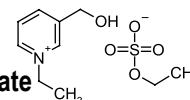


CH875

1-ethyl-3-(hydroxymethyl)pyridinium ethyl sulfate

C10H17NO5S MW 263,31

5g



Sulfonylimides

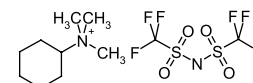
Ammoniums

CH854

**Cyclohexyltrimethylammonium
bis(trifluoromethanesulfonyl)imide**

C11H20F6N2O4S2 MW 422,41

5g

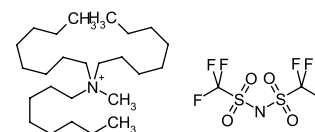


CH853

**Methyl-n-octylammonium bis
(trifluoromethanesulfonyl)imide**

C27H54F6N2O4S2 MW 648,86

5g



Chemistry - Green Chemistry

Ionic Liquids : Sulfonylimides

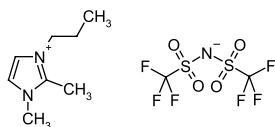
Sulfonylimides Imidazoliums

LE244

**1,2-dimethyl-3-propylimidazolium
bis(trifluoromethylsulfonyl)imide**

C10H15F6N3O4S2 MW 419,37

5g

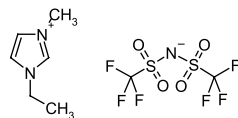


LE325

**1-ethyl-3-methylimidazolium
bis(trifluoromethylsulfonyl)imide**

C8H11F6N3O4S2 MW 391,31

5g

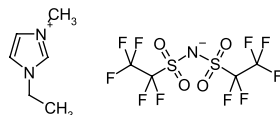


LE184

**1-ethyl-3-methylimidazolium
bis(pentafluoroethylsulfonyl)imide**

C10H11F10N3O4S2 MW 491,33

2g



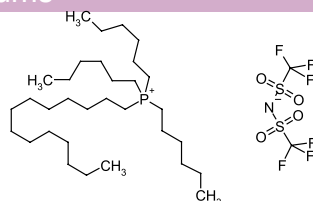
Sulfonylimides Phosponiums

LE297

**Trihexyl(tetradecyl)phosphonium bis
(trifluoromethanesulfonyl)amide**

C34H68F6NO4PS2 MW 764,02

10g..... 50g



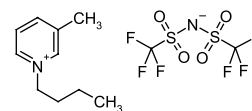
Sulfonylimides Pyridiniums

LE209

**N-butyl-3-methylpyridinium
bis(trifluoromethylsulfonyl)imide**

C12H16F6N2O4S2 MW 430,39

5g

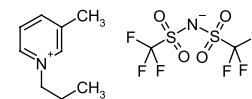


LE407

**N-propyl-3-methylpyridinium
bis(trifluoromethylsulfonyl)imide**

C11H14F6N2O4S2 MW 416,36

5g



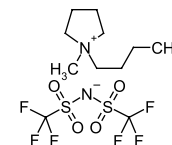
Sulfonylimides Pyrrolidiniums

CH871

**1-butyl-1-methylpyrrolidinium
bis(trifluoromethanesulfonyl)imide**

C11H20F6N2O4S2 MW 422,41

5g



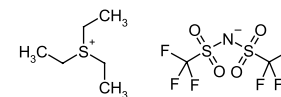
Sulfonylimides Sulfoniums

CH855

**Triethylsulfonium
bis(trifluoromethanesulfonyl)imide**

C8H15F6NO4S3 MW 399,40

5g



Chemistry - Green Chemistry

Ionic Liquids : Tetrafluoroborates - Tosylates

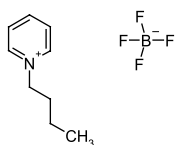
Tetrafluoroborates Alkylpyridiniums

CH780

1-butylpyridinium tetrafluoroborate

C9H14BF4N MW 223,02

5g

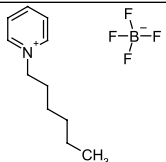


CH782

1-hexylpyridinium-tetrafluoroborate

C11H18BF4N MW 251,08

5g



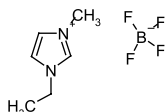
Tetrafluoroborates Imidazoliums

D9825

1-ethyl-3-methylimidazolium tetrafluoroborate

C6H11BF4N2 MW 197,97

5g..... 25g

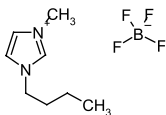


U1843

1-butyl-3-methyl-imidazolium tetrafluoroborate

C8H15BF4N2 MW 226,03

5g

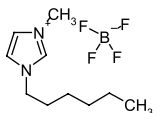


LE234

1-hexyl-3-methylimidazolium tetrafluoroborate

C10H19BF4N2 MW 254,08

5g..... 25g

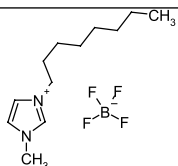


LE202

1-methyl-3-octylimidazolium tetrafluoroborate

C12H23BF4N2 MW 282,14

5g

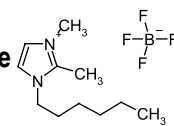


BP059

1-hexyl-2,3-dimethylimidazolium tetrafluoroborate

C11H21BF4N2 MW 268,11

5g

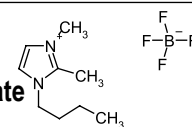


CG767

1-butyl-2,3-dimethylimidazolium tetrafluoroborate

C9H17BF4N2 MW 240,05

5g..... 25g



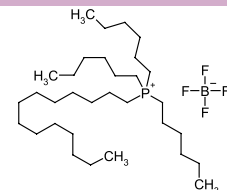
Tetrafluoroborates Phosphoniums

LE298

Trihexyl(tetradecyl)phosphonium tetrafluoroborate

C32H68BF4P MW 570,68

10g



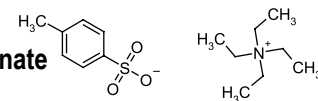
Tosylates Ammoniums

04750

Tetraethylammonium p-toluenesulfonate

C15H27NO3S MW 301,45

25g..... 100g..... 500g



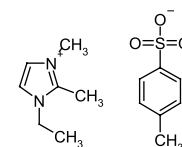
Tosylates Imidazoliums

LE257

1-ethyl-2,3-dimethylimidazolium tosylate

C14H20N2O3S MW 296,39

5g



Chemistry - Green Chemistry

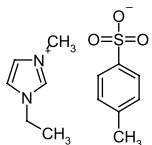
Ionic Liquids : Tosylates - Trifluoromethanesulfonates

BQ254

1-ethyl-3-methylimidazolium tosylate

C₁₃H₁₈N₂O₃S MW 282,36

5g

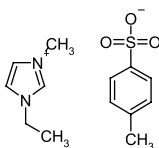


CH858

1-ethyl-3-methylimidazolium p-toluenesulfonate

C₁₃H₁₈N₂O₃S MW 282,36

5g



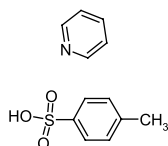
Tosylates Pyridiniums

26372

Pyridinium toluene-4-sulfonate

C₁₂H₁₃NO₃S MW 251,31

25g

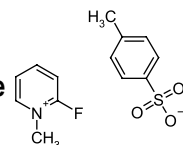


12615

2-fluoro-N-methylpyridinium toluene-4-sulfonate

C₁₃H₁₄FNO₃S MW 283,32

1g..... 5g



Trifluoromethanesulfonates Ammoniums

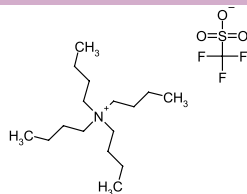
15355

Tetrabutylammonium

trifluoromethanesulfonate

C₁₇H₃₆F₃NO₃S MW 391,54

5g..... 25g..... 100g



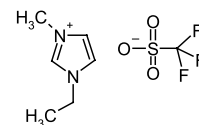
Trifluoromethanesulfonates Imidazoliums

96594

**1-ethyl-3-methylimidazolium
trifluoromethanesulfonate**

C₇H₁₁F₃N₂O₃S MW 260,237

2g..... 5g..... 10g



BJ343

**1-butyl-3-methylimidazolium
trifluoromethanesulfonate**

C₉H₁₅F₃N₂O₃S MW 288,291

2g..... 5g..... 10g

