

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 19.10.2012

Version 4.6

### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Catalogue No.	490050
Product name	1-Butyl-3-methylimidazolium hexafluorophosphate for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for development and research For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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#### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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### SECTION 2. Hazards identification

#### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2, H315

Eye irritation, Category 2, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

Xi                      Irritant    R36/38

For the full text of the R-phrases mentioned in this Section, see Section 16.

#### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H315 Causes skin irritation.

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H319 Causes serious eye irritation.

*Precautionary statements*

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Caution - substance not yet tested completely.

**Reduced labelling (≤125 ml)**

*Hazard pictograms*




*Signal word*

Warning

Caution - substance not yet tested completely.

CAS-No. 174501-64-5

**Labelling (67/548/EEC or 1999/45/EC)**

Symbol(s)  Xi Irritant

R-phrases 36/38 Irritating to eyes and skin.

Further information

Caution - substance not yet tested completely.

**Reduced labelling (≤125 ml)**

Symbol(s)  Xi Irritant

**2.3 Other hazards**

None known.

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**SECTION 3. Composition/information on ingredients**

Formula	C <sub>8</sub> H <sub>15</sub> N <sub>2</sub> F <sub>6</sub> P	C <sub>8</sub> H <sub>15</sub> F <sub>6</sub> N <sub>2</sub> P (Hill)
CAS-No.	174501-64-5	
Molar mass	284,18 g/mol	

**Hazardous components (REGULATION (EC) No 1272/2008)**

*Chemical Name (Concentration)*

CAS-No.	Registration number	Classification
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1-butyl-3-methylimidazolium hexafluorophosphate (≤ 100 % )

174501-64-5	*)	Skin irritation, Category 2, H315 Eye irritation, Category 2, H319
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\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

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**Hazardous components (1999/45/EC)**

*Chemical Name (Concentration)*

CAS-No. Classification

*1-butyl-3-methylimidazolium hexafluorophosphate (<= 100 % )*

174501-64-5 Xi, Irritant; R36/38

For the full text of the R-phrases mentioned in this Section, see Section 16.

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**SECTION 4. First aid measures**

**4.1 Description of first aid measures**

After inhalation: fresh air. Consult doctor if feeling unwell.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**  
irritant effects

**4.3 Indication of any immediate medical attention and special treatment needed**  
No information available.

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**SECTION 5. Firefighting measures**

**5.1 Extinguishing media**

*Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Combustible material

Vapours are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:

Oxides of phosphorus, nitrogen oxides, Hydrogen fluoride

**5.3 Advice for firefighters**

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapours, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

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Advice for emergency responders: Protective equipment see section 8.

**6.2 Environmental precautions**

Do not empty into drains.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

**6.4 Reference to other sections**

Indications about waste treatment see section 13.

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**SECTION 7. Handling and storage**

**7.1 Precautions for safe handling**

Observe label precautions.

**7.2 Conditions for safe storage, including any incompatibilities**

Tightly closed. Dry.

Store at +15°C to +25°C.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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**SECTION 8. Exposure controls/personal protection**

**8.1 Control parameters**

**8.2 Exposure controls**

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

**Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

*Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

*Eye/face protection*

Safety glasses

*Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

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Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

*Other protective equipment*  
protective clothing

*Respiratory protection*  
required when vapours/aerosols are generated.

**Environmental exposure controls**  
Do not empty into drains.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Colour	light yellow
Odour	pleasant
Odour Threshold	No information available.
pH	5 at 20 °C
Melting point	12 °C
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapor density	No information available.

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Relative density	1,38 g/cm <sup>3</sup> at 20 °C
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

#### *Acute inhalation toxicity*

Symptoms: Possible damages:, mucosal irritations

#### *Skin irritation*

Causes skin irritation.

#### *Eye irritation*

Causes serious eye irritation.

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*Specific target organ toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

*Specific target organ toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Based on available data the classification criteria are not met.

**11.2 Further information**

Quantitative data on the toxicity of this product are not available.

Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 12. Ecological information**

**12.1 Toxicity**

No information available.

**12.2 Persistence and degradability**

No information available.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects**

*Additional ecological information*

Depending on the concentration, phosphorus compounds may contribute to the eutrophication of water supplies.

Discharge into the environment must be avoided.

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**SECTION 13. Disposal considerations**

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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**SECTION 14. Transport information**

**Land transport (ADR/RID)**

**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**Inland waterway transport (ADN)**

Not relevant

**Air transport (IATA)**

**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**Sea transport (IMDG)**

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**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant

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**SECTION 15. Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

*EU regulations*

Major Accident Hazard	96/82/EC
Legislation	Directive 96/82/EC does not apply

Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.
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*National legislation*

Storage class	10 - 13
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**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

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**SECTION 16. Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

H315	Causes skin irritation.
H319	Causes serious eye irritation.

**Full text of R-phrases referred to under sections 2 and 3**

R36/38	Irritating to eyes and skin.
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**Training advice**

Provide adequate information, instruction and training for operators.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

**Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*