Magnesium Chloro 2,2,6,6-Tetramethylpiperidide Lithium Chloride Complex, typ. 20% solution in THF / Toluene (typ. 1.0 M)

Molecular Formula: $\text{C}_9\text{H}_{18}\text{ClMgN} \cdot \text{LiCl}$

Product Number: 408585

APPLICATION: Selective deprotonation of arenes and heteroarenes.

Arenes and heteroarenes are typically deprotonated by a directed lithiation using organolithium compounds or organolithiumamides (e.g., LDA). The high reactivity and nucleophilicity of these reagents often result in unwanted side reactions and precludes the presence of sensitive functional groups like esters or ketones. Additionally, such deprotonation reactions often require low temperatures leading to higher production costs on larger scale.

Due to their low kinetic basicity magnesiumamides tolerate a lot of functional groups.

FURTHER INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS-No.</th>
<th>EC-No.</th>
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<tbody>
<tr>
<td>Tetrahydrofuran</td>
<td>109-99-9</td>
<td>203-726-8</td>
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<tr>
<td>Magnesium chloro tetramethylpiperidide</td>
<td>215863-85-7</td>
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<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>203-625-9</td>
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<tr>
<td>Lithium chloride</td>
<td>7447-41-8</td>
<td>231-212-3</td>
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</tbody>
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SPECIFICATION

active base as TMPMgCl       16 - 20%
w/o LiCl                      
LiCl                           3.2 - 4.7 %
molar ratio LiCl/active base   0.75 - 1.38

METHOD OF ANALYSIS

Active base: Titration with benzoic acid (modified Watson-Eastham titration). Detailed description is available on request.

PHYSICAL PROPERTIES

Appearance: clear or light turbid liquid
Color: brown to violet
Flash point: -21.2 °C (Tetrahydrofuran)
Boiling point/boiling range: 66 °C (Tetrahydrofuran)
Density: 0.97 g/cm³ at 23 °C
Water solubility: (Not applicable)
Molecular weight: 242.44 g/mol
Thermal Stability: decomposition above 20°C

Additional Physical Properties:
- Molecular weight: TMP-MgCl 200.03 g/mol, LiCl 42.4 g/mol

HANDLING & STORAGE

Handling: Organomagnesium compounds should only be handled under inert gas (nitrogen or argon). Never add water, acids or oxidizing materials to the product. In case of fire use dry extinguishers on basis of sodium chloride or limestone powder. Never use water or CO2-extinguishers. Pay attention to official Safety regulations (see also: 'Transport regulations' and 'Marking').
Storage

Product should be used in a closed apparatus under inert gas. Store in well ventilated areas in tightly closed containers. As material decomposes slowly above room temperature recommended storage temperature is below 20 °C.

TRANSPORT & PACKAGING

UN number 2924

<table>
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<tr>
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<tr>
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Hazard pictograms

Signal Word Danger

H&P Phrases See Safety Data Sheet

Labelling The labelling is according to EU-GHS classification ((EG) 1272/2008) and may vary in other countries. Please refer to the respective Safety Data Sheet for your country.

Packaging

Glass bottles of 100, 250, 500, and 1,000 ml. Steel bottles and containers with volumes of 7.4 l, 27 l, 127 l or 450 l. For safety reasons these are filled to a maximum of 90 %. Steel drums with 200 l net volume.

OTHER INFORMATION

Further Related Documents Safety Data Sheet

Our brochure(s) Lithium & Magnesium Amides