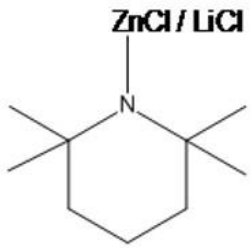
TECHNICAL DATA SHEET

Date of Issue: 2025/02/26

Zinc Chloro 2,2,6,6-Tetramethylpiperidide Lithium Chloride Complex, typ. 17 % solution in THF (typ. 0.7 M)



CAS-No.	1145881-09-9
Molecular formula	$C_9H_{18}NZnCl \bullet LiCl$
Product number	10001809, 10001810, 10006865

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 preludes 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 zinc-amides tolerate a lot of functional groups.

SPECIFICATION

active base as TMP-ZnCl w/o LiCl	16.0 - 18.5 %
Zn	0.80 - 0.95 mmol/g
molar ratio Zn/Li	0.9 – 1.1

METHOD OF ANALYSIS

Determination of Active base by titration with benzoic acid (modified Watson-Eastham titration). Determination of Zinc by complexometric - potentiometric titration. Molar ratio is calculated. Detailed description is available on request.

PHYSICAL PROPERTIES

Appearance	liquid
Color	brown clear to cloudy
Melting point/freezing point	-108.44 °C at 1,013 hPa (Tetrahydrofuran)
Flash point	-21.2 °C 1,013 hPa (Tetrahydrofuran)
Boiling point/boiling range	65 °C at 1,013 hPa (Tetrahydrofuran)
Density	0.95 g/cm3 at 20 °C
Water solubility	(Not applicable)
Thermal Stability	decomposition above 20°C
Additional Physical Properties	Molecular weight: TMP-ZnCl 241.11 g/mol LiCl 42.4 g/mol

HANDLING & STORAGE

Handling	Organozinc compounds should only be handled under inert gas. Avoid contact with eyes, skin and clothes as well as inhalation. Vapors may form explosive mixtures with air. Vapors are heavier than air and may spread along floors. Flash-back possible over considerable distance. Use only explosion-proof equipment. Take measures against electrostatic discharges. Protect from frost, heat and sunlight. 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 the safety data sheet.

Storage

Store in well ventilated areas in tightly closed containers. When stored according to SDS the material is fairly stable. We still recommend to retest the material 6 month after date of analysis if included on CoA. If not included, use the date of manufacturing for the calculation.
As material decomposes slowly above room temperature recommended storage temperature is below 20 °C.

TRANSPORT & PACKAGING

UN number 2924

ADR	Class: 3	PG: II	Label: 3 (8)
RID	Class: 3	PG: II	Label: 3 (8)
IMDG	Class: 3	PG: II	Label: 3 (8)
IATA_C	Class: 3	PG: II	Packing instruction (cargo aircraft): 363
IATA_P	Class: 3	PG: II	Packing instruction (passenger aircraft): 352

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 and 1,000 mL. Steel drums 200 L.

OTHER INFORMATION

Further Related Documents	Safety Data Sheet
Our brochure(s)	Knochel Hauser Bases for deprotonation reactions
Remarks	References / Literature:

T. Bresser, G. Monzon, M. Mosrin, P. Knochel, Org. Process Res. Dev. 2010, 14, 1299
M. Mosrin, T. Bresser, P. Knochel, Org. Lett. 2009, 11, 3406
T. Bresser, M. Mosrin, G. Monzon, P. Knochel, J. Org. Chem. 2010, 75, 4686
F. Gosselin, S. J. Savage, N. Blaquiere, S. T. Staben, Org. Lett. 2012, 14, 862