

powder receipt	
name(id)	
created_by	ganschow
creation_date	07.07.22
executed_by	stypa
execution_date	15.07.22
formula	LiAlO2
total_mass	120,000 g
components:	
+ component_1	
- formula	Li2CO3
- link_to_component	[component]
- target_mass	67,254 g
- actual_mass	67,255 g
- notes	
+ component_2	
- formula	Al2O3
- link_to_component	[component]
- target_mass	92,803 g
- actual_mass	92,799 g
- notes	
treatments:	
+ thermal_treatment_1	
- link_to_treatment	[sintering]
- notes	furnace failure
+ characterization_1	
- link_to_charcterization	[XRD phase analysis]
- notes	pure LiAlO2
notes	

component:	
formula	Li2CO3
link_to_chem_db	[chemical]
treatments (opt):	
+ thermal_treatment_1	
- link_to_treatment	[treatment]
- notes	
notes	

component:	
formula	Al2O3
link_to_chem_db	[chemical]
treatments (opt):	
+ thermal_treatment_1	
- link_to_treatment	[treatment]
- notes	
+ characterization_1	
- link_to_characterization	[XRD phase analysis]
- notes	contains gamma-Al2O3
+ thermal_treatment_2	
- link_to_treatment	[treatment]
- notes	
+ characterization_2	
- link_to_characterization	[XRD phase analysis]
- notes	pure alpha-Al2O3
notes	

thermal_treatment:	
date	10.07.22
net_mass_before	70,000 g
crucible	glass
brutto_mass_before	230,000 g
atmosphere	vacuum
oven	Heraeus
ramps:	
+ ramp_1	
- rate/time	no ramp
- temperature	200°C
- dwell_time	12 h
brutto_mass_after	228,000 g
net_mass_after	68,000 g
mas_loss [calculate in %]	-2,86 %
notes	

thermal_treatment:	
date	10.07.22
net_mass_before	100,000 g
crucible	ID234, M=XXX g
brutto_mass_before	500,000 g
atmosphere	air
oven	1
ramps:	
+ ramp_1	
- rate/time	100 K/h
- temperature	600°C
- dwell_time	12 h
brutto_mass_after	499,660 g
net_mass_after	99,660 g
mass_loss [calculate in %]	-0,34 %
notes	

thermal_treatment:	
date	15.07.22
net_mass_before	160,054 g
crucible	ID234, M=XXX g
brutto_mass_before	660,000 g
atmosphere	air
oven	1
ramps:	
+ ramp_1	
- rate/time	100 K/h
- temperature	800°C
- dwell_time	20 h
+ ramp_2	
- rate/time	100 K/h
- temperature	1400°C
- dwell_time	2 h
+ ramp_3	
- rate/time	10 K/h
- temperature	RT
- dwell_time	
brutto_mass_after	620,000 g
net_mass_after	120,054 g
mass_loss [calculate in %]	-24,99 %
notes	

thermal_treatment:	
date	12.07.22
net_mass_before	100,000 g
crucible	ID234, M=XXX g
brutto_mass_before	500,000 g
atmosphere	air
oven	1
ramps:	
+ ramp_1	
- rate/time	100 K/h
- temperature	1200°C
- dwell_time	12 h
brutto_mass_after	499,920 g
net_mass_after	99,920 g
mass_loss [calculate in %]	-0,08 %
notes	