

Inspection certificate 3.1 EN 10204:2004

Material Number: 10000336 Product Description: CS CRBNT 3N/BAG PEAL Producing Plant: LANGELSHEIM PLANT Batch No.: Customer Mat No.: Manf Date: 24.03.2023 Exp. Date:	Customer Name: Address: Ship To: Sales Order/Item No: Delivery No. / Item No: Customer Ref/Order:
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Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Purity Cs ₂ CO ₃ (metal-based)	%	> 99,9	99,9			L0001351
Lithium (Li)	mg/kg.	< 0,2		5,0		L0000736
Sodium (Na)	mg/kg.	29		100		L0000736
Potassium (K)	mg/kg.	11		200		L0000736
Rubidium (Rb)	mg/kg.	140		200		L0000736
Calcium (Ca)	mg/kg.	0,7		5,0		L0000745
Magnesium (Mg)	mg/kg.	< 0,1		2,0		L0000745
Strontium (Sr)	mg/kg.	0,3		5,0		L0000745
Barium (Ba)	mg/kg.	4		30		L0000745
Aluminium (Al)	mg/kg.	0,3		10,0		L0000745
Iron (Fe)	mg/kg.	< 0,2		3,0		L0000745
Chromium (Cr)	mg/kg.	< 0,2		2,0		L0000745
Manganese (Mn)	mg/kg.	< 0,1		1,0		L0000745

Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Phosphorus as P2O5	mg/kg.	< 0,5		15,0		L0001501
Sulphate (SO4)	mg/kg.	11		50		L0000760
Nitrate (NO3)	mg/kg.	< 5		25		L0000760
Chloride (Cl-)	mg/kg.	61		100		L0000769
Silicon dioxide (SiO2)	mg/kg.	5		40		L0000745
Loss on drying @500C	%	< 0,1		0,5		L0000785
Cesium hydroxide (CsOH)	%	0,1				L0000750
Assay Cs2CO3	%	99,9				L0000750

The analysis values stated above were measured in samples taken out of the production batch delivered to you. The conveyance of these results neither contains any agreement on specifications or any guarantee of specifications nor does it release you from your obligation to control the goods for your own processes and purposes. Our liability for the quality of these goods as well as for this certificate is stipulated in No. 7 to 9 of our Terms of Sale and Delivery. Being an electronic document, this certificate is valid without signature. Dr. Storsberg

Signature: QUALITY CONTROL MANAGER

Date: 12.05.2023

Material Number: 10000336	Customer Name:
Product Description: CS CRBNT 3N/BAG PEAL	Address:
Producing Plant: LANGELSHEIM PLANT	Ship To:
Batch No.:	Sales Order/Item No:
Customer Mat No.:	Delivery No. / Item No:
Manf Date: 16.09.2022	Customer Ref/Order:
Exp. Date:	

Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Purity Cs ₂ CO ₃ (metal-based)	%	> 99,9	99,9			L0001351
Lithium (Li)	mg/kg.	< 0,2		5,0		L0000736
Sodium (Na)	mg/kg.	40		100		L0000736
Potassium (K)	mg/kg.	13		200		L0000736
Rubidium (Rb)	mg/kg.	90		200		L0000736
Calcium (Ca)	mg/kg.	0,4		5,0		L0000745
Magnesium (Mg)	mg/kg.	0,1		2,0		L0000745
Strontium (Sr)	mg/kg.	1,0		5,0		L0000745
Barium (Ba)	mg/kg.	3		30		L0000745
Aluminium (Al)	mg/kg.	0,4		10,0		L0000745
Iron (Fe)	mg/kg.	< 0,2		3,0		L0000745
Chromium (Cr)	mg/kg.	0,2		2,0		L0000745
Manganese (Mn)	mg/kg.	< 0,1		1,0		L0000745
Phosphorus as P ₂ O ₅	mg/kg.	< 0,5		15,0		L0001501

Material Number:	10000336	Customer Name:	SIEGFRIED LTD.
Product Description:	CS CRBNT 3N/BAG PEAL	Address:	4 UNTERE BRÜHLSTR ZOFINGEN-4800
Producing Plant:	LANGELSHEIM PLANT	Ship To:	SIEGFRIED LTD
Batch No.:	2101037957	Sales Order/Item No:	20099841/20
Customer Mat No.:		Delivery No. / Item No:	80412681/10
Manf Date:	16.09.2022	Customer Ref/Order:	4500282221
Exp. Date:			

Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Purity Cs ₂ CO ₃ (metal-based)	%	> 99,9	99,9			L0001351
Lithium (Li)	mg/kg.	< 0,2		5,0		L0000736
Sodium (Na)	mg/kg.	40		100		L0000736
Potassium (K)	mg/kg.	13		200		L0000736
Rubidium (Rb)	mg/kg.	90		200		L0000736
Calcium (Ca)	mg/kg.	0,4		5,0		L0000745
Magnesium (Mg)	mg/kg.	0,1		2,0		L0000745
Strontium (Sr)	mg/kg.	1,0		5,0		L0000745
Barium (Ba)	mg/kg.	3		30		L0000745
Aluminium (Al)	mg/kg.	0,4		10,0		L0000745
Iron (Fe)	mg/kg.	< 0,2		3,0		L0000745
Chromium (Cr)	mg/kg.	0,2		2,0		L0000745
Manganese (Mn)	mg/kg.	< 0,1		1,0		L0000745
Phosphorus as P ₂ O ₅	mg/kg.	< 0,5		15,0		L0001501

Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Sulphate (SO ₄)	mg/kg.	16		50		L0000760
Nitrate (NO ₃)	mg/kg.	< 5		25		L0000760
Chloride (Cl ⁻)	mg/kg.	57		100		L0000769
Silicon dioxide (SiO ₂)	mg/kg.	4		40		L0000745
Loss on drying @500C	%	< 0,1		0,5		L0000785
Cesium hydroxide (CsOH)	%	0,3				L0000750
Assay Cs ₂ CO ₃	%	99,7				L0000750

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Signature: QUALITY CONTROL MANAGER

Date: 10.10.2022

Inspection certificate 3.1 EN 10204:2004

Material Number: 10000336 Product Description: CS CRBNT 3N/BAG PEAL Producing Plant: LANGELSHEIM PLANT Batch No.: Customer Mat No.: Manf Date: 22.07.2022 Exp. Date:	Customer Name: Address: Ship To: Sales Order/Item No: Delivery No. / Item No: Customer Ref/Order:
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Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Purity Cs ₂ CO ₃ (metal-based)	%	> 99,9	99,9			L0001351
Lithium (Li)	mg/kg.	< 0,2		5,0		L0000736
Sodium (Na)	mg/kg.	33		100		L0000736
Potassium (K)	mg/kg.	15		200		L0000736
Rubidium (Rb)	mg/kg.	125		200		L0000736
Calcium (Ca)	mg/kg.	2,0		5,0		L0000745
Magnesium (Mg)	mg/kg.	0,1		2,0		L0000745
Strontium (Sr)	mg/kg.	2,0		5,0		L0000745
Barium (Ba)	mg/kg.	5		30		L0000745
Aluminium (Al)	mg/kg.	0,6		10,0		L0000745
Iron (Fe)	mg/kg.	< 0,2		3,0		L0000745
Chromium (Cr)	mg/kg.	< 0,2		2,0		L0000745
Manganese (Mn)	mg/kg.	< 0,1		1,0		L0000745

Albemarle Germany GmbH
 Industriepark Höchst, Gebäude G 879
 65926 FRANKFURT AM MAIN
 GERMANY

Inspection certificate 3.1 EN 10204:2004

Material Number: 10000336 Product Description: CS CRBNT 3N/BAG PEAL Producing Plant: LANGELSHEIM PLANT Batch No.: 2101036540 Customer Mat No.: Manf Date: 22.07.2022 Exp. Date:	Customer Name: SIEGFRIED LTD. Address: 4 UNTERE BRÜHLSTR ZOFINGEN-4800 Ship To: SIEGFRIED LTD Sales Order/Item No: 20099841/20 Delivery No. / Item No: 80412681/10 Customer Ref/Order: 4500282221
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Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Purity Cs ₂ CO ₃ (metal-based)	%	> 99,9	99,9			L0001351
Lithium (Li)	mg/kg.	< 0,2		5,0		L0000736
Sodium (Na)	mg/kg.	33		100		L0000736
Potassium (K)	mg/kg.	15		200		L0000736
Rubidium (Rb)	mg/kg.	125		200		L0000736
Calcium (Ca)	mg/kg.	2,0		5,0		L0000745
Magnesium (Mg)	mg/kg.	0,1		2,0		L0000745
Strontium (Sr)	mg/kg.	2,0		5,0		L0000745
Barium (Ba)	mg/kg.	5		30		L0000745
Aluminium (Al)	mg/kg.	0,6		10,0		L0000745
Iron (Fe)	mg/kg.	< 0,2		3,0		L0000745
Chromium (Cr)	mg/kg.	< 0,2		2,0		L0000745
Manganese (Mn)	mg/kg.	< 0,1		1,0		L0000745

Characteristics	Unit	Value	Lower Limit	Upper Limit	Target	Method
Phosphorus as P ₂ O ₅	mg/kg.	< 0,5		15,0		L0001501
Sulphate (SO ₄)	mg/kg.	15		50		L0000760
Nitrate (NO ₃)	mg/kg.	6		25		L0000760
Chloride (Cl ⁻)	mg/kg.	54		100		L0000769
Silicon dioxide (SiO ₂)	mg/kg.	4		40		L0000745
Loss on drying @500C	%	< 0,1		0,5		L0000785
Cesium hydroxide (CsOH)	%	0,3				L0000750
Assay Cs ₂ CO ₃	%	99,6				L0000750