



**Ciech**  
Soda Deutschland

CIECH Soda Deutschland GmbH & Co. KG \* An der Löderburger Bahn 4a \* 39418 Staßfurt

## Certificate of Analysis

**Contract** 2020018 Order-No.: PO201019480  
**Delivery order** 464282  
**Date** 25.05.2020

**Product:** Sodium Bicarbonate, pharmaceutical grade  
Standard granulation (NK)

Batch-No.: 030117123052020  
Production Date: 23.05.2020  
Retest/Expiry Date: 23.05.2022

| <u>Chemical Analysis:</u>           | limit value               | current value       |
|-------------------------------------|---------------------------|---------------------|
| NaHCO <sub>3</sub> content          | %: 99,0 - 101,0           | 100,24              |
| Normal Carbonate                    | %: meets USP requirements |                     |
| loss on drying%                     | < 0,25 0,00               |                     |
| Aspect of solution                  | : clear and colorless     | clear and colorless |
| water-insoluble substances          | %: meets USP requirements |                     |
| Carbonate pH                        |                           |                     |
| (5 % solution in water)             | : ≤ 8,6                   | 8,3                 |
| Ammonium (NH <sub>4</sub> )         | %: < 0,0020               | < 0,0020            |
| Aluminium (Al)                      | %: < 0,0002               | < 0,0002            |
| Arsenic (As)                        | %: < 0,0002               | < 0,0002            |
| Calcium (Ca)                        | %: < 0,0100               | < 0,0100            |
| Magnesium (Mg)                      | %: < 0,0040               | < 0,0040            |
| Copper (Cu)                         | %: < 0,0001               | < 0,0001            |
| Iron (Fe)                           | %: < 0,0005               | 0,0001              |
| Heavy metals (Pb)                   | %: < 0,0010               | < 0,0005            |
| Chloride (Cl)                       | %: < 0,0150               | < 0,0005            |
| Sulfur Compounds (SO <sub>4</sub> ) | %: < 0,0150               | < 0,0150            |
| Bulk density (g/ml)                 | : 0,950 - 1,200           | 1,163               |

**Grain Size Distribution:**

|              |        |      |
|--------------|--------|------|
| < 0,500 mm/% | : ≥ 95 | 99,7 |
| < 0,315 mm/% | :      | 95,9 |
| < 0,200 mm/% | :      | 82,3 |
| < 0,100 mm/% | :      | 45,7 |

Schug  
Head of Quality Control

*This document was created using computer system.*

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