TDS/Technical Data Sheet – PDS/Product Data Sheet
Product Specification - Batch Analysis

SODIUM BICARBONATE (NAHCO3)

(Chemical name/Synonyms: Natron, Baking Soda, Bicarbonate of Soda, Sodium Hydrogen Carbonate)

FOOD-ALIMENTARY GRADE (E500ii)
FINE Particle Size (FKBD)
Manufacturer/Origin: Ciech Soda, GERMANY

GMP Certified
Manufactured in accordance with the European Union Regulations/Directives on Food & FCC/Food Chemical Codex current European Regulation 231/2012/EC

REACH Reg. No.				01-2119457606-32-0020		
EC No.				205-633-8		
CAS-No.				144-55-8		
Appearance				Solid white crystalline hygroscopic powder		
Molecular weight				84,01		
Chemical formula				$NaHCO_3$		
Packing				25 kg multiply paper bags (2-L+1-PE), shrink-wrapped on 1.050 and/or 1.200 kg net CP2-ISPM-15 wooden pallets		
Solubility				Soluble in water, Insoluble in ethanol (96%)		
Appearance of solution				Clear and colorless		
Chemical Analysis:			**Limit Values/Specif.**	**Batch Values**	**Methods**	**Frequency**
Bulk density		kg/m^3	950 – 1.200	1,079	PA-PQ-121/122	Per batch
NaHCO3 content		%	99,00 – 101,00	100,34	PA-PQ-122	Daily
Identification Na		n/a	n/a	Acceptance	FCC	Monthly
Identification CO3/HC03		n/a	n/a	Acceptance	FCC	Monthly
Loss on drying		%	≤ 0,25	0,01	PA-PQ-122	Monthly
pH value determination		n/a	8,00 – 8,60	8,36	PA-PQ-122	Monthly
Ammonium (NH4)		n/a	n/a	Acceptance	PA-PQ-122	Monthly
Arsenic	(As)	mg/kg	≤ 3,00	1,00	PA-PQ-103	Monthly
Fluorine	(F)	mg/kg	≤ 100	< 40	ASU F 0092 2013-04	6 months
Lead	(Pb)	mg/kg	≤ 2,00	1,00	PA-PQ-103	Monthly
Mercury	(Hg)	mg/kg	≤ 1,0	0,01	ASU L 00,00-19/4 (2003-12)	6 months
Cadmium	(Cd)	mg/kg	≤ 1,0	0,5	DIN EN 17053 2018-03	6 months
Calcium	(Ca)	mg/kg	≤ 100	31	PA-PQ-122	Per batch
Particle/Grain Size Distribution		**%**	**Limit Values/Specif.**	**Batch Values**	**Methods**	**Frequency**
< 0,500 mm		%		100,0	PA-PQ-121	Per batch
< 0,315 mm		%		99,9	PA-PQ-121	Per batch
< 0,200 mm		%	≥ 90,0	99,9	PA-PQ-121	Per batch
< 0,100 mm		%		76,6	PA-PQ-121	Per batch

Externat laboratory analysis on heavy metals, dioxin and non-dioxin like compounds can be provided

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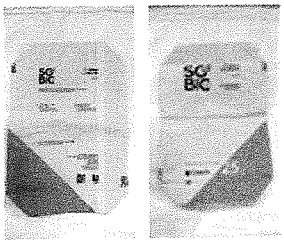
Applications	Food/Alimentary (as E500ii), Cosmetics, Animal Feed, Technical
Identification	Gives reactions characteristic of sodium salts and of bicarbonates
Packing	25 kg net original multiply paper bags with 1 pe-layer as photo below (or 1.000 kg big bags)  Your specific label (if any) will be placed in the middle of the front side
Weight tolerance	The bag weight tolerance for is 1% for 25 kg bags in according to the International Organization of legal Metrology (OIML)
Stability & Storage	**Stability:** The product is stable, stability tests/records can be provided on request **Shelf life:** Minimum 24 months from manufacturing (MFG) date **Lot Code Interpretation:** (example) *Charge/Batch No. 1000000990 (Consecutive numbers), 1.050 kg pallets* *Ciech Article No. 6000000152* *MFG Date = Manufacturing Date 31.05.2023 = Day.Month.Year* *EXP Date = Expiry Date 30.05.2025 = Day.Month.Year* **Storage:** Sodium Bicarbonate of all types and particle sizes is highly hygroscopic. The below must be observed during the unloading from all means of transport and throughout the storage period. Sodium Bicarbonate: • absorb humidity, causing a tendency to form lumps. This process accelerates if the Sodium Bicarbonate is compacted during storage • absorb smells from other products stored nearby • give off CO_2, a process which increases as the temperature rises In general we recommend the following conditions of storage: • keep in a covered storage facility • kept in the original unbroken packing • kept away from any source of moisture • stored cool at a constant temperature well below 30ºC • kept dry and well ventilated • store at a relative humidity of less than 50 % in a well-ventilated storage facility • avoid storing Sodium Bicarbonate close to any sources of heat • avoid compacting, that is avoid stacking the bags more than 1 pallet or 1 x 1.000 kg big bag or 4-5 x 25 kg bags high if stored loose

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P.t.o. (second page of total three pages)

Manufacturer's General Declaration of SODIUM BICARBONATE (NAHCO3) (all grades and particle sizes)

We hereby certify that we do not use genetically modified (GMO/GVO's) or animal derived materials in the production of Sodium Bicarbonate (NaHCo3).

The products are inorganic, 100% synthetic. They are manufactured in a chemical process of the ingredients salt, limestone and water all of the work's own local sources.

No radiation treatment has been used during the production.

The products are free from doping and anti-caking substances.

The products are not in contact with BSE/TSE-Pathogens i.e. the presence of BSE/TSE can be excluded.

The products are free of food- and cosmetic allergens according to the "ALBA-List".

The products does not contain nanomaterials.

The products does not contain any of the substances or compounds stated in the present (SVHC) Candidate List.

The products are analyzed on heavy metals/dioxin on a regular basis, present analysis can be provided.

The products does not contain Dietilenglicol (DEG), Glycol Ether (ETG) and Volatile Organic Compounds (VOC).

The products are manufactured in a closed-circuit production facility subject to a continuous quality control in accordance with the Ph.Eur/USP Pharmacopoeias, our GMP- and ISO Certifications and the E500 (ii) European Union regulations on food and FCC/Food Chemical Codex current European Regulation 231/2012/EC.

Microbiological Properties:

Parameter:	Unit	Limits
Colony forming unit	[cfu/ml]	< 100
Endotoxins	[EU/ml]	< 10
Escherichia coli	[cfu/ml]	0
Clostridium	[cfu/ml]	0
Bacillus cereus	[cfu/ml]	0
Yeasts and molds:		
TAMC	[cfu/g]	≤ 2 X 102
TYMC	[cfu/g]	≤ 2 X 102

The above Microbiological Analyses are not part of the specification and are performed additionally. The test reports for microbiological monitoring can be provided on request and will be charged additionally.

31.05.2023

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Chemical name:	Sodium hydrogen carbonate
EC name / IUPAC name:	Sodium hydrogen carbonate
Other names:	Sodium bicarbonate ; Bicarbonate ; Baking soda
EC number:	205-633-8
CAS number:	144-55-8
UNSPSC Code:	12164500 / 51191700 (www.unspsc.org)
Registration number (REACH):	01-2119457606-32-0020
Annex I index number (CLP):	Not listed in annex 1

1.2. Identified uses: Raw material / intermediate / additive in the manufacturing of chemical substances and formulations, cosmetics, pharmaceutics, feed and food. raising agent ; neutralisation agent ; acidity regulator ; absorbent extraction agent ; precipitation agent ; fire extinguishing agent. No uses to be advised against were identified.

1.3. Details of the supplier of the safety data sheet

Company name:
Address:
Telephone number:
Email address:
Website:
Competent information on product quality:
Competent information on product safety:

1.4. Emergency telephone number:

SECTION 2: HAZARD IDENTIFICATION

2.1. Classification of the substance: The substance is not classified according to the respective regulations and doesn´t contain impurities which affect classification and labelling.

2.2. Label elements: No labelling obligation

2.3. Other hazards: None

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substance

Molecular formula:	$NaHCO_3$ or $CHNaO_3$ (Hill)
Molecular weight:	84,01
Purity:	≥ 99,6 % bw.

The substance does not contain impurities which affect the classification and labelling. Main impurity is Na_2CO_3 .

SECTION 4: FIRST AID MEASURES

4.1. First aid measures

After eye contact:	Rinse with water. Remove contact lenses, if present.
After Skin Contact:	Wash off with water. Remove contaminated clothing.
After Ingestion:	Rinse with water.
After Inhalation:	Remove to fresh air.

4.2. Most important symptoms: None

4.3. Indication of any immediate medical attention and special treatment needed: None

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment (substance is non-combustible).
5.2. Special hazards:	None (substance is non-combustible).
5.3. Advice for firefighters:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions:	Avoid inhalation of dusts.
6.2. Environmental precautions:	Prevent discharges into the environment (rivers, water courses, sewers).
6.3. Clean-up procedures:	Take up dry. Avoid dust formation. Forward for disposal (see section 13).

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:	Avoid spillage and dust formation. Preferably use closed apparatus for loading, transferring filling and bagging processes.
7.2. Conditions for safe storage:	Keep paper bags, plastic bags or container tightly closed. Store in a dry place. Protect from moisture.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:	Contains no substances with occupational exposure limit values.
8.2. Exposure controls	Based on the substance properties no specific risk management measures have to be applied in order to achieve safe use, provided that the generally accepted standard principles of personal and occupational practice and hygiene are obeyed.
Hygiene measures:	Do not eat, drink or smoke when using this product. Avoid inhalation of dust. Exchange contaminated clothing. Wash hands and face after handling.
Eye Protection:	At elevated dust concentration: Wear protective goggles.
Respiratory Protection:	At elevated dust concentration: Wear particle filter type P1.
Skin/Hand Protection:	To avoid substance contact: Wear protective gloves. Glove materials: Nitrile-, Butyl-, Fluor- or Natural-Rubber, Nitrile- or Natural Latex, Polychloroprene, PVC Glove thickness: > 0,1 mm Break through time: > 480 min

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	Solid white crystalline powder or granulate
Odour:	Odourless
Odour threshold:	Not applicable (odourless substance)
pH:	8,4 (at 93,4 g/l ; at 20 °C)
Melting point/freezing point:	Not applicable (decomposition at 50 °C)
Initial boiling point and boiling range:	Not applicable (decomposition at 50 °C)
Flash point:	Not applicable (non-flammable inorganic salt)
Evaporation rate:	Not applicable
Flammability:	Not applicable (non-flammable inorganic salt)
Upper/lower flammability/explosive limits:	Not applicable (non-flammable / non-explosive inorganic salt)
Vapour pressure:	Not applicable (inorganic salt)
Vapour density:	Not applicable

Relative density:	2.21 - 2.23 (at 20 °C)
Bulk density:	950 – 1100 kg/m³
Solubility(ies):	93,4 g/l (in water at 20 °C)
Partition coefficient: n-octanol/H_2O:	Not applicable (inorganic salt)
Auto-ignition temperature:	Not applicable (non-flammable)
Decomposition temperature:	> 50 °C (Release of CO_2 and H_2O) ; decomposition of Na_2CO_3 at 270 °C
Viscosity, dynamic:	Not applicable (solid inorganic salt)
Explosive properties:	Substance is non-explosive
Oxidising properties:	Substance is non-oxidising
9.2. Other information:	Other physical and chemical information were not determined.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:	Intensive reaction with acids (decomposition and release of CO_2).
10.2. Chemical stability:	Stable under recommended storage and handling conditions.
10.3. Possibility of hazardous reactions:	Reacts under moisture conditions with Al and Zn (release of H).
10.4. Conditions to avoid:	Moisture (substance is hygroscopic), temperature above 50 °C.
10.5. Incompatible materials:	Aluminium and zinc materials.
10.6. Hazardous decomposition products:	None (decomposition products: carbon dioxide and sodium oxides).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity oral:	LD_{50} - indeterminable
Acute toxicity inhalation:	LC_{50} - indeterminable
Acute toxicity dermal:	LD_{50} - indeterminable
Irritation to skin:	Not irritating
Irritation to eye:	Not irritating
Respiratory or skin sensitisation:	No sensitisation/allergene effects are known or expected.
Germ cell mutagenicity:	No genotoxic effects are known or expected.
Carcinogenicity:	No carcinogenicity effects known or expected.
Reproductive toxicity:	No reproductive/ developmental toxicity effects are known or expected.
STOT-single exposure:	No specific target organ toxicity effects are known or expected.
STOT-repeated exposure:	No specific target organ toxicity effects are known or expected.
Aspiration hazard:	No aspiration hazard effects are known or expected.

Summary/Conclusions

Under normal use conditions of $NaHCO_3$ neither the concentration of Na^+ in the blood nor the pH of the blood will be increased and does not become systemically available in the body. Toxicity studies with rats indicate a low toxicity potential, with LD_{50} values varying from >4,000 mg/kg bw up to 7,334 mg/kg bw, so that toxicity values can´t be determined definitely, as its toxicity depends on the acid base balance of the respective organism. Developmental studies with rabbits, rats and mice confirm that $NaHCO_3$ did not induce developmental effects. Carcinogenicity and mutagenicity tests were negative and also the structure does not indicate a carcinogenic or genotoxic potential. Due to the physicochemical properties, the physiological role of the constituent ions and the toxicological properties, $NaHCO_3$ is considered not to induce systemic effects.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Acute aquatic toxicity (fish):	LC_{50} = 7100 mg/l (Lepomis macrochirus - 96 h-test)
Acute aquatic toxicity (crustaceans):	EC_{50} = 4100 mg/l (Daphnia magna – 48 h-test)
Long-term aquatic/terrestrial toxicity:	Not applicable
12.2. Persistence and degradability:	Not applicable
12.3. Bioaccumulative potential:	Not applicable
12.4. Mobility in soil:	Not applicable
12.5. PBT and vPvB properties:	Not applicable
12.6. Other adverse effects:	Please see "Summary/Conclusions"

Summary/Conclusions

The use of $NaHCO_3$ could potentially result in an emission, predominantly to the aquatic environment, and could locally increase the pH but it will never be higher than 8.34. $NaHCO_3$ is an inorganic and high water soluble salt, which is in varying concentrations present in the environment as Na^+ and HCO_3^-. That implies that $NaHCO_3$ does not adsorb on particulate matter or surfaces and does not accumulate in living tissues. The effect of $NaHCO_3$ depends mainly on the buffer capacity of the ecosystem. Therefore, it is not considered useful, applicable or necessary to conduct long-term-toxicity-levels, the mobility in soil, the bioaccumulative potential, PBT and vPvB properties or to derive PNEC values.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of the product:	Non-hazardous waste. Waste code must be selected according to the source of waste generation. If there is no way of recycling it must be disposed of in compliance with the respective national and local regulations. If there is no way of recycling or utilisation: Disposal on an authorised landfill.
Disposal of the packaging:	Completely emptied packaging can be disposed of as waste for recovery.

SECTION 14. TRANSPORT INFORMATION

The substance is not subject to the respective transport regulations (ADR ; ADN ; RID ; IMDG ; IATA-DGR ; IMO).

SECTION 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance

European Legislation

Regulation 1272/2008/EC:	Not classified as dangerous. Does not require labelling.
Regulation 428/2009/EC:	Does not apply (No „Dual-Use-Good")

German legislation

Storage class VCI:	10 - 13 Other liquids and solids
Water Hazard Class (AwSV):	Water Hazard Class 1 - low hazard to waters
Statutory order on hazardous incidents (Störfallverordnung) :	Does not apply
15.2. Chemical safety assessment:	Has been carried out according to Regulation 1907/2006/EC.

SECTION 16. OTHER INFORMATION

Granulometry

Sieve fraction	Share
< 0,50 mm	< 98 %
< 1,40 mm	< 98 % (Granulate)

Abbreviations

PPE	Personal Protection Equipment
VCI	German chemical industry association
LC_{50}	Median lethal concentration of a material that will kill 50% of the test population.
EC_{50}	Median effective concentration of a material that will kill 50% of the test population.
LD_{50}	Median lethal dose of a material that will kill 50% of the test population.
ADR	Transport regulations concerning carriage of dangerous goods by road.
ADN	Transport regulations concerning carriage of dangerous goods by inland waterways.
RID	Transport regulations concerning carriage of dangerous goods by rail.
IMDG Code	Transport regulations concerning carriage of dangerous goods by sea
IATA-DGR	Transport regulations concerning carriage of dangerous goods by air
IMO	International Maritime Organisation
Data Source:	Registration-Dossier and Chemical Safety Report of Sodium Carbonate of the „Sodium Carbonate and Sodium Hydrogen Carbonate Consortium" of August 2010.
Changes to the previous version:	SECTION 15. REGULATORY INFORMATION

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product and it does not absolve the user of the product of the responsibility of conformity to the respective national and local regulatory requirements.