Craftovator® Studio.

CRAFTING EXCELLENCE

Safety datasheet according to regulation (EC) No. 1907/2006

Sodium Bicarbonate

Version "Biachem 0" – Revision date 07/09/2016 – Print Date 07/09/2016

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name	:	SODIUM BICARBONATE
Chemical Name	:	Sodium hydrogencarbonate
Alternative Name	:	Bicarbonate of Soda, Baking Soda, Soda Bicarb.
Chemical Formula	:	$NaHCO_3$
Trade Names	:	Alkakarb®, Briskarb®, Hemokarb®, Pharmakarb®, Sodakarb®, Dessikarb®
CAS Number	:	144-55-8
EC Number	:	205-633-8

1.2 Relevant identified uses of the substance : Agents adsorbing and absorbing gases or liquids; flame retardants; foam(blowing) agents; food/feedstuff additives; laboratory chemicals; odour agents; pharmaceutical substance; processing aid, not otherwise listed; blasting agent; fire extinguishing agent

1.2.1 Uses advised against : No uses advised against have been identified

1.3 Details of the supplier of the safety datasheet

-Distributor:

Craftovator Studio
Common Lane, Industrial Estate,
Kenilworth, CV8 2EL
Phone: +44 1926 291009
Email info@craftovator.co.uk

1.4 Emergency Telephone number:

Office hours:
After Hours Mobile:

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance

2.1.1 Classification according to Regulation (EC) 1272/2008

- **Not Classified**

2.1.2 Classification according to Dangerous Substances Directive 67/548/EEC

- **Not Classified**

2.2 Labelling elements

2.2.1 Labelling according to Regulation (EC) 1272/2008

- **No labelling requirements**

2.3 Other hazards

- The substance does not meet the criteria for a PBT or vPvB substance
- No other hazards identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Main constituent	Formula	CAS Number	EC Number	Wt. Percent
Sodium Bicarbonate	$NaHCO_3$	144-55-8	205-633-8	>98.5%w/w

Impurities
No impurities relevant for classification and labelling

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
- No known delayed effects

Following inhalation
- Move person to fresh air and keep at rest

Following skin contact
- Wash skin with soap and water
- If irritation occurs and persists seek medical advice

Following eye contact
- Remove contact lenses if worn
- Rinse eye thoroughly with eye wash solution or clean water for at least 10 minutes
- Eyelids should be held away from the eyeball to ensure thorough rinsing
- Obtain medical attention if necessary

After ingestion
- Do NOT induce vomiting
- Wash out mouth with water and give plenty of water to drink (at least 300 ml.)
- Obtain medical advice if necessary

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

5.1.1 Suitable extinguishing media
- The product is not combustible, all extinguisher products can be used
- Use extinguishing measures that are appropriate local circumstances and the surrounding environment

5.1.2 Unsuitable extinguishing media
- None

5.2 Special hazards arising from the substance or mixture
- None

5.3 Advice for firefighters
- No special precautions required

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

6.1.1 For non-emergency personnel
- Keep dust levels to a minimum
- Wear suitable protective equipment (see Section 8)

6.2 Environmental Precautions
- Avoid discharges into the environment (rivers, water courses, sewers etc.)
- Avoid any mixture with an acid into sewer/drains (CO_2 gas formation)

6.3 Methods for containment and clean up
- In all cases avoid dust formation
- Use vacuum suction, or shovel into bags
- store material in a suitable, correctly labelled closed container, preferably for re-use, otherwise for disposal

6.4 Reference to other sections
- For more information on exposure controls/personal protection or disposal considerations, please see section 8 and 13

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

7.1.1 Protective measures

- Keep dust levels to a minimum
- Minimize dust generation
- Atmospheric levels should be controlled in compliance with the workplace exposure limit (see Section 8.1)
- Wear protective equipment (see Section 8.2)

7.1.2 Advice on general occupational hygiene

- Good personal and housekeeping practices
- No drinking, eating and smoking at the workplace

7.2 Conditions for safe storage, including any incompatibilities

- Store in a cool dry place, (preferably at a temperature below 25°c and humidity less than 65%)
- Store in original, closed and correctly labelled container
- Keep away from acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

- Not listed by H&SE (Guidance Note EH40) or ACGIH. However, for good hygiene practice the inert dust Workplace Exposure Limits (WEL) should be adopted
- WEL Recommended Limits: 10mg/m^3 (total dust) (8hr TWA)
  4mg/m^3 (respirable dust) (8hr TWA)

8.1.2 DNEL's/PNEC

- $DNEL_{Long\text{-}term}$ - after assessment of the physicochemical, toxicokinetic and physiological role of sodium bicarbonate, a $DNEL_{Long\text{-}term}$ derivation is considered unnecessary
- $DNEL_{Acute}$ - sodium bicarbonate is considered to be of no toxicological concern, in acute studies no local irritation was noted. A $DNEL_{acute}$ derivation is considered unnecessary
- PNEC - The lowest L(E)C_{50} value is > 100 mg/l (48-h EC_{50} with *Daphnia magna* is 3,100 mg/l) and the lowest chronic value is > 0.1 mg/l (21-d NOEC with *Daphnia magna* is >576 mg/l). Therefore, sodium bicarbonate is not classified according to EU Directive 67/548/EEC or EU Classification, Regulation, Labelling and Packaging of Substances and Mixtures (CLP) Regulation (EC) No. 1272/2008.

8.2 Exposure Controls

8.2.1 Appropriate engineering controls

- if user operations generate dust, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne dust levels below recommended exposure limits

8.2.2 Personal protection

8.2.2.1 Eye/face protection

- in case of contact with the eye, wear eye/face protection rated to protect eyes against dust (EN166) eg.safety eye shields with dust protection, goggles or face visor

8.2.2.2 Hand protection

- wear suitable protective gloves for frequent or prolonged contact

8.2.2.3 Skin/body protection

- no special protective equipment required

8.2.2.4 Respiratory protection

- in the case of high dust levels wear suitable respiratory protective equipment eg.dust mask or respirator, that conform to national/international standard, EN143. Recommended filter tpe P2

8.2.3 Environmental exposure controls

- contain any spillage
- avoid discharges to the environment
- dispose of any rinse water in accordance with local and national regulations

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	: white crystalline powder	
Odour	: odourless	
Odour threshold	: not applicable	
pH	: 8.4	(saturated solution, study result, EU Method A.6)
Melting point	: decomposes above 50°c	(information from peer reviewed handbook)
Boiling point	: not applicable	(decomposes on heating)
Flash point	: not applicable	(inorganic substance)
Evaporation rate	: not applicable	
Flammability	: non-flammable	(study result, EU Method A.10)
Upper flammability limit	: non-flammable	
Lower flammability limit	: non-flammable	
Vapour pressure	: not applicable	(inorganic substance, vapour pressure negligible)
Vapour Density	: not applicable	
Relative density	: 2.21 – 2.23 @20°c	(study result, EU Method A.3)
Water solubility	: 93.4g/l @20°c	(study result, EU Method A.6)
Partition coefficient	: not applicable	(inorganic substance)
Auto-ignition temperature	: non-flammable	
Decomposition temperature	: starts to decompose above 50°c	
Viscosity	: not applicable	(solid)
Explosive properties	: non-explosive	(no chemical groups associated with explosive properties)
Oxidising properties	: non-oxidising	(based on the chemical structure of the substance and oxidation states of the constituent elements)

10. STABILITY AND REACTIVITY

10.1 Reactivity

- Decomposes slowly on exposure to water
- Reacts with acids, evolving carbon dioxide

10.2 Chemical Stability

- Stable under recommended storage and handling conditions (see Section 7)

10.3 Possibility of hazardous reactions

- None

10.4 Conditions to Avoid

- Contact with acids unless under controlled conditions
- Heating above 50°c – thermal decomposition commences
- Exposure to moisture

10.5 Incompatible materials

- Acids

10.6 Hazardous decomposition products

- None

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

(a) Acute Toxicity

- Oral LD_{50}, rat : >4000 mg/kg
- Inhalation, rat : 4.74 mg/l (low toxic potential)

Not classified according to EU Directive 67/548/EEC and CLP Regulation (EC) No. 1272/2008

(b) Skin Corrosion/Irritation

- Non-irritant

Not classified according to EU Directive 67/548/EEC and CLP Regulation (EC) No. 1272/2008

(c) Serious eye damage/irritation

- Non-irritant

Not classified according to EU Directive 67/548/EEC and CLP Regulation (EC) No. 1272/2008

(d) Respiratory or skin sensitisation

- Considered not to have any sensitising properties, based on the physiological properties of both its constituent ions and the lack of any reported issues

Not classified according to EU Directive 67/548/EEC and CLP Regulation (EC) No. 1272/2008

(e) Germ cell mutagenicity

- All test results have proven negative. Sodium bicarbonate is naturally present in cells and the structure does not indicate a genotoxic potential. Therefore sodium bicarbonate is considered not to be genotoxic

Not classified according to EU Directive 67/548/EEC and CLP Regulation (EC) No. 1272/2008

(f) Carcinogenicity

- No evidence of sodium bicarbonate having carcinogenic effects

Not classified according to EU Directive 67/548/EEC and CLP Regulation (EC) No. 1272/2008

(g) Reproductive toxicity

- No data on reproduction toxicity available. However, based on the normal physiological role of sodium and bicarbonate ions, no toxicity on mammalian or human reproduction is expected

Not classified according to EU Directive 67/548/EEC and CLP Regulation (EC) No. 1272/2008

12. ECOLOGICAL INFORMATION

12.1 Toxicity

- Fish, Lepomis macrochirus : 96hr-LC_{50}, 7100 mg/l
- Fish, Lepomis macrochirus : 96hr-NOEC, 5200 mg/l
- Invertebrates, Daphnia magna : 48hr-LC_{50}, 4100 mg/l
- Invertebrates, Daphnia magna : 48hr-NOEC 3100 mg/l
- Invertebrates, Daphnia magna : 21day-NOEC >576 mg/l

12.2 Persistence and degradeability

- In water : Not applicable (quickly dissociates)
- In soil : Not applicable (inorganic substance)
- In sediment : Not applicable (inorganic substance)

12.3 Biocummulative potential

: Not applicable (inorganic substance)

12.4 Mobility in Soil

: Not applicable (partition coefficient measurement not required, inorganic substance)

12.5 PBT and vPvB assessment

: According to Annex XIII of REACH Regulation, inorganic substances do not require assessment

12.6 Other adverse effects

: No other adverse effects are identified

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- If recycling spilled product is not practicable, dispose of in compliance with local or national regulations
- Dissolve in water and neutralise with an acid, under controlled conditions
- Do not dispose of directly with acids

Packaging:

- Where possible, recycling is preferred to disposal or incineration
- Clean container with water, dispose of rinse water in accordance with local or national regulations
- Must be incinerated in a registered incineration plant with permit from the local authorities

14.TRANSPORT INFORMATION

Sodium bicarbonate is not classified as hazardous for transport

14.1 UN Number

- Not regulated

14.2 UN proper shipping name

- Not regulated

14.3 Transport hazard class

- Land Transport	: ADR/RID	Not restricted
- Inland Waterway Transport	: ADN	Not regulated
- Sea Transport	: IMO/IMDG	Not regulated
- Air Transport	: ICAO-TI/IATA-DGR	Not regulated

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations

- Water Hazard Class : WGK 1, VwVwS (Germany)
- TSCA Inventory : Listed

15.2 Chemical safety assessment

- A Chemical Safety Assessment/Report (CSA/CSR) has been undertaken on sodium bicarbonate

16. OTHER INFORMATION

16.2 Abbreviations and acronyms

WEL	: Workplace exposure limit
ACGIH	: American Conference of Industrial Hygiene
TWA	: Time Weighted Average
DNEL	: Derived no effect level
NOEC	: No Observed Effect Concentration
PBT	: Persistent, Bioaccumulative, Toxic
vPvB	: very Persistent, very Bioaccumulative
PNEC	: Predicted No Effect Concentration
ADR	: European Agreement Concerning the International Carriage of Dangerous Goods by Road
RID	: International Rule for Transport of Dangerous Substances by Rail
ADN	: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway
IMO/IMDG	: International Maritime Organization/International Maritime Dangerous Goods Code
ICAO/IATA	: International Civil Aviation Organization/International Air Transport Association
OECD	: Organisation for Economic Co-operation and Development
SIDS	: Screening Information Data Set

16.3 Other information

- This MSDS with version number “Biachem 0” has been generated afresh and was not based on any previously issued MSDS and therefore differs in all sections.
- This SDS is only intended for the indicated country to which it is applicable. The European SDS format compliant with the applicable European legislation is not intended for use nor distribution in countries outside the European Union with the exception of Norway and Switzerland. Safety datasheets applicable in other countries/regions are available upon request.
- The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.