

Issue Date: 13th August 2020

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 : NaHCO₃
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 Company Details

Company Name : Intra-laboratories
Address : Unit 5 Devonshire Meadows
Broadley Park Road
Plymouth
Devon
PL6 7EZ

Telephone : +44 (0)1752 724109
Fax : +44 (0)1752 724109
Web : www.intralabs.co.uk
E-mail address of competent person : admin@intralabs.co.uk

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 labeling

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 (CO₂ 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^oc 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/m³ (total dust) (8hr TWA)
4mg/m³ (respirable dust) (8hr TWA)

8.1.2 [DNEL's/PNEC](#)

- DNEL_{Long-term} - after assessment of the physicochemical, toxicokinetic and physiological role of sodium bicarbonate, a DNEL_{Long-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)C₅₀ value is > 100 mg/l (48-h EC₅₀ 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 type 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 ^o 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 ^o c (study result, EU Method A.3)
Water solubility	: 93.4g/l @20 ^o 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 ^o c
Viscosity	: not applicable (solid)
Explosive properties	: non-explosive (no chemical groups associated with explosive)

Oxidising properties	: non-oxidising	properties) (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^oc – 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 LD₅₀, rat : >4000 mg/kg
: 4.74 mg/l (low toxic potential)
- Inhalation, rat 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-LC₅₀, 7100 mg/l
: 96hr-NOEC, 5200 mg/l
- Fish, *Lepomis macrochirus*
Invertebrates, *Daphnia*
- magna : 48hr-LC₅₀, 4100 mg/l
Invertebrates, *Daphnia* : 48hr-NOEC 3100
- magna mg/l
Invertebrates, *Daphnia* : 21day-NOEC >576
- magna mg/l

12.2 Persistence and degradeability

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

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

16.1 [Indication of changes](#)

None

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 [Key literature references and sources of data](#)

Data is taken from the Chemical Safety Report (CSR) and/or OECD SIDS report for sodium bicarbonate

16.4 [Further information](#)

16.4.1 **The substance(s) covered in this document do not legally require a Safety Data Sheet (SDS).**

16.4.2 The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid.

To our best present knowledge the information given is correct and complete as of the date of this document and is given in good faith but without warranty, either expressed or implied, nor do we accept any liability in relation to this information or its use. This version of the SDS supersedes all previous versions.