



Product : SODIUM BICARBONATE  
REACH Registration Number : 01-2119457606-32-0012  
Issue Number : 02 Revision 01  
Issue Date : 01-04-2011  
Supercedes : Issue No.02, dated 10-01-2011  
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## 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<sub>3</sub>  
Trade Names : Alkakarb<sup>®</sup>, Briskarb<sup>®</sup>, Hemokarb<sup>®</sup>, Pharmakarb<sup>®</sup>,  
Sodakarb<sup>®</sup>, Dessikarb<sup>®</sup>  
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 : Tata Chemicals Europe  
Address : Winnington Lane  
Mond House  
Northwich  
Cheshire  
CW8 4DT  
Telephone : +44 (0)1606 724000  
Fax : +44 (0)1606 781353  
Web : [www.tatachemicals.com/europe](http://www.tatachemicals.com/europe)  
E-mail address of competent person : [msds-tce@tatachemicals.com](mailto:msds-tce@tatachemicals.com)

### 1.4 Emergency Telephone

Emergency Telephone Number (24 hours) : +44 (0) 1606 781000

## 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



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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substance

Main constituent	Formula	CAS Number	EC Number	Wt. Percent
Sodium Bicarbonate	NaHCO <sub>3</sub>	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)



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## 6.2 Environmental Precautions

- Avoid discharges into the environment (rivers, water courses, sewers etc.)
- Avoid any mixture with an acid into sewer/drains (CO<sub>2</sub> 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<sup>3</sup> (total dust) (8hr TWA)  
4mg/m<sup>3</sup> (respirable dust) (8hr TWA)

### 8.1.2 DNEL's/PNEC

- DNEL<sub>Long-term</sub> - after assessment of the physicochemical, toxicokinetic and physiological role of sodium bicarbonate, a DNEL<sub>Long-term</sub> derivation is considered unnecessary
- DNEL<sub>Acute</sub> - sodium bicarbonate is considered to be of no toxicological concern, in acute studies no local irritation was noted. A DNEL<sub>acute</sub> derivation is considered unnecessary
- PNEC - The lowest L(E)C<sub>50</sub> value is > 100 mg/l (48-h EC<sub>50</sub> 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.



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## 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°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)



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## 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<sub>50</sub>, 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**



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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

- Fish, Lepomis macrochirus : 96hr-LC<sub>50</sub>, 7100 mg/l
- Fish, Lepomis macrochirus : 96hr-NOEC, 5200 mg/l
- Invertebrates, Daphnia magna : 48hr-LC<sub>50</sub>, 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



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## 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

Section 1 – change of company name, logo and contact details

**Issue No. : 02 Revision 01 Date of Issue : 01-04-2011 - supersedes Issue No. 02 Date of Issue: 10-01-2011**

### 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.

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