Distributed by:
Laguna Clay Company
14400 Lomitas Ave
City of Industry, CA 91746
1-800-4Laguna
info@lagunaclay.com
www.lagunaclay.com

# SODIUM BICARBONATE

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1. Identification of the substance or mixture

| | | |
|---|---|---|
| Product name | : | SODIUM BICARBONATE |
| Product grade(s) | : | USP Grade 1<br>USP Grade 1 TFF<br>Animal Feed<br>Technical Grade 1<br>Technical Grade 5 Coarse<br>Industrial Grade<br>USP Grade 2<br>USP Grade 5 |
| Chemical Name | : | Sodium hydrogencarbonate |
| Synonyms | : | Sodium bicarbonate, Bicar, Sodium bicarb |
| Molecular formula | : | $NaHCO_3$ |
| Molecular weight | : | 84.01 g/mol |

### 1.2. Use of the Substance/Mixture

Recommended use :

- Food/feedstuff additives
- Detergent
- Chemical industry
- Glass industry
- Foaming agents
- Water treatment
- Environmental protection
- Purifying flue gas
- Animal feed

### 1.3. Company/Undertaking Identification

Address : SOLVAY CHEMICALS, INC.
3333 RICHMOND AVENUE
HOUSTON TX 77098-3099
USA

### 1.4. Emergency and contact telephone numbers

| | | |
|---|---|---|
| **Emergency telephone number** | : | **1 (800) 424-9300 CHEMTREC ® (USA & Canada)**<br>**01-800-00-214-00 (MEX. REPUBLIC)** |
| **Contact telephone number (product information):** | : | **US: +1-800-765-8292 (Product information)**<br>**US: +1-713-525-6500 (Product information)** |

## 2. HAZARDS IDENTIFICATION

### 2.1. Emergency Overview:

| | | |
|---|---|---|
| NFPA | : | H= 0 F= 0 I= 0 S= None |
| HMIS | : | H= 0 F= 0 R= 0 PPE = Supplied by User; dependent on local conditions |

***General Information***

| | | |
|---|---|---|
| Appearance | : | crystalline, powder |
| Colour | : | white |
| Odour | : | odourless |

***Main effects***

- none

### 2.2. Potential Health Effects:

***Inhalation***

- No hazards to be specially mentioned.

***Eye contact***

- Dust contact with the eyes can lead to mechanical irritation.

***Skin contact***

- No hazards to be specially mentioned.
- Repeated or prolonged exposure: Contact with dust can cause mechanical irritation or drying of the skin..

***Ingestion***

- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

***Other toxicity effects***

- See section 11: Toxicological Information

### 2.3. Environmental Effects:

- See section 12: Ecological Information

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Sodium bicarbonate**

| | | |
|---|---|---|
| CAS-No. | : | 144-55-8 |
| **Concentration** | : | **>= 99.0 %** |

## 4. FIRST AID MEASURES

### 4.1. Inhalation

- Move to fresh air.
- If symptoms persist, call a physician.

### 4.2. Eye contact

- Rinse thoroughly with plenty of water, also under the eyelids.
- If eye irritation persists, consult a specialist.


www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

### 4.3. Skin contact

- Wash off with soap and water.

### 4.4. Ingestion

- Rinse mouth with water.
- If symptoms persist, call a physician or Poison Control Centre immediately.

### 4.5. Notes to physician

***Exposure to decomposition products :***

- When symptoms persist or in all cases of doubt seek medical advice.

## 5. FIREFIGHTING MEASURES

### 5.1. Suitable extinguishing media

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### 5.2. Extinguishing media which shall not be used for safety reasons

- None.

### 5.3. Special exposure hazards in a fire

- Not combustible.

### 5.4. Hazardous decomposition products

- none

### 5.5. Special protective equipment for firefighters

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. Advice for non-emergency personnel

- Evacuate personnel to safe areas.
- Avoid dust formation.

6.1.2. Advice for emergency responders

- Use personal protective equipment.
- Sweep up to prevent slipping hazard.
- Prevent further leakage or spillage.

### 6.2. Environmental precautions

- Do not flush into surface water or sanitary sewer system.
- Prevent any mixture with an acid into the sewer/drain (gas formations).

### 6.3. Methods and materials for containment and cleaning up

- Pick up and transfer to properly labelled containers.


www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

- Keep in suitable, closed containers for disposal.

**6.4. Reference to other sections**

- Refer to protective measures listed in sections 7 and 8.

## 7. HANDLING AND STORAGE

**7.1. Handling**

- Ensure adequate ventilation.
- Minimize dust generation and accumulation.
- Avoid contact with skin and eyes.
- Keep away from Incompatible products.

**7.2. Storage**

- Store in original container.
- Keep in a dry place.
- Keep in properly labelled containers.
- Keep container closed.
- Keep away from Incompatible products.

**7.3. Packaging material**

- Paper + PE.
- Polyethylene
- Polypropylene
- Woven plastic material + PE.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1. Exposure Limit Values**

**Sodium bicarbonate**

- SAEL (Solvay Acceptable Exposure Limit) 2007
  TWA = 10 mg/m3

**Sodium bicarbonate**

- SAEL (Solvay Acceptable Exposure Limit) 2007
  TWA = 10 mg/m3

**Particles not otherwise specified (PNOS)**

- US. ACGIH Threshold Limit Values 2007
  time weighted average = 3 mg/m3
  Remarks: as respirable particles
- US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) 02 2006
  Permissible exposure limit = 5 mg/m3
  Remarks: respirable dust fraction, All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
- US. ACGIH Threshold Limit Values 2010
  time weighted average = 10 mg/m3


www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

Remarks: Inhalable fraction

- US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) 02 2006
  Permissible exposure limit = 15 mg/m3
  Remarks: Total dust, All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 15 millions of particles per cubic foot of air
  Remarks: respirable dust fraction
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 50 millions of particles per cubic foot of air
  Remarks: Total dust
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 5 mg/m3
  Remarks: respirable dust fraction
- US. OSHA Table Z-3 (29 CFR 1910.1000) 2000
  time weighted average = 15 mg/m3
  Remarks: Total dust
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989
  time weighted average = 5 mg/m3
  Remarks: respirable dust fraction
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989
  time weighted average = 15 mg/m3
  Remarks: Total dust

## 8.2. Engineering controls

- Provide appropriate exhaust ventilation at places where dust is formed.
- Apply technical measures to comply with the occupational exposure limits.

## 8.3. Personal protective equipment

### *8.3.1. Respiratory protection*

- Use only respiratory protection that conforms to international/ national standards.
- Use NIOSH approved respiratory protection.

### *8.3.2. Hand protection*

- Impervious gloves

### *8.3.3. Eye protection*

- Safety goggles

### *8.3.4. Skin and body protection*

- No special protective equipment required.

### *8.3.5. Hygiene measures*

- When using, do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.



www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General Information

| | | |
|---|---|---|
| **Appearance** | : | crystalline, powder |
| **Colour** | : | white |
| **Odour** | : | odourless |

### 9.2. Important health safety and environmental information

| | | |
|---|---|---|
| **pH** | : | 8.4 (Water)<br>*Concentration*: 8.4 g/l<br>*Temperature*: 25 °C ( 77 °F ) |
| | : | 8.6<br>*Concentration*: 52 g/l |
| **pKa** | : | pKa1= 6.33 |
| **Boiling point/boiling range** | : | *Remarks*: No data available, Thermal decomposition |
| **Flash point** | : | *Remarks*: not applicable, inorganic |
| **Flammability** | : | *Remarks*: The product is not flammable. |
| **Explosive properties** | : | *Explosion danger*:<br>*Remarks*: Not expected |
| **Oxidizing properties** | : | *Remarks*: Not expected |
| **Vapour pressure** | : | *Remarks*: No data available, Thermal decomposition |
| **Relative density / Density** | : | 2.21 - 2.23<br>*Temperature*: 20 °C ( 68 °F )<br>2.21 kg/dm3 |
| **Bulk density** | : | from 0.5 - 1.3 kg/dm3 |
| | : | from 31 - 75 lb/ft3 |
| **Solubility(ies)** | : | 69 g/l (Water)<br>*Temperature*: 0 °C ( 32 °F ) |
| | : | 93 g/l (Water)<br>*Temperature*: 20 °C ( 68 °F ) |
| | : | 165 g/l (Water)<br>*Temperature*: 60 °C ( 140 °F ) |
| | : | Other |
| | : | slightly soluble |
| | : | Alcohol |
| **Partition coefficient: n-octanol/water** | : | *Remarks*: not applicable, inorganic |
| **Viscosity** | : | *Remarks*: not applicable |



www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

| | | |
|---|---|---|
| **Vapour density** | : | *Remarks*: not applicable |

### 9.3. Other data

| | | |
|---|---|---|
| **Melting point/range** | : | *Remarks*: No data available, Thermal decomposition |
| **Auto-flammability** | : | *Remarks*: The product is not flammable. |
| **Decomposition temperature** | : | > 50 °C ( 122 °F ) |
| **Remarks** | : | No data available |

## 10. STABILITY AND REACTIVITY

### 10.1. Stability
- Stable under recommended storage conditions.

### 10.2. Conditions to avoid
- Exposure to moisture.
- To avoid thermal decomposition, do not overheat.

### 10.3. Materials to avoid
- Acids

### 10.4. Hazardous decomposition products
- none

## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

***Acute oral toxicity***
- LD50, rat, > 4,000 mg/kg

***Acute inhalation toxicity***
- LC50, rat, > 4.74 mg/l

***Acute dermal irritation/corrosion***
- Remarks: No data available

***Skin irritation***
- rabbit, No skin irritation

***Eye irritation***
- rabbit, No eye irritation

***Sensitisation***
- No data available

***Chronic toxicity***
- no observed effect

***Carcinogenicity***



www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

- rat, Animal testing did not show any carcinogenic effects.

***Genetic toxicity in vitro***
- Genotoxicity in vitro, Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

***Genetic toxicity in vivo***
- In vivo, No data available

***Reproductive toxicity***
- Oral route (gavage), 10 days, rabbit, 330 mg/kg, Did not show teratogenic effects in animal experiments.

***Remarks***
- No data available

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity effects

***Acute toxicity***
- Fishes, Oncorhynchus mykiss, LC50, 96 h, 7,700 mg/l
- Fishes, Oncorhynchus mykiss, NOEC, 96 h, 2,300 mg/l
- Fishes, Lepomis macrochirus, LC50, 96 h, 7,100 mg/l
- Fishes, Lepomis macrochirus, NOEC, 96 h, 5,200 mg/l
- Crustaceans, Daphnia magna, EC50, 48 h, 4,100 mg/l
- Crustaceans, Daphnia magna, LOEC, 48 h, 3,100 mg/l

***Chronic toxicity***
- Crustaceans, Daphnia magna, NOEC, 21 Days, > 576 mg/l

### 12.2. Mobility
- Water, Soil/sediments
  Remarks: Solubility(ies)
- Water, Soil/sediments
  Remarks: high mobility.

### 12.3. Persistence and degradability

***Abiotic degradation***
- Water, hydrolyses
  Result: acid/base equilibrium as a function of pH
  Degradation products: carbonic acid/bicarbonate/carbonate

***Biodegradation***
- Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.4. Bioaccumulative potential
- Remarks: Does not bioaccumulate.

### 12.5. Other adverse effects
- No data available

### 12.6. Remarks



SOLVAY
asking more from chemistry®

www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

- No data available

## 13. DISPOSAL CONSIDERATIONS

**13.1. Waste from residues / unused products**

- Contact waste disposal services.
- If recycling is not practicable, dispose of in compliance with local regulations.
- Dilute with plenty of water.
- Neutralise with acid.
- In accordance with local and national regulations.

**13.2. Packaging treatment**

- Where possible recycling is preferred to disposal or incineration.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

## 14. TRANSPORT INFORMATION

- Sea (IMO/IMDG)
- not regulated
- Air (ICAO/IATA)
- not regulated
- U.S. Dept of Transportation
- not regulated
- It is recommended that ERG Guide number 111 be used for all non-regulated material.
- Canadian Transportation of Dangerous Goods
- not regulated

## 15. REGULATORY INFORMATION

**15.1. Inventory Information**

| | | |
|---|---|---|
| **Australia. Inventory of Chemical Substances (AICS)** | : - | In compliance with inventory. |
| **Canada. Domestic Substances List (DSL)** | : - | In compliance with inventory. |
| **Korea. Existing Chemicals Inventory (KECI (KR))** | : - | In compliance with inventory. |
| **EU list of existing chemical substances (EINECS)** | : - | In compliance with inventory. |
| **Japan. Inventory of Existing & New Chemical Substances (ENCS)** | : - | In compliance with inventory. |


www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

| | | |
|---|---|---|
| **Inventory of Existing Chemical Substances (China) (IECS)** | : - | In compliance with inventory. |
| **Philippine. Inventory of Chemicals and Chemical Substances (PICCS)** | : - | In compliance with inventory. |
| **USA. Toxic Substances Control Act (TSCA)** | : - | In compliance with inventory. |
| **New Zealand. Inventory of Chemicals (NZIOC)** | : - | In compliance with inventory. |
| **Mexico INSQ (INSQ)** | : - | In compliance with inventory. |

### 15.2. Other regulations

***US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)***

- not regulated.

***US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required***

- not regulated.

***US. EPA CERCLA Hazardous Substances (40 CFR 302)***

- not regulated.

***US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)***

- not regulated.

***US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)***

- not regulated.

***US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)***

- This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm..

### 15.3. Classification and labelling

***Canada. Canadian Environmental Protection Act (CEPA). WHMIS Ingredient Disclosure List (Can. Gaz., Part II, Vol. 122, No. 2)***

- Not listed

Remarks: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.



www.Lagunaclay.com 800-452-4862 info@lagunaclay.com

## 16. OTHER INFORMATION

**Ratings :**

**NFPA (National Fire Protection Association)**
Health = 0 Flammability = 0 Instability = 0 Special =None

**HMIS (Hazardous Material Information System)**
Health = 0 Fire = 0 Reactivity = 0 PPE : Supplied by User; dependent on local conditions

**Further information**

Material Safety Data Sheets contain country specific regulatory information; therefore, the MSDS's provided are for use only by customers of the company mentioned in section 1 in North America. If you are located in a country other than Canada, Mexico or the United States, please contact the Solvay Group company in your country for MSDS information applicable to your location.

The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product).

To our actual knowledge, the information contained herein is accurate as of the date of this document. However, neither the company mentioned in section 1 nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this information or its use. This information is for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right. The user alone must finally determine suitability of any information or material for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. This information gives typical properties only and is not to be used for specification purposes. The company mentioned in section 1 reserves the right to make additions, deletions or modifications to the information at any time without prior notification.

Trademarks and/or other products of the company mentioned in section 1 referenced herein are either trademarks or registered trademarks of the company mentioned in section 1 or its affiliates, unless otherwise indicated.

Copyright 2014, Company mentioned in Section 1. All Rights Reserved.



www.Lagunaclay.com 800-452-4862 info@lagunaclay.com