


MSDS Number: **S2954** \* \* \* \* \* *Effective Date: 11/26/07* \* \* \* \* \* *Supersedes: 05/23/06*

|   |   |
|---|---|
|  | <b>24 Hour Emergency Telephone: 908-859-2151</b><br><b>CHEMTREC: 1-800-424-9300</b>   |
|   | <b>National Response in Canada</b><br><b>CANUTEC: 613-996-6666</b>  |
| <b>Outside U.S. and Canada</b><br><b>Chemtrec: 703-527-3887</b>                   | <b>NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.</b> |

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# SODIUM BICARBONATE

## 1. Product Identification

**Synonyms:** Sodium hydrogen carbonate; sodium acid carbonate; baking soda; bicarbonate of soda

**CAS No.:** 144-55-8

**Molecular Weight:** 84.01

**Chemical Formula:** NaHCO<sub>3</sub>

**Product Codes:**

J.T. Baker: 3506, 3508, 3509, 3510

Mallinckrodt: 7285, 7396, 7397, 7412, 7749, 7903

## 2. Composition/Information on Ingredients

| Ingredient         | CAS No   | Percent   | Hazardous |
|--------------------|----------|-----------|-----------|
| Sodium Bicarbonate | 144-55-8 | 99 - 100% | No        |

## 3. Hazards Identification

### Emergency Overview

**As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.**

**SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)**

Health Rating: 1 - Slight

Flammability Rating: 1 - Slight

Reactivity Rating: 1 - Slight

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Green (General Storage)

### Potential Health Effects

---

**Inhalation:**

High concentrations of dust may cause coughing and sneezing.

**Ingestion:**

Extremely large oral doses may cause gastrointestinal disturbances.

**Skin Contact:**

No adverse effects expected.

**Eye Contact:**

Contact may cause mild irritation, redness, and pain.

**Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

No information found.

---

## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

**Skin Contact:**

Not expected to require first aid measures.

**Eye Contact:**

Wash thoroughly with running water. Get medical advice if irritation develops.

---

## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

Use protective clothing and breathing equipment appropriate for the surrounding fire.

---

## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed to sewer with plenty of water.

---

## 7. Handling and Storage

Keep in a well closed container stored under cold to warm conditions, 2 to 40 C, (36 to 104F). Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

---

## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

None established.

**Ventilation System:**

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

**Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

---

## 9. Physical and Chemical Properties

**Appearance:**

White crystalline powder.

**Odor:**

Odorless.

**Solubility:**

7.8g/100g water @ 18C (64F).

**Density:**

2.2

**pH:**

8.3 (0.1 molar @ 25C (77F))

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

Not applicable.

**Melting Point:**

60C (140F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

---

## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Gaseous carbon dioxide.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Reacts with acids to form carbon dioxide. Dangerous reaction with monoammonium phosphate or a sodium-potassium alloy.

**Conditions to Avoid:**

Heat, moisture, incompatibles.

## 11. Toxicological Information

Investigated as a mutagen, reproductive effector. Oral rat LD50: 4220 mg/kg. Irritation data: human,skin, 30mg/3D-I mild, rabbit,eye, 100 mg/30 S, mild.

| -----\Cancer Lists\-----      |                      |             |               |
|-------------------------------|----------------------|-------------|---------------|
| Ingredient                    | ---NTP Carcinogen--- |             | IARC Category |
|                               | Known                | Anticipated |               |
| Sodium Bicarbonate (144-55-8) | No                   | No          | None          |

## 12. Ecological Information

### Environmental Fate:

No information found.

### Environmental Toxicity:

For Sodium Bicarbonate:

48 hour EC50 Daphnia magna (water flea) : 2350 mg/L.

96 hour LC50 Lepomis macrochirus (bluegill) : > 5000 mg/L.

120 hour EC50 Nitzschia linearis (diatom) : 650 mg/L.

This material is not expected to be toxic to aquatic life.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

| -----\Chemical Inventory Status - Part 1\----- |      |     |       |           |
|--|------|-----|-------|-----------|
| Ingredient                                     | TSCA | EC  | Japan | Australia |
| Sodium Bicarbonate (144-55-8)                  | Yes  | Yes | Yes   | Yes       |

| -----\Chemical Inventory Status - Part 2\----- |       |            |      |       |
|--|-------|------------|------|-------|
| Ingredient                                     | Korea | --Canada-- |      | Phil. |
|  |       | DSL        | NDSL |       |
| Sodium Bicarbonate (144-55-8)                  | Yes   | Yes        | No   | Yes   |

| -----\Federal, State & International Regulations - Part 1\----- |            |     |                    |                |
|---|------------|-----|--------------------|----------------|
| Ingredient  | -SARA 302- |     | -----SARA 313----- |                |
|   | RQ         | TPQ | List               | Chemical Catg. |
| Sodium Bicarbonate (144-55-8)                                   | No         | No  | No                 | No             |

| -----\Federal, State & International Regulations - Part 2\----- |        |        |        |
|---|--------|--------|--------|
| Ingredient  | CERCLA | -RCRA- | -TSCA- |
|   |        | 261.33 | 8(d)   |
| Sodium Bicarbonate (144-55-8)                                   | No     | No     | No     |

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: No Chronic: No Fire: No Pressure: No  
Reactivity: No (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

**Label Hazard Warning:**

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

**Label Precautions:**

None.

**Label First Aid:**

Not applicable.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 12.

**Disclaimer:**

\*\*\*\*\*

**Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.**

**MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.**

\*\*\*\*\*

**Prepared by:** Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)