

# MATERIAL SAFETY DATA SHEET

## Sodium Bicarbonate



MSDS Ref. No.: 144-55-8

Date Approved: 02.15.2010

Revision No.: 1

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Sodium Bicarbonate  
**ALTERNATE PRODUCT NAME(S):** Baking Soda, Bicarbonate of Soda  
**GENERAL USE:** Leavening agent, cleaner ingredient, bath salt ingredient, water softener, diaper rinse ingredient, feed additive.

This chemical is certified to ANSI/NSF Standard 60, Drinking Water Chemicals-Health Effects (as packaged in the original, unopened container). The maximum dosage level for this chemical is 100 mg/L

### MANUFACTURER

FMC Specialty Alkali Corporation  
Alkali Chemicals Division  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (Email - General Information)

### EMERGENCY TELEPHONE NUMBERS

(307) 872-2452 (Plant - Green River, WY)

(303) 595-9048 (Medical - Call Collect)

For leak, fire, spill, or accident emergencies, call:  
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)

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## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

- White, odorless, granular solid
- Product is non-combustible
- Reacts with acids to release carbon dioxide gas and heat

**POTENTIAL HEALTH EFFECTS:** No significant health effects anticipated.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Sodium Bicarbonate	144-55-8	100	205-633-8	Not classified

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### 4. FIRST AID MEASURES

**EYES:** Flush with plenty of water. Get medical attention if irritation occurs and persists.

**SKIN:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**INGESTION:** Drink plenty of water. Never give anything by mouth to an unconscious person. If any discomfort persists, obtain medical attention.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

**NOTES TO MEDICAL DOCTOR:** Internal toxicity is low. Treatment is symptomatic and supportive.

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### 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Water, water fog, carbon dioxide (CO<sub>2</sub>), dry chemical

**FIRE / EXPLOSION HAZARDS:** None

**FIRE FIGHTING PROCEDURES:** None

**FLAMMABLE LIMITS:** Not applicable

**HAZARDOUS COMBUSTION PRODUCTS:** None

**SENSITIVITY TO IMPACT:** None

**SENSITIVITY TO STATIC DISCHARGE:** None

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## 6. ACCIDENTAL RELEASE MEASURES

**COMMENTS:** PERSONAL PRECAUTIONS: Refer to Section 8 "Exposure Controls / Personal Protection".

**CLEAN-UP:** This product, if spilled, can be recovered and re-used if contamination does not present a problem. Vacuum or sweep up the material. If the spilled product is unusable due to contamination, consult state or federal environmental agencies for acceptable disposal procedures and locations. See Section 13 "Disposal Considerations".

**NOTIFICATION REQUIREMENTS:** Federal regulations do not require notification for spills of this product. State and local regulations may contain different requirements; consult local authorities.

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## 7. HANDLING AND STORAGE

**HANDLING:** Use air conveying / mechanical systems for bulk transfer to storage. For manual handling or bulk transfer, use mechanical ventilation to remove airborne dust from rail car, ship or truck. Use approved respiratory protection when ventilation systems are not available. Selection of respirators is based on the dust cloud generated.

**STORAGE:** Store in a cool dry area, away from acids.

**COMMENTS:** Use general room dilution or local exhaust ventilation when excessive dust is expected in the work environment.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Where possible, provide general mechanical and/or local exhaust ventilation to prevent release of airborne dust into the work environment.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Appropriate eye and face protection equipment (ANSI Z87 approved) should be selected for the particular use intended for this material. Safety glasses with side shields are recommended.

**RESPIRATORY:** Whenever dust in the worker's breathing zone cannot be controlled with ventilation or other engineering means, workers should wear respirators or dust masks approved by NIOSH/MSHA, EU CEN or comparable certification organization to protect them against airborne dust.

**PROTECTIVE CLOTHING:** Dry product is generally non-irritating to intact skin. However, this product can be irritating where skin has been damaged and can create skin irritation. after long exposures when moisture is present. Under such conditions, gloves and long-sleeved clothing are recommended to minimize skin contact.

## COMMENTS:

### ADDITIONAL EXPOSURE GUIDELINES:

U.S. Federal guidelines treat the ingredient(s) in this product as a nuisance dust, as no product-specific guidelines have been issued for exposure. As with all nuisance dusts, worker breathing zone concentrations should be measured by validated sampling and analytical methods. The following limits (OSHA and MSHA) apply to this material:

Particulates N.O.S. (Not Otherwise Specified)

OSHA (PEL / TWA): 15 mg/m<sup>3</sup> (Total dust); 5 mg/m<sup>3</sup> (resp. fraction)

MSHA (PEL / TWA): 10 mg/m<sup>3</sup> (Total dust)

The information noted above provides general guidance for handling this product. Specific work environments and material handling practices will dictate the selection and use of personal protection equipment (PPE).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>ODOR:</b>	Odorless
<b>APPEARANCE:</b>	White, granular solid.
<b>AUTOIGNITION TEMPERATURE:</b>	Not applicable
<b>BOILING POINT:</b>	Decomposes
<b>COEFFICIENT OF OIL / WATER:</b>	Not applicable
<b>DENSITY / WEIGHT PER VOLUME:</b>	0,88 g/ml
<b>EVAPORATION RATE:</b>	Not applicable (Butyl Acetate = 1)
<b>FLASH POINT:</b>	Non-combustible
<b>MELTING POINT:</b>	Decomposes
<b>ODOR THRESHOLD:</b>	Not applicable
<b>OXIDIZING PROPERTIES:</b>	Not applicable
<b>PERCENT VOLATILE:</b>	Not available

<b>pH:</b>	8,3 (1% solution)
<b>SOLUBILITY IN WATER:</b>	% by wt. @ 20 deg C: 9,0
<b>SPECIFIC GRAVITY:</b>	2,20 (water = 1)
<b>VAPOR DENSITY:</b>	Not Applicable (Air = 1)
<b>VAPOR PRESSURE:</b>	Not available

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## 10. STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	Contact with acids except under controlled conditions.
<b>STABILITY:</b>	Stable
<b>POLYMERIZATION:</b>	Will not occur
<b>INCOMPATIBLE MATERIALS:</b>	Reacts with acids to release carbon dioxide, gas and heat.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	None

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## 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Non-irritating (rabbit) J. Amer. Coll. Toxicol. 1987

**SKIN EFFECTS:** Non-irritating (rabbit) J. Amer. Coll. Toxicol. 1987

**DERMAL LD<sub>50</sub>:** No data available for the product.

**ORAL LD<sub>50</sub>:** 20% slurry: 4,300 mg/kg (rat)  
50% slurry: 6,000 mg/kg (rat)  
Gosselin, Smith and Hodge, Clinical Tox. of Comm. Products, 1984

**INHALATION LC<sub>50</sub>:** No data available for the product

**TARGET ORGANS:** None

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product, when dry, is generally non-irritating to intact skin. However, when moisture is present, it can be irritating to damaged skin and can create irritation after long exposures. This product is approved for use as a food ingredient and is Generally Recognized As Safe (GRAS). No significant acute toxicological effects expected.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** Administration of large doses of sodium bicarbonate to patients with renal insufficiency can produce systemic alkalosis.

**CARCINOGENICITY:**

<b>NTP:</b>	Not listed
<b>IARC:</b>	Not listed
<b>OSHA:</b>	Not listed
<b>OTHER:</b>	(ACGIH) Not listed

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**12. ECOLOGICAL INFORMATION**

**ECOTOXICOLOGICAL INFORMATION:** 48-hour  $LC_{50}$  = 2000 mg/L (Culex sp. Larvae or mosquito)

**CHEMICAL FATE INFORMATION:** No data available for the product.

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**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL METHOD:** When this product is discarded or disposed of, as purchased, it is neither a characteristic nor a listed hazardous waste according to U.S. Federal RCRA regulations (40 CFR 261). As a non-hazardous waste the materials may be disposed of in a landfill in accordance with government regulations; check local regulations for applicable requirements prior to disposal. Any processing, usage, alteration, chemical additions to, or contamination of, the product may alter the disposal requirements. Under Federal regulations, it is the generator's responsibility to determine if a waste is a hazardous waste.

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**14. TRANSPORT INFORMATION****INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)**

**ADDITIONAL INFORMATION:** Not regulated

**ADR - EUROPEAN AGREEMENT CONCERNING THE  
INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD**

**ADDITIONAL INFORMATION:**

Not regulated

**INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) /  
INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)**

**ADDITIONAL INFORMATION:**

Not regulated

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## 15. REGULATORY INFORMATION

**INVENTORY STATUS:**

EINECS Yes

**LABELING:**



Symbol: Xi - Irritant

Risk Phrases: R36 - Irritating to eyes.

Safety Phrases: S22 - Do not breathe dust.  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

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## 16. OTHER INFORMATION

The following is an explanation of the meaning of the symbol letters and risk phrases for the pure substance(s) referred to in section 3 of this safety data sheet.

Xi Irritant

R36 Irritating to eyes.

**REVISION SUMMARY:**

New MSDS.

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