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# SODIUM BICARBONATE

## Safety Data Sheet

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### 1. IDENTIFICATION

**Product name:** Sodium bicarbonate

**Synonyms:** Sodium hydrogen carbonate; Baking soda; Bicarbonate of soda; Sodium acid carbonate; Carbonic acid, monosodium salt.

**Manufacturer:**

Natrium Products, Inc.  
58 Pendleton Street  
Cortland, NY 13045  
USA

**Telephone numbers:**

General inquiries: (607) 753-9829  
Emergencies (US and Canada):  
CHEMTREC (Customer Number 724993)  
(800) 424-9300 or 703-527-3887 (collect)

**Recommended uses:**

Food additive; pharmaceutical ingredient; water treatment; raw material for paper and chemical manufacturing; animal feed additive; pH control.

### 2. HAZARD IDENTIFICATION

There are no appreciable health or environmental effects associated with this material.

**Hazard classification:** Not classified

**Label elements:** No applicable labeling

**Other potential health effects:**

**Eyes:** Direct contact may cause irritation due to abrasion.

**Skin:** Not a skin irritant.

**Inhalation:** No known effects.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical name:** Sodium hydrogen carbonate

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

**Synonyms:** Sodium bicarbonate; Baking soda; Bicarbonate of soda; Sodium acid carbonate; Carbonic acid, monosodium salt.

**CAS Number:** 144-55-8

**Concentration (% by Weight):** 100%

### 4. FIRST AID MEASURES

**Eye contact:** Irrigate with flowing water immediately and continuously for 15 minutes. Consult a physician if necessary.

**Skin contact:** Wash off in flowing water or shower. If necessary, consult physician.

**Ingestion:** Do not induce vomiting. Seek medical attention immediately if overdose is taken.

Note to physician: Large doses, particularly in patients with renal insufficiency, have produced systemic alkalosis and/or expansion in the extra-cellular fluid volume with edema.

**Inhalation:** Remove to fresh air. Seek medical attention if discomfort persists.

### 5. FIRE-FIGHTING MEASURES

Product is non-combustible. Thermal decomposition products are carbon dioxide and sodium carbonate (soda ash). Carbon dioxide is an asphyxiant, and soda ash is an irritant.

**Protective equipment:** Self-contained breathing apparatus is necessary if large quantities are involved.

**Extinguishing media:** Use extinguishing material that is appropriate for fire in the surrounding area.

## 6. ACCIDENTAL RELEASE MEASURES

Sweep up into clean, dry containers for salvage or disposal. Wash away uncontaminated residue with water.

## 7. HANDLING AND STORAGE

Avoid contact with eyes and skin. Keep separated from acids. Store in a cool, dry place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure limits:** Not established.

**Engineering controls:** Provide general and/or local exhaust ventilation to control airborne dust.

**Personal Protection:**

**Eyes & Face:** Safety glasses for dusty conditions.

**Respiratory:** NIOSH approved dust mask.

**Miscellaneous:** Full cover clothing, general purpose gloves.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** White crystalline powder or granules.

**Flammability:** None.

**Upper/lower flammability/explosive limits:** Not applicable.

**Odor:** None.

**Odor threshold:** Not applicable.

**Vapor pressure:** Not applicable.

**Vapor density:** Not applicable.

**pH of 0.1 M solution (0.84% w/v):** 8.3 @ 25°C

**Density:** 2.2 g/cm<sup>3</sup>.

**Melting point:** Not applicable (thermal decomposition occurs on heating).

**Solubility in water:** 86 g/L @ 20°C.

**Boiling point:** Not applicable.

**Flash point:** Not applicable.

**Evaporation rate:** Not applicable.

**Partition coefficient, n-octanol/water:** No data available.

**Auto-ignition temperature:** Not applicable.

**Decomposition temperature:** Starts to decompose when heated above 50°C (122°F).

**Viscosity:** Not applicable.

## 10. STABILITY AND REACTIVITY

**Reactivity:** Hazardous reactions or polymerization will not occur under normal conditions.

**Chemical stability:** Stable under recommended handling and storage conditions. (See Section 7.)

**Conditions to avoid:** Temperatures above 50°C (122°F).

**Incompatible materials:** Reacts with acids, releasing carbon dioxide.

**Hazardous decomposition products:** Carbon dioxide and sodium carbonate (soda ash).



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### 11. TOXICOLOGICAL INFORMATION

**Acute Oral:** LD<sub>50</sub> (rat) > 4000 mg/kg.

**Acute Inhalation:** LC<sub>50</sub> (rat) > 4.74 mg/L.

**Eyes:** Minimally irritating (rabbit, EPA TSCA 40 CFR 798.4500); Irritating (rabbit, Draize test, dose of 220 mg).

**Skin:** Slightly irritating (rabbit).

**Carcinogenicity:** Not listed as a carcinogen or potential carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the U.S. Occupational Safety and Health Administration (OSHA).

### 12. ECOLOGICAL INFORMATION

**Aquatic toxicity:**

Fish: LC<sub>50</sub> = 7700 mg/L (Rainbow trout, 96-hr. exposure).

Fish: LC<sub>50</sub> = 7100 mg/L (Bluegill sunfish, 96-hr. exposure).

Invertebrates: EC<sub>50</sub> > 1000 mg/L (*Daphnia magna*, 48-hr. exposure).

**Persistence/Bioaccumulation potential:** Not expected to persist or bioaccumulate in the environment.

**Biodegradation:** Not applicable.

**Mobility:** High potential for movement from soil to groundwater is expected based on aqueous solubility.

### 13. DISPOSAL CONSIDERATIONS

Not a hazardous material. Dispose in a landfill in accordance with pertinent federal, state and local regulations. Empty containers may be incinerated or discarded as ordinary waste.

### 14. TRANSPORT INFORMATION

Not regulated by the U.S. Department of Transportation.

### 15. REGULATORY INFORMATION

CERCLA (40 CFR 302.4): Not a hazardous substance.

RCRA (40 CFR 261): Not a hazardous waste.

TSCA (40 CFR 710): Listed.

OSHA (29 CFR 1910.1200): Not hazardous.

SARA. Title III Sections 302 (40 CFR 355), 313 (40 CFR 372): Not a hazardous or toxic chemical.

European Inventory (EINECS): 205-633-8.

Japanese Inventory (MITI): 1-164.

U.S. Food and Drug Administration: Generally recognized as safe (GRAS) direct food additive (21 CFR 184.1736).

### 16. OTHER INFORMATION

Maximum use level for drinking water corrosion and scale control: 100mg/L per NSF/ANSI 60 – 2014a.

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**Supersedes:** 5/1/2015

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