

Sodium Bicarbonate

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Material Safety Data Sheet

Chemical: Sodium Bicarbonate

NFPA: H=1 F=0 I= 0 S=None

HMIS: H=1 F=0 R=0 PPE= Supplied by user;
dependent on conditions

MSDS Number: Bicarb-0604

Effective Date: 30 June 2004

Issued by: Solvay Chemicals, Inc. Regulatory Affairs Department

Not valid three years after effective date or after issuance of superseding MSDS, whichever is earlier. French or Spanish translations of this MSDS may be available. Check www.solvaychemicals.us or call Solvay Chemicals, Inc. to verify the latest version or translation availability.

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1. Company and Product Identification

1.1 Product Name: Sodium Bicarbonate

Chemical Name: Sodium hydrogen carbonate

Synonyms: Bicarb, baking soda, bicarbonate, sodium acid carbonate

Chemical Formula: NaHCO₃

Molecular Weight: 84.02

CAS Number: 144-55-8

EINECS Number: 205-633-8

1.2 Recommended Uses: Animal feed, pharmaceuticals, purifying flue gas, chemical industry

1.3 Supplier: Solvay Chemicals, Inc.
PO BOX 27328 Houston, TX 77227-7328
3333 Richmond Ave. Houston, Texas 77098

1.4 Emergency Telephone Numbers

Emergencies (USA): 1-800-424-9300 (CHEMTREC®)

Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC®)

Transportation Emergencies (CANADA): 1-613-996-6666 (CANUTEC)

Transportation Emergencies (MEXICO-SETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro
area)



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2. Composition/Information on Ingredients

INGREDIENTS	FORMULA	WT. PERCENT	CAS #
Sodium Bicarbonate	NaHCO ₃	> 99	144-55-8

3. Hazards Identification

Emergency Overview: Sodium bicarbonate is an odorless, white crystalline solid, slightly to moderately irritating to mucous membranes and eyes.

3.1 Route of Entry: Inhalation: Yes Skin: Yes Ingestion: Yes

3.2 Potential Effects of exposure:

Inhalation (Dust): Slight irritating to nose.

Eyes(Dust): Moderate irritation to eyes.

Skin contact: Negligible effect.

Ingestion: Ingestion of large quantities may cause nausea and vomiting.

Carcinogenicity: See section 11.3.

4. First-Aid Measures

General Recommendations: Remove subject from exposure.

4.1 Inhalation: Remove subject to a dust free environment and blow nose.

Eyes:

- Flush eyes with running water for 15 minutes, maintaining the eyelids wide open to eliminate the product.
- Consult an ophthalmologist in case of persistent pain.

Skin:In case of persistent pain or reddening, consult a physician. Provide clean clothes.

Ingestion:

- DO NOT ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
- Rinse mouth with fresh water. Remove any residue of the product from the person's mouth.

5. Fire-Fighting Measures

5.1 Flash point: Not applicable.

5.2 Auto-ignition Temperature: Not applicable.

5.3 Flammability Limits: Not applicable.

5.4 Unusual Fire and Explosion Hazards: None.

5.5 Extinguishing Methods

Common: In case of fire in close proximity, all means of extinguishing are acceptable.

Inappropriate extinguishing means: No restriction.

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6. Accidental Release Measures

6.1 Precautions:

- Avoid excessive dust.
- Follow the protective measures given in section 8.

6.2 Cleanup methods:

- Clean up uncontaminated material and recycle into process.
- Place unusable material into a dry, closed, labeled container compatible with the product.

6.3 Precautions for protection of the environment:

- Clean up residual material by washing area with water.
- Do not flush to drain.
- Prevent material from entering public sewer systems or any waterways.
- Dispose of waste in accordance with applicable federal, state, and local environmental laws and regulations.

7. Handling and Storage

7.1 Handling: Keep away from reactive products (See section 10).

7.2 Storage: Keep in a closed, properly labeled container in a dry area away from acids

7.3 Specific Uses: See Section 1.2.

7.4 Other precautions: None.

7.5 Packaging:

- Paper+PE.
- PE.

8. Exposure Controls/Personal Protection

8.1 Exposure Limit Values: This material does not have established exposure limits.

Authorized limit Values

Nuisance Dust

OSHA PEL

5 mg/m³ (Respirable Fraction),
15 mg/m³ (Total Dust).

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8.2 Exposure Controls:

8.2.1 Occupational Exposure Controls:

8.2.1.1 Ventilation: In places with the possibility for creating excessive dust in excess of exposure limits, ventilation should be provided.

8.2.1.2 Respiratory protection: In case of significant or accidental dust emissions, a NIOSH/MSHA approved dust respirator should be worn.

8.2.1.3 Hand protection: Chemical resistant gloves - for frequent or prolonged operations.

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8.2.1.4 Eye protection: In cases of significant dust, dust proof goggles are recommended.

8.3 Other precautions:

- Protective clothing in dusty areas.
- An eyewash and safety shower should be nearby and ready for use.
- Use good hygiene practices when handling this product including changing work clothes after use.
- Do not eat, drink or smoke in areas where this material is handled.

9. Physical and Chemical Properties

9.1 Appearance: Crystalline solid.

Color: White.

Odor: Odorless.

9.2 Important Health, Safety and Environmental information:

pH: 8.6 (5% solution).

Change of state:

Melting point: Not Applicable.

Boiling point: Not Applicable (Decomposition).

Decomposition Temperature: Beginning at 60°C (140°F).

Flash Point: Not Applicable.

Flammability: Not Applicable.
(solid, gas)

Explosive Properties: Not Applicable.

Oxidizing Properties: Non-Oxidizer.

Vapor Pressure: Not Applicable.

Relative Density: 2.2.

Specific gravity (H₂O=1)

Solubility:

Water: 88g / liter water. @ 20°C (68°F).

Fat: Not Applicable.

Alcohol: Slightly soluble.

Partition coefficient: P (n-octanol/water): Not applicable.

Viscosity: Not applicable.

Vapor Density (air=1): Not applicable.

Evaporation Rate: Not applicable.

9.3 Other Information:

Bulk Density: 32-79 lbs/ft³ (0.5-1.2 kg/Dm³) - Typically 60 lbs/ft³

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10. Stability and Reactivity

Stability: Stable at ambient temperature and atmospheric pressure.

10.1 Conditions to avoid: Heat.

10.2 Materials and substances to avoid: Acids.

10.3 Hazardous decomposition products: None.

10.4 Hazardous Polymerization: Will not occur.

11. Toxicological Information

11.1 Acute toxicity:

Inhalation: LC₅₀, rat, >4.74mg/l.

Oral: LD₅₀, rat, >4g/kg.

Dermal: No data.

Irritation:

- Rabbit, Slight irritant (skin).
- Rabbit, Slight irritant (eyes).

11.2 Chronic toxicity:

- No observed effect.
- In vitro, no mutagenic effect.
- Oral route (gavage), 10 days, various species, 330 mg/kg, no teratogenic effect.

11.3 Carcinogenic Designation: None.

12. Ecological Information

12.1 Acute ecotoxicity:

- Crustaceans, Daphnia magna, EC₅₀, 48 hours, 4100 mg/l.
- Crustaceans, Daphnia magna, NOEC, 48 hours, 3100 mg/l.
- Fishes, Lepomis macrochirus, LC₅₀, 96 hours, 7100 mg/l.
- Fishes, Lepomis macrochirus, NOEC, 96 hours, 5200 mg/l.
- Fishes, Oncorhynchus mykiss, LC₅₀, 96 hours, 7700 mg/l.
- Fishes, Oncorhynchus mykiss, NOEC, 96 hours, 2300 mg/l.

12.2 Chronic ecotoxicity: No data.

12.3 Mobility:

- Water: Considerable solubility and mobility.
- Soil/sediments: Considerable solubility and mobility.

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12.4 Degradation

Abiotic:

- Water, hydrolysis. Acid/Base equilibrium as a function of pH.
- Degradation products: carbonic acid/carbon dioxide (pH<6) /bicarbonate (pH 6-10)/carbonate (pH>10)Soil-result: Not applicable (inorganic compound).

Biotic: Not Applicable (inorganic compound).

12.5 Potential for bioaccumulation: Not Applicable (inorganic compound).

12.6 Other adverse effects /Comments: Product is not significantly hazardous for the environment.

13. Disposal Considerations

13.1 Waste treatment: Sodium Bicarbonate is not a listed hazardous waste under 40 CFR 261. However, state and local regulations for waste disposal may be more restrictive. Spilled product should be disposed of in an EPA approved disposal facility in accordance with applicable national, state and local environmental laws and regulations.

13.2 Packaging treatment: Use dedicated containers where possible. Rinse the empty containers and treat the effluent in the same way as waste. Consult current federal, state and local regulations regarding the proper disposal of emptied containers.

13.3 RCRA Hazardous Waste: Not Listed.

14. Transport Information

Mode	DOT	IMDG	IATA
UN Number	Not a regulated hazardous material.	Not a regulated hazardous material.	Not a regulated hazardous material.
Other	It is recommended that ERG Guide # 111 be used for all non-DOT-regulated material.		

15. Regulatory Information

National Regulations (US)

TSCA Inventory 8(b): Yes.

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR355): No.

SARA Title III Sec. 311/312 (40 CFR 370): No.

SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372): No.

CERCLA Hazardous Substance (40 CFR Part 302)

Listed: No.

Unlisted Substance: No.

Characteristic: Not Applicable.

State Component Listing: None identified.

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National Regulations (Canada)

Canadian DSL Registration: Yes.

WHMIS Classification: Not listed.

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**.

ECC Labeling: Not classified according to Annex I of Dir. 67/548/EEC (19th ATP: Dir. 93/72/EEC)

16. Other Information

16.1 Ratings:

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

Health = 1 Flammability = 0 Instability = 0 Special = None

HMIS (HAZARDOUS MATERIAL INFORMATION SYSTEM)

Health = 1 Fire = 0 Reactivity = 0 PPE = Supplied by User; dependent on local conditions

16.2 Other Information:

Maximum Dose level for Potable water is 200 mg/l.

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).

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16.3 Reason for revision:

Supersedes edition: None.

Purpose of revision: Original.