1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: Sodium Bicarbonate

Other means of identification

Product Code(s): 144-55-8

Synonyms: Baking Soda, Bicarbonate of Soda

Recommended use of the chemical and restrictions on use

Recommended Use: Leavening agent, cleaner ingredient, bath salt ingredient, water softener, diaper rinse ingredient, feed additive

Restrictions on Use: No information available

Manufacturer Address

Tronox Specialty Alkali Corporation
1735 Market Street
Philadelphia, PA 19103
Tel: +1 877-362-2248 or +1 215-299-6904
www.tronox.com

Emergency telephone number

1 307 / 872 2452 (Plant - Green River, WY)
(303) 595-9048 (Medical - U.S. - Call Collect)

For leak, fire, spill, or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A. & Canada)
1 703 / 527 3887 (CHEMTREC - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

The product contains no substances which at their given concentration, are considered to be hazardous to health
Sodium Bicarbonate

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information
Product dust may cause mechanical eye irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Bicarbonate</td>
<td>144-55-8</td>
<td>100</td>
</tr>
</tbody>
</table>

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact
Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

Skin Contact
Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation
Remove person to fresh air. If signs/symptoms continue, get medical attention.

Ingestion
Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed
None known.

Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific Hazards Arising from the Chemical
None in particular. Not flammable.

Hazardous Combustion Products
None.

Explosion data

Sensitivity to Mechanical Impact
Not sensitive.

Sensitivity to Static Discharge
Not sensitive.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Avoid dust formation.

Other
For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
7. HANDLING AND STORAGE

Handling
Use air conveying/mechanical systems for bulk transfer to storage. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment if release of airborne dust is expected.

Storage
Keep in a dry place. Keep away from incompatible products (acids). Do not store with strong smelling materials.

Incompatible products
Except under controlled conditions: Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies Local nuisance dust standards apply

Appropriate engineering controls
Engineering measures
Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Individual protection measures, such as personal protective equipment
Eye/Face Protection
Safety glasses with side-shields.

Skin and Body Protection
Wear suitable protective clothing. Protective shoes or boots.

Hand Protection
Protective gloves

Respiratory Protection
In case of inadequate ventilation wear respiratory protection.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

General information
If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystalline, Powder</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>8.3 (1% solution) @ 25 °C</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
</tbody>
</table>
**Sodium Bicarbonate**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Negligible</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>2.22</td>
</tr>
<tr>
<td>Water solubility</td>
<td>96 g/L @ 20 °C</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non-oxidizing</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>84.01</td>
</tr>
<tr>
<td>Bulk density</td>
<td>66 lb/cu ft</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**

None under normal use conditions.

**Chemical Stability**

Stable.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Heat. Humid air. Avoid contact with acids except under controlled conditions. Keep away from strong odor.

**Incompatible materials**

Except under controlled conditions: Acids.

**Hazardous Decomposition Products**

Reacts with acids to release carbon dioxide gas and heat.

### 11. TOXICOLOGICAL INFORMATION

**Product Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 Oral</td>
<td>&gt; 5,000 mg/kg (rat)</td>
</tr>
<tr>
<td>LD50 Dermal</td>
<td>No information available</td>
</tr>
<tr>
<td>LC50 Inhalation</td>
<td>&gt; 4.74 mg/L (rat) 4.5 hr</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Non-irritating</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Non-irritating</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Non-sensitizing</td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**

No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic toxicity**

No known effect.

**Mutagenicity**

Not mutagenic.

**Carcinogenicity**

Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).

**Reproductive toxicity**

No information available.

**STOT - single exposure**

No information available.
12. ECOLOGICAL INFORMATION

Ecotoxicity

Sodium Bicarbonate (144-55-8)

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium bicarbonate</td>
<td>96 hr</td>
<td>Leptomis macrochirus</td>
<td>NOEC: 5,200</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Bluefin sunfish)</td>
<td>LC50: 7,100</td>
<td></td>
</tr>
<tr>
<td>Sodium bicarbonate</td>
<td>48 hr</td>
<td>Daphnia magna</td>
<td>NOEC: 3,100</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EC50: 4,100</td>
<td></td>
</tr>
<tr>
<td>Sodium bicarbonate</td>
<td>96 hr</td>
<td>Oncorhynchus mykiss</td>
<td>NOEC: 2,300</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(rainbow trout)</td>
<td>LC50: 7,700</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability
Biodegradability does not pertain to inorganic substances.

Bioaccumulation
Does not bioaccumulate.

Mobility
Dissociates into ions.

Other Adverse Effects
None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Dispose of in accordance with local regulations.

Contaminated Packaging
Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT
NOT REGULATED

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)
CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated by state right-to-know regulations.

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA (United States)</th>
<th>DSL (Canada)</th>
<th>EINECS/ELINCS (Europe)</th>
<th>ENCS (Japan)</th>
<th>China (IECSC)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Bicarbonate 144-55-8 (100)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

NFPA

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

NFPA/HMIS Ratings Legend
Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Product Certifications
The MUL (maximum use level) for sodium bicarbonate is 100 mg/L under NSF/ANSI Standard 60.

Revision date: 2015-04-01
Revision note: Minor change
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End of Safety Data Sheet