



Trona

## Material Safety Data Sheet

Date Prepared: June 2009

Supersedes: December 2005

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazards Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

### 1. Product and Company Identification

**Product Name** Trona

**Alternate Product Name(s)** Sodium Sesquicarbonate (Impure Naturally Occurring Form)

**Chemical Formula**  $\text{Na}_2\text{CO}_3\text{-NaHCO}_3\text{:2H}_2\text{O}$

**General Use** pH adjustment in water or waste water, flue gas desulfurization, coal treatment.

**Manufacturer**  
General Chemical Industrial Products  
120 Eagle Rock Avenue  
East Hanover, NJ 07936

**Emergency Telephone Numbers**  
(800) 424-9300 (CHEMTREC – US)  
(613) 996-6666 (CANUTEC – Canada)  
(307) 872- 3431 (Plant – Green River, WY)

### 2. Composition / Information on Ingredients

Chemical Name	CAS #	Wt. %	EC No.	EC Class
Sodium Sesquicarbonate (Naturally Occurring)	533-96-0	90 - 93	208-580-9	Xi, R36

This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

### 3. Hazards Identification

#### Emergency Overview:

- Product is non-combustible.
- Reacts with acids to release carbon dioxide gas and heat.
- Irritating to the eyes. Inhalation of product may irritate nose, throat, and lungs. Prolonged contact may irritate skin.
- Not expected to be toxic to the environment, nor to aquatic organisms.

### **Potential Health Effects:**

Direct contact with the product causes irritation of the eyes and continuous or prolonged contact may cause skin irritation (red, dry, cracked skin). Excessive levels of airborne dust may irritate the mucous membranes and upper respiratory tract.

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## **4. First Aid Measures**

**Eyes:** Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. Seek medical attention.

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

**Ingestion:** Do not induce vomiting. If conscious, drink several glasses of water. Seek immediate medical attention.

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

**Notes to Medical Doctor:** While internal toxicity is low, irritant effects of high concentrations may produce corneal opacities, and vesicular skin reactions in humans with abraded skin only. Treatment is symptomatic and supportive.

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## **5. Fire Fighting Measures**

**Extinguishing Media:** Not combustible, use extinguishing method suitable for surrounding fire.

**Fire / Explosion Hazards:** Not applicable.

**Fire Fighting Procedures:** Wear full protective clothing and self-contained breathing apparatus.

**Flammable Limits:** Not applicable.

**Hazardous Combustion Products:** Carbon dioxide.

**Sensitivity to Impact:** None

**Sensitivity to Static Discharge:** None

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## **6. Accidental Release Measures**

**Personal Precautions:** Refer to Section 8 "Exposure Controls / Personal Protection"

**Containment:** Prevent large quantities of this product from contacting vegetation or waterways; large spills could kill vegetation and fish.

**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 of bulk transfer use mechanical ventilation to remove airborne dust from railcar, ship or truck. Use approved respiratory protection when ventilation systems are not available. Selection of respirators is based on the dust cloud generation. Keep material out of lakes, streams, ponds and sewer drains.

Avoid eye contact or prolonged skin contact. Avoid breathing dusts. When dissolving, add to water cautiously and with stirring; solutions can get hot. Use good personal hygiene and housekeeping.

**Storage:** Store in a cool dry area, away from acids. Prolonged storage may cause product to cake from atmospheric moisture.

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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. Eye wash facility should be provided in storage and general work area.

### **Personal Protective Equipment:**

**Eyes and Face:** For dusty or misty conditions, or when handling solutions where there is reasonable probability of eye contact, wear chemical safety goggles and hard hat. Under these conditions do not wear contact lenses. Otherwise, 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.

**Hands, Arms, and Body:** Wear long-sleeve shirt and trousers, and impervious gloves for routine product use. Cotton gloves are sufficient for dry product; wear impervious gloves when handling solutions.

**Additional Exposure Guidelines:** 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 Not Otherwise Regulated:  
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 protective equipment (PPE).

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## 9. Physical and Chemical Properties

**Material is a Solid at normal conditions.** (Molecular wt. = 226.03)

<b>Odor:</b>	Odorless
<b>Appearance and Color:</b>	Light Brown solid, crystal or dust
<b>Auto ignition Temperature:</b>	Not applicable
<b>Boiling Point:</b>	Not applicable
<b>Coefficient of Oil / Water:</b>	Not applicable
<b>Evaporation Rate:</b>	Not applicable (Butyl Acetate = 1)
<b>Flash Point:</b>	Not flammable
<b>Melting Point:</b>	> 708 C (1588 F)
<b>Odor Threshold:</b>	Not applicable
<b>Oxidizing Properties:</b>	Not applicable
<b>Percent Volatile:</b>	Not applicable
<b>1% Solution pH:</b>	9.8 (approximate)
<b>Solubility in Water:</b>	16.0 @ 50 F
<b>Specific Gravity:</b>	2.112 (water = 1)
<b>Vapor Density:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable

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## 10. Stability and Reactivity

<b>Conditions to avoid:</b>	Protect from moisture. Contact with acids except under controlled conditions.
<b>Stability:</b>	Stable
<b>Polymerization:</b>	Will not occur.
<b>Incompatible Materials:</b>	None

**Hazardous Decomposition**

CO<sub>2</sub> is evolved when mixed with acids and oxidizing agents.

**Products:****Materials to avoid:**

**Other Precautions:** When dissolving, add to water cautiously and with stirring; solutions can get hot.

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## 11. Toxicological Information

**Eye Effects:**

Severe irritant (50 mg, rabbit).

**Skin Effects:**

Non-irritating to intact skin. Minor irritation may occur on abraded skin.

**Dermal:**

Mild irritant >2, 000 mg/Kg (sodium carbonate)(rabbit).

**Oral LD<sub>50</sub>:**

4,090 mg/kg (sodium carbonate) (rat).

**Inhalation LC<sub>50</sub>:**

2300 mg/m<sup>3</sup> (2 hrs. sodium carbonate) (rat)

**Sensitization:**

0.25% sodium carbonate: non-sensitizing (human).

**Target Organs:**

Eyes.

**Acute effects from Overexposure:** May cause severe irritation of the eyes, including corneal opacities. Dusts and mists may be irritating to the skin, mucous membranes and upper respiratory tract. Although low in toxicity, ingestion may cause nausea, vomiting, stomachache, and diarrhea. No significant acute toxicological effects expected.

**Chronic Toxicity:** Excessive contact may produce "soda ulcers" on hands and perforation of the nasal septum. Sensitivity reactions may occur from prolonged and repeated exposure.

This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

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## 12. Ecological Information

**Acute ecotoxicity:****Sodium Carbonate:****96 – hour LC<sub>50</sub>:**

265 – 565 mg/l (daphnia magna) (low toxicity)

300 – 320 mg/l (blue gill sunfish) (low toxicity)

**96 – hour TL<sub>m</sub>:**

1200 mg/l (mosquito-fish)

**48 – hour TL<sub>m</sub>:**

840 mg/l (mosquito-fish)

**48 – hour EC 50:**

265 mg/l (daphnia magna)

**24 – hour LC<sub>50</sub>:**

800 mg/m<sup>3</sup>, 20 h exposure (guinea pig) (moderate toxicity)

<b>5 Day EC 50:</b>	242 mg/l ( <i>Nitzscheria linearis</i> )
<b>LD<sub>50</sub>:</b>	2800 mg/kg (rat) (moderately toxic)
<b>Sodium Bicarbonate:</b>	
<b>Chronic ecotoxicity:</b>	None Listed
<b>Mobility:</b>	
<b>Air:</b>	Not Applicable
<b>Water:</b>	Considerable solubility and mobility.
<b>Soil / sediments:</b>	Non-significant adsorption
<b>Abiotic degradation:</b>	
<b>Water (hydrolysis):</b>	Degradation's products: carbonate (pH>10) / carbonic acid / carbon dioxide (pH<6).
<b>Soil</b>	Hydrolysis as a function of pH.
<b>Biotic degradation:</b>	Water, hydrolysis. Degradation Products: Carbonate (pH 10). Bicarbonate (pH 6-10). Carbonic Acid, Carbonic Dioxide (pH <6).
<b>Abiotic degradation:</b>	Not applicable
<b>Potential for bioaccumulation:</b>	Not applicable
<b>Observed effects are related to alkaline properties of the product. Product is not significantly hazardous for the environment.</b>	

### 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 US Federal RCRA regulations (40 CFR 261). As a non-hazardous waste the material may be disposed of in a landfill in accordance with government regulations; check local or state 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.

### 14. Transportation Considerations

#### U.S. Department of Transportation (DOT)

<b>Proper Shipping Name:</b>	Not Regulated
<b>Primary Hazard Class / Division:</b>	Not Applicable
<b>UN / NA Number:</b>	None
<b>Label(s), Placard(s), Marking(s):</b>	Not Applicable
<b>Additional Information:</b>	

Hazardous Substance / RQ: Not Applicable  
STCC Number: 28-123-87 (DOT)  
International Maritime Dangerous Goods: Not Regulated  
ADR – European Agreement Concerning the  
International Carriage of Dangerous Goods by Road: Not Regulated  
International Civil Aviation Organization (ICAO)/  
International Air Transport Association (IATA): Not Regulated

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## 15. Regulatory Information

### United States

#### **SARA Title III (Superfund Amendments and Reauthorization Act)**

**Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A):**  
Not Listed

**Section 311 Hazard Categories (40 CFR 370):**  
Immediate (Acute) Health Hazard

**Section 312 Threshold Planning Quantity (40 CFR 370):**  
The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.: None

**Section 313 Reportable Ingredients (40 CFR 372):**  
Not listed.

#### **CERCLA (Comprehensive Environmental Response Compensation and Liability Act)**

**CERCLA Designation and Reportable Quantities (RQ) (40 CFR 302.4):**  
Not Listed

#### **TSCA (Toxic Substance Control Act)**

**TSCA Inventory Status (40 CFR 261):** Listed

#### **RCRA (Resource Conservation and Recovery Act)**

**RCRA Identification of Hazardous Waste (40 CFR 261):** Waste Number – refer to Section 13 “Disposal Considerations” for RCRA status.

**State Regulations:** This product does not contain any components that are regulated under California Proposition 65.

### Canada

## WHMIS (Workplace Hazardous Materials Information System)

**Product Identification Number:** Not Applicable  
**Hazard Classification / Division:** Toxic, Class D, Div.2, Subdiv. B  
**Ingredient Disclosure List:** Listed

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### 16. Other Information

#### **HMIS**

Health	1
Flammability	0
Physical Hazard	0
Personal Protection (PPE)	B

Protection = B (Safety glasses and gloves)

HMIS: Hazardous Material Identification System

Degree of Hazard Code:

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

#### **NFPA**

Health	2
Flammability	0
Reactivity	0
Special	None

No Special Requirements.

NFPA: National Fire Protection Association

Degree of Hazard Code:

- 4 = Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant

#### **EC Labeling**

**Name of dangerous product(s) (to indicate on label):** Sodium Carbonate

**According to Annex I of Dir. 67/548/EEC (19<sup>th</sup> ATP: Dir. 93/72/EEC):**

Symbols	Xi	Irritant
Phrases R	36	Irritating to eyes.
Phrases S	2	Keep out of reach of children.
	22	Do not breathe dust.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

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