Ramsay Browne Chemical & Co.
"Your Partners in Purity"

Safety Data Sheet (SDS)

Soda Ash

Issue date 03/13/2013 Reviewed on 10/10/2018

1. Identification

- **Product Identifier**
- **Name of the product:** Soda Ash
- **CAS No:** 497-19-8
- **Synonyms:** Sodium Carbonate, Carbonic Acid Disodium Salt, Washing Soda (Baking Soda)
- **Uses:** Chemical raw material, Glass production- raw material, Detergent – Component, Acidity regulator, Paper production – auxiliary substance

- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
  Ramsay Browne Chemical & Company
  PO Box 6425
  Moraga, CA 94570
  General Number: (925) 280-1661
- **Emergency telephone number: (925) 280-1661**

2. Hazard(s) Identification (continued)

- **Emergency Overview:**
- **Warning!**
- **H-statements:**
- **H319** – Causes serious eye irritation

- **P-statements:**
- **P280** – Wear eye protection/face protection.
- **P264** – Wash hands thoroughly after handling.
- **P305+P351+P338** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **P337+P313** – If eye irritation persists, get medical advice/attention.

3. Composition / Information on ingredients

CAS #	Percentage	Chemical Name
497-19-8	>99%	Sodium Carbonate

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4. First-aid measures

- **Inhalation:** Remove the victim into fresh air. Respiratory problems – consult a doctor/medical service.
- **Ingestion:** Rinse mouth with water. Immediately after ingestion give lots of water to drink. Do not induce vomiting. Consult a doctor/medical service if you feel unwell**.**
- **Skin Contact:** Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.
- **Eye Contact:** Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an opthalmologist if irritation persists.

5. Emergency response procedures

- **Flash Point: n/a**
- **Lower/Upper explosion limit: n/a**
- **Suitable hazards arising from the substance or mixture:** Upon combustion CO and CO2 are formed. Reacts on exposure to water (moisture) with (some) metals.
- **Advice for firefighters:** No specific fire-fighting instructions required. Gloves, safety glasses, protective clothing. Dust cloud production – compressed air/oxygen apparatus. Heat/fire exposure – compressed air/oxygen apparatus.

6. Accidental Release Measures

- **Containment:** Prevent dust cloud formation. Scoop solid, spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
- **Special Instructions:** Prevent dust cloud formation, e.g. by wetting. No naked flames.
- **Environmental precautions:** Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Violent exothermic reaction with (some) acids causes release of harmful gases/vapors (carbon dioxide). Carbon dioxide is heavier than air and will collect in ducts, drains and low laying areas.
- **Protective equipment for emergency responders:** Gloves, safety glasses, protective clothing. Dust cloud production – compressed air/oxygen apparatus.

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7. Handling and Storage

- **Precautions for safe handling:** Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed.
- **Conditions for safe storage, including any incompatibilities:**
- **Safe storage requirements:** Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. Keep out of direct sunlight. Meet the legal requirements.
- **Keep away from:** Heat sources, (strong) acids, metals, water/moisture.
- **Suitable packaging material:** No data available.
- **Non suitable packaging material:** Aluminum, zinc.

8. Exposure Controls / Personal Protection

- **Control parameters:**
- **Occupational exposure:**
- **A) Occupational exposure limit values: If limit values are applicable and available these will be listed below.**
- **B) National biological limit values: If limit values are applicable and available these will be listed below**

Effect level (DNEL/DMEL)	Type	Value
DNEL	Long-tern local effects inhalation	10 mg/m3

Effect level (DNEL/DMEL)	Type	Value
DNEL	Acute local effects inhalation	10 mg/m3

- **Exposure controls:** The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.
- **Appropriate engineering controls:** Avoid raising dust. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.
- **Individual protection measures, such as personal protective equipment:** Observe normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during work.
- **Respiratory protection:** Dust production – dusk mask with filter type P1.
- **Hand protection:** Gloves – materials for protective clothing (good resistance). Butyl rubber, PVC.
- **Eye protection:** Safety glasses. In case of dust production, protective goggles.
- **Skin protection:** Protective clothing.

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9. Physical and Chemical Properties

- **Physical form:** Crystalline solid; Crystalline powder; Grains; Lumps
- **Odor:** Odorless
- **Odor threshold:** Not applicable
- **Color:** Colorless to white
- **Article size:** 694 µm
- **Explosion limits:** Not applicable
- **Flammability:** Non combustible
- **Log Kow:** -6.19; Estimated value
- **Dynamic viscosity**: Data not required
- **Kinematic viscosity:** Data not required
- **Melting point:** 851°C
- **Boiling point:** Data not required
- **Flash point:** Not required; exemption according to REACH
- **Evaporation rate:** Not applicable
- **Vapor pressure:** Not required; exemption according to REACH
- **Relative vapor density:** Not applicable
- **Solubility:** water; 212.5 g/l; 20°C
- **Relative density:** 2.52-253; 20°C
- **Decomposition temperature:** 1600°C
- **Auto-ignition temperature:** >400°C
- **Explosive properties:** No chemical group associated with explosive properties
- **Oxidizing properties:** No chemical group associated with oxidizing properties
- **pH:** 11.6; 5.0%

10. Stability and Reactivity

- **Reactivity:** Substance has basic reaction.
- **Chemical stability:** Hygroscopic
- **Possibility of hazardous reactions:** Reacts on exposure to water (moisture) with (some) metals. Violent exothermic reaction with (some) metals. Reacts with (strong) oxidizers.
- **Conditions to avoid:** Avoid raising dust. Keep away from naked flames/heat.
- **Incompatible materials:** (strong) acids, metals, water/moisture, aluminum, zinc.
- **Hazardous decomposition products:** Violent exothermic reaction with (some) acids – release of harmful gases/vapors (carbon dioxide). Upon combustion – CO and CO2 are formed.

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11. Toxicological Information

- **Toxicokinetics summary:**
- Toxicokinetics (absorption, metabolism, distribution and elimination)
- The toxicokinetics of sodium carbonate are well understood. When sodium carbonate comes into contact with body fluids it will dissociate into carbonate and sodium. The carbonate could potentially increase the pH of the blood.
- The major extracellular buffer in the blood and the interstitial fluid of vertebrates is the bicarbonate buffer system, described by the following equation: H2O+CO2_H2CO3_H+ +HCO3
- Carbon dioxide from the tissues diffuses rapidly into red blood cells, where it is hydrated with water to form carbonic acid. This reaction is accelerated by carbonic anhydrase, an enzyme present in high concentrations in red blood cells. The carbonic acid formed dissociates into bicarbonate and hydrogen ions. Most of the bicarbonate ions diffuse into the plasma. Since the ratio of H2CO3 to dissolve CO2 is constant at equilibrium, pH may be expressed in terms of bicarbonate ion concentration and partial pressure of CO2 by means of the Henderson-Hasselbach equation – pH = pk + log ;HCO3-]/aPCO2
- The blood plasma of man normally has a pH of 7.40. Should the pH fall below 7.0 or rise above 7.8, irreversible damage may occur. Compensatory mechanisms for acid-base disturbances function to alter the ratio of HCO3 to PCO2, returning the pH of the blood to normal. Thus, metabolic acidosis may be compensated for by hyperventilation and increased renal absorption of HCO3. Metabolic alkalosis may be compensated for by hypoventilation and the excess of HCO3- in the urine (Johnson and Swanson, 1987). Renal mechanisms are usually sufficient to restore the acid-base balance (McEvoy, 1994). The uptake of sodium, via exposure to sodium carbonate, is much less than the uptake of sodium via food. Therefore, sodium carbonate is not expected to be systemically available in the body. Furthermore it should be realized that an oral uptake of sodium carbonate will result in a neutralization in the stomach due to the gastric acid.

Acute toxicity:

Route of exposure	Parameter	Value	Exposure time	Species	Gender	Value determination
Oral	LD50	2800 mg/kg		Rat	Male/ Female	Experimental value
Dermal	LD50	>2000 mg/kg		Rabbit		Experimental value
Inhalation	LC50	2.30 mg/l	2 h	Rat	Male	Experimental value
Conclusion: Low acute toxicity by the oral route. Low acute toxicity by the dermal route. Low acute toxicity by the inhalation route.						

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11. Toxicological Information (continued)

Corrosion/irritation

Route of exposure	Result	Method	Time point	Species	Value determination
Eye	Irritating	EPA 16 CFR 1500.43	1; 2; 3; 4; 7; 10; 14 days	Rabbit	Experimental value
Eye	Highly irritating	Equivalent to OECD 405	1; 24; 48; 72; 168 hours	Rabbit	Experimental value
Dermal	Not irritating	OECD 404	24; 48; 72 hours	Rabbit	Experimental value
Inhalation	Slightly irritating				Literature

Mutagenicity (in vitro)

Result	Method	Test substrate	Value determination
Negative	Other	Escherichia coli	Experimental value
Ambiguous	OECD 471	Bacteria (S.typhimurium)	Read-across

- Chronic effects from short and long-term exposure:
- On continuous/repeated exposure/contact: Red skin. Dry skin. Tingling/irritation of the skin. Affection of the nasal septum.

12. Ecological Information

- **Toxicity:**
- **Acute toxicity fishes:**
- **Parameter:** LC50
- **Method:** Other
- **Value:** 300 mg/l
- **Exposure time:** 96 h
- **Species:** Lepomis macrochirus
- **Test Design:** Static system
- **Fresh/salt water:** Fresh water
- **Value determination:** Experimental value

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12. Ecological Information (continued)

- **Acute toxicity invertebrates:**
- **Parameter:** EC50
- **Method:** OtherExposure time: 48 h
- **Species:** Ceriodaphnia sp.
- **Test Design:** Semi-static
- **Fresh/salt water:** Fresh water
- **Value determination:** Experimental value
- **Value:** 200-227 mg/l

- **Toxicity algae and other aquatic plants:**
- **Parameter:** EC50
- **Value:** 242 mg/l
- **Exposure time:** 5 days
- **Species:** Algae
- **Value determination:** Experimental value

- **Conclusion:**
- Slightly harmful to fishes (LC50(96h) 100-1000 mg/l)
- Practically non-toxic to algae (EC50 >100 mg/l)
- Slightly harmful to invertebrates (EC50 (48 h): 100-1000 mg/l)
- pH shift
- Not classified as dangerous for the environment according to the criteria of Directive 67/548/EEC
- Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

- **Bioaccumulative potential:** Low potential for bioaccumulation (Log Kow < 4)

- **Mobility in soil:** Low potential for absorption in soil.

13. Disposal Considerations

- **Waste treatment methods:**
- **Provisions relating to waste:**
- Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).
- 16 05 07* (discarded inorganic chemicals consisting of or containing dangerous substances).
- Depending on branch of industry and production process, also other waste codes may be applicable.
- Hazardous waste according to Directive 2008/98/EC.

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13. Disposal Considerations (continued)

- **Disposal methods:** Precipitate/make insoluble. Remove to an authorized dump (Class I). Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. May be discharged to wastewater treatment installation. Do not discharge into drains or the environment.

- **Packaging/Container:**
- Waste material code packaging (Directive 2008/98/EC).
- 15 01 10* (packaging containing residues of or contaminated by dangerous substances0.

14. Transport Information

- DOT (US): **Not dangerous goods**
- IMDG: **Not dangerous goods**
- IATA: **Not dangerous goods**

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

- **SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- **SARA 313 Components:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
- **SARA 311/312 Hazards:** Acute Health Hazard
- **Massachusetts Right to Know Components:** No components are subject to the Massachusetts Right to Know Act.
- **Pennsylvania Right to Know Components:** Sodium Carbonate CAS No 497-19-8
- **New Jersey Right to Know Components:** Sodium Carbonate CAS No 497-19-8
- **California Prop 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

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16. Other Information

- HMIS Rating:
- Health hazard: 2
- Flammability: 0
- Physical hazard: 0

Disclaimer of Responsibility

This information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with handling, storage, use or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.