

Base Demand Reagent (BDR)

R-0006

SDS Preparation Date (mm/dd/yyyy): 03/30/2016

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Base Demand Reagent (BDR)**

Product Code(s) : R-0006

Recommended use of the chemical and restrictions on use

: Use as directed by manufacturer for purposes directly related to water testing.  
Recommended restrictions: None known.

Chemical family : Mixture

Name, address, and telephone number  
of the supplier:

**Lowry & Associates, Div. of Chem-Aquascience,  
Inc.**

5-1151 Gorham Street  
Newmarket, ON, Canada  
L3Y 8Y1

Supplier's Telephone # : (905) 836-0505, Hours 09:00 to 16:30

**24 Hr. Emergency Tel #** : Canutec: 613-966-6666

Name, address, and telephone number of  
the manufacturer:

Refer to supplier

### SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear colourless liquid. Odorless.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Serious eye damage/eye irritation - Category 2A

Label elements

Hazard pictogram(s)



Signal Word

WARNING!

Hazard statement(s)

Causes serious eye irritation.

Precautionary statement(s)

Wash thoroughly after handling.

Wear eye/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

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### Other hazards

Other hazards which do not result in classification: May cause skin and respiratory irritation.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Sodium carbonate	soda ash Carbonic acid, sodium salt	497-19-8	5.00

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Never give anything by mouth to an unconscious person. Call a physician.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Obtain medical attention if symptoms develop and persist.
- Skin contact* : Wash with water and soap as a precaution. If irritation or symptoms develop, seek medical attention.
- Eye contact* : If in eyes: Rinse cautiously with water for several minutes. If irritation persists, seek prompt medical attention.

#### Most important symptoms and effects, both acute and delayed

- : Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

#### Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

##### *Suitable extinguishing media*

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

##### *Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread fire.

#### Special hazards arising from the substance or mixture / Conditions of flammability

- : Burning may produce irritating, toxic and obnoxious fumes.

#### Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

#### Hazardous combustion products

- : Sodium oxides. ;Carbon oxides

#### Special protective equipment and precautions for firefighters

##### *Protective equipment for fire-fighters*

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

##### *Special fire-fighting procedures*

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear suitable protective equipment. Refer to protective measures listed in sections 7 and 8. Restrict access to area until completion of clean-up.

**Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

#### Methods and material for containment and cleaning up

- : Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).

#### Special spill response procedures

- : Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.  
US CERCLA Reportable quantity (RQ): None.

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

- : Use with appropriate and adequate ventilation. Avoid contact with eyes, skin and clothing. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Avoid breathing mist or vapor.

**Conditions for safe storage** : Store in a cool, dry, well-ventilated area. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

**Incompatible materials** : Strong acids; Ammonia ;fluorine; Aluminium

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Sodium carbonate	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

##### Ventilation and engineering measures

- : Use in a well-ventilated area. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

**Respiratory protection** : Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust and/or fumes). Advice should be sought from respiratory protection specialists.

**Skin protection** : Wear protective gloves. Advice should be sought from glove suppliers.

**Eye / face protection** : Wear eye/face protection. Chemical goggles must be worn to prevent dusts from entering the eyes.

**Other protective equipment** : Wear sufficient clothing to prevent skin contact. Depending on conditions of use, an impervious apron should be worn. An eyewash station and safety shower should be made available in the immediate working area.

##### General hygiene considerations

- : Avoid contact with skin, eyes and clothing. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Handle in accordance with good industrial hygiene and safety practice.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : Clear colourless liquid.  
**Odour** : Odorless  
**Odour threshold** : N/Av  
**pH** : 11.2  
**Melting/Freezing point** : Not available.  
**Initial boiling point and boiling range**  
: 100°C (212°F)  
**Flash point** : Not Applicable (Does not burn)  
**Flashpoint (Method)** : N/Av  
**Evaporation rate (BuAe = 1)** : Not available.  
**Flammability (solid, gas)** : Not applicable.  
**Lower flammable limit (% by vol.)**  
: N/Av  
**Upper flammable limit (% by vol.)**  
: N/Av  
**Oxidizing properties** : Not applicable  
**Explosive properties** : Not applicable.  
**Vapour pressure** : 17 mmHg  
**Vapour density** : 0.6  
**Relative density / Specific gravity**  
: 1.00  
**Solubility in water** : Soluble.  
**Other solubility(ies)** : Not available.  
**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**  
: N/Av  
**Auto-ignition temperature** : Not applicable.  
**Decomposition temperature** : Not available.  
**Viscosity** : Not available.  
**Volatiles (% by weight)** : 99%  
**Volatile organic Compounds (VOC's)**  
: N/Av  
**Absolute pressure of container**  
: N/Av  
**Flame projection length** : N/Av  
**Other physical/chemical comments**  
: None known or reported by the manufacturer.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : This product is not reactive.  
**Chemical stability** : Material is stable under normal conditions.  
**Possibility of hazardous reactions**  
: No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** : Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.  
**Incompatible materials** : Strong acids; Ammonia ;fluorine; Aluminium  
**Hazardous decomposition products**  
: None known, refer to hazardous combustion products in Section 5.

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption  
 : NO

#### Potential Health Effects:

##### Signs and symptoms of short-term (acute) exposure

###### *Sign and symptoms Inhalation*

: May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath.

###### *Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

###### *Sign and symptoms skin*

: May cause mild transient irritation.

###### *Sign and symptoms eyes*

: Causes severe eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

##### Potential Chronic Health Effects

: Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

##### Mutagenicity

: Not expected to be mutagenic in humans.

##### Carcinogenicity

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

##### Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

##### Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

##### Specific target organ effects

: This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

##### Medical conditions aggravated by overexposure

: None known.

##### Synergistic materials

: Not available.

##### Toxicological data

: See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u>	<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Sodium carbonate	N/Av	2800 mg/kg	> 2000 mg/kg (No mortality)

##### Other important toxicological hazards

: None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

: Not classified for hazards to the environment. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

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### Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Sodium carbonate	497-19-8	300 mg/L (Bluegill sunfish)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Sodium carbonate	497-19-8	200 mg/L [Ceriodaphnia (water flea)]	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Sodium carbonate	497-19-8	N/Av	N/Av	None.

### Persistence and degradability

: Not available.

### Bioaccumulation potential

: Not available.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Sodium carbonate (CAS 497-19-8)	N/Av	no bioaccumulation

### Mobility in soil

: High water solubility indicates a high mobility in soil.

### Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Handling for Disposal

: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

### Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

### RCRA

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

## SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label

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49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	Not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user** : None known or reported by the manufacturer.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: Not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Sodium carbonate	497-19-8	Yes	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute Health Hazard Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Sodium carbonate	497-19-8	No	N/Ap	No	No	No	No	No	No

**Canadian Information:**

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WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECS</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>NewZealand IOC</u>
Sodium carbonate	497-19-8	207-838-8	Present	Present	(1)-164	KE-31380	Present	HSR003265

### SECTION 16. OTHER INFORMATION

#### **Legend**

- : ACGIH: American Conference of Governmental Industrial Hygienists
- : CAS: Chemical Abstract Services
- : CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- : CFR: Code of Federal Regulations
- : CSA: Canadian Standards Association
- : DOT: Department of Transportation
- : EPA: Environmental Protection Agency
- : HMIS: Hazardous Materials Identification System
- : HSDB: Hazardous Substances Data Bank
- : IARC: International Agency for Research on Cancer
- : Inh: Inhalation
- : LC: Lethal Concentration
- : LD: Lethal Dose
- : MN: Minnesota
- : N/Ap: Not Applicable
- : N/Av: Not Available
- : NFPA: National Fire Protection Association
- : NIOSH: National Institute of Occupational Safety and Health
- : NJ: New Jersey
- : NTP: National Toxicology Program
- : OECD: Organisation for Economic Co-operation and Development
- : OSHA: Occupational Safety and Health Administration
- : PA: Pennsylvania
- : PEL: Permissible exposure limit
- : RCRA: Resource Conservation and Recovery Act
- : RI: Rhode Island
- : RTECS: Registry of Toxic Effects of Chemical Substances
- : SARA: Superfund Amendments and Reauthorization Act
- : STEL: Short Term Exposure Limit
- : TLV: Threshold Limit Values
- : TWA: Time Weighted Average
- : WHMIS: Workplace Hazardous Materials Identification System

#### **References**

- : Material Safety Data Sheet from manufacturer
- : OECD- The Global Portal to Information on Chemical Substances - eChemPortal, 2015
- : Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases, 2015 (Chempendium, RTECs, HSDB, INCHEM).
- : European Chemicals Agency, Classification Legislation, 2015

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#### **Other special considerations for handling**

- : Provide adequate information, instruction and training for operators.



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<p><b>Prepared for:</b> Lowry &amp; Associates, Div. of Chem-Aquascience, Inc. 5-1151 Gorham Street Newmarket, ON L3Y 8Y1 <a href="http://www.lowryassociates.ca">www.lowryassociates.ca</a></p>	
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