

Calcium Indicator Liquid

R-0011L

SDS Preparation Date (mm/dd/yyyy): 01/03/2016

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Calcium Indicator Liquid**

Product Code(s) : R-0011L

Recommended use of the chemical and restrictions on use

: Use as directed by manufacturer for purposes directly related to water testing.
Restriction on use: 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 # : (613) 996-6666 (CANUTEC)

Name, address, and telephone number of
the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Purple-blue liquid. Alcoholic.

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:

Flammable Liquids - Category 2

Serious eye damage/eye irritation - Category 2A

Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

Highly flammable liquid and vapour!

Causes serious eye irritation.

May cause respiratory irritation.

May cause drowsiness or dizziness.

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Precautionary statement(s)

Keep away from heat, open flames and hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground and bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing mist or vapours.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves and eye/face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 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.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CENTER or doctor/physician if you feel unwell.
 In case of fire: Use water fog, dry chemical, CO2 or 'alcohol' foam for extinction.

Store in a well-ventilated place. Keep cool.
 Keep container tightly closed.
 Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Other hazards which do not result in classification: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Triethanolamine	TEA; 2,2,2-Nitrioltriethanol	102-71-6	76.00
Isopropanol	Isopropyl alcohol 2-Propanol	67-63-0	23.00

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Call a physician or poison control centre immediately. Do not induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.
- 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. Get medical attention if symptoms persist.
- Skin contact* : Wash off with soap and plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before re-use.
- Eye contact* : Immediately flush eyes with running water for at least 15 minutes. Obtain medical attention if irritation persists.

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Most important symptoms and effects, both acute and delayed

- : Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis. Direct skin contact may cause slight or mild, transient irritation. May cause respiratory irritation. Symptoms may include upper respiratory irritation, coughing and breathing difficulties. May cause central nervous system effects. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically. This product is a CNS depressant.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use water fog or fine spray, foams, carbon dioxide or dry chemical. Do not use a solid water stream as it may scatter and spread fire.

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

- : Vapors may travel considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. Static discharge, impact, friction, and heat may ignite exposed chemical material.

Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable Liquids - Category 2

Hazardous combustion products

- : Carbon monoxide, carbon dioxide, toxic vapours, gases or particulates.

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

- : Fight fires from a safe distance. 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.

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. Individuals involved in the cleanup must wear appropriate personal protective equipment. For personal protection see section 8.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

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. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with inert, non-combustible absorbent material (e.g. sand, vermiculite), then place material into open, unsealed containers. For waste disposal, see Section 13 of the SDS.

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Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
 US CERCLA Reportable quantity (RQ): None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Use only in well-ventilated areas. Wear suitable protective equipment during handling. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat and flame. Use only non-sparking tools with this material. Avoid contact with incompatible materials. Keep containers tightly closed when not in use.

Conditions for safe storage

- : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials

- : Strong oxidizing agents, Activated carbon, and Strong reducing agents.

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>
Triethanolamine	5 mg/m ³	N/Av	N/Av	N/Av
Isopropanol	200 ppm	400 ppm	400 ppm (980 mg/m ³)	N/Av

Exposure controls

Ventilation and engineering measures

- : Ensure adequate ventilation, especially in confined areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

- : Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection

- : Wear impervious gloves, such as nitrile rubber. Advice should be sought from glove suppliers.

Eye / face protection

- : Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area. Depending on conditions of use, an impervious apron should be worn. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Do not ingest. Do not eat, drink or smoke when using this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

- : Purple-blue liquid.

Odour

- : Alcohol

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Odour threshold : Not available.
pH : 10.3
Melting/Freezing point : Not available.
Initial boiling point and boiling range
 : 260-315.56°C (500-600°F)
Flash point : 17.8°C (64.0°F)
Flashpoint (Method) : Tag closed cup
Evaporation rate (BuAe = 1) : Not available.
Flammability (solid, gas) : Not applicable.
Lower flammable limit (% by vol.)
 : 2%
Upper flammable limit (% by vol.)
 : 12%
Oxidizing properties : None.
Explosive properties : Not explosive
Vapour pressure : Not available.
Vapour density : 2
Relative density / Specific gravity
 : 1.02
Solubility in water : Soluble.
Other solubility(ies) : Not available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
 : Not available.
Auto-ignition temperature : Not available.
Decomposition temperature : Not applicable.
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 : Not normally reactive.
Chemical stability : Stable under the recommended storage and handling conditions prescribed.
Possibility of hazardous reactions
 : Hazardous polymerization will not occur.
Conditions to avoid : Keep away from excessive heat, open flames, sparks and other possible sources of ignition. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Avoid heat, open flames, sparks, static electricity and electrical equipment.
Incompatible materials : Strong oxidizing agents, Activated carbon, and Strong reducing agents.
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 irritation of the nose, throat, mucous membranes, and respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Sign and symptoms ingestion

- : May cause irritation of mouth, throat, and stomach. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Sign and symptoms skin

- : May cause mild skin irritation.

Sign and symptoms eyes

- : May cause severe eye irritation.

Potential Chronic Health Effects

- : Prolonged or repeated skin contact may cause drying and irritation. Prolonged overexposure may cause liver and kidney effects.

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 have other reproductive effects.

Sensitization to material

- : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

- : Eyes, skin, respiratory system, digestive system, central nervous system. Liver

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). Classification:

Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects

May cause respiratory irritation. May cause drowsiness or dizziness.

Not classified as specific target organ toxicity-repeated exposure.

Medical conditions aggravated by overexposure

- : Pre-existing skin, eye and respiratory disorders.

Synergistic materials

- : None known or reported by the manufacturer.

Toxicological data

- : See below for toxicological data on the substance.

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<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Triethanolamine	N/Av	2200 mg/kg	N/Av
Isopropanol	17 000 ppm (41.8 mg/L) (vapour)	4720 mg/kg	12 890 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Triethanolamine	102-71-6	N/Av	N/Av	None.
Isopropanol	67-63-0	9640 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Triethanolamine	102-71-6	609.88 mg/L (Daphnia magna)	16 mg/L	None.
Isopropanol	67-63-0	> 10 000 mg/L/24hr (Daphnia magna)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Triethanolamine	102-71-6	512 mg/L (Green algae)	N/Av	None.
Isopropanol	67-63-0	N/Av	N/Av	None.

Persistence and degradability

: Readily biodegradable.

Bioaccumulation potential

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Triethanolamine (CAS 102-71-6)	-1	N/Av
Isopropanol (CAS 67-63-0)	0.05	1

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.

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SECTION 13. DISPOSAL CONSIDERATIONS

- Handling for Disposal** : See Section 7 (Handling and Storage) for further details. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not cut, weld, drill or grind on or near this container.
- 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.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Isopropanol)	3	II	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				
49CFR/DOT	UN1993	Flammable Liquids, n.o.s. (Isopropanol)	3	II	
49CFR/DOT Additional information	May be shipped as LIMITED QUANTITY when transported in cans no larger than 1 L, in packages not exceeding 30 kg gross mass.				
ICAO/IATA	UN1993	Flammable liquid, n.o.s. Isopropanol)	3	II	
ICAO/IATA Additional information	Refer to ICAO/IATA Packing Instruction				
IMDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Isopropanol)	3	II	
IMDG Additional information	Consult the IMDG regulations for exceptions.				

- Special precautions for user** : Keep away from heat, sparks and open flame. - No smoking.
- Environmental hazards** : 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:

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Ingredients	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
Triethanolamine	102-71-6	Yes	N/Ap	N/Ap	No	N/Ap
Isopropanol	67-63-0	Yes	None.	None.	Yes	1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Immediate (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:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Triethanolamine	102-71-6	No	N/Ap	No	Yes	Yes	Yes	Yes	Yes
Isopropanol	67-63-0	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

WHMIS Classification: Refer to Section 2 for a WHMIS Classification for this product.
All ingredients are present on the DSL.

International Information:

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

Ingredients	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Triethanolamine	102-71-6	203-049-8	Present	Present	(2)-308	KE-25940	Present	HSR002785
Isopropanol	67-63-0	200-661-7	Present	Present	(2)-207	KE-29363	Present	HSR001180

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CNS: Central Nervous System
- 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

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IUCLID: International Uniform Chemical Information Database
 LC: Lethal Concentration
 LD: Lethal Dose
 MA: Massachusetts
 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
 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
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

References

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

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

<p>Prepared for: Lowry & Associates, Div. of Chem-Aquascience, Inc. 5-1151 Gorham Street Newmarket, ON L3Y 8Y1 www.lowryassociates.ca</p>	
<p>Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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