



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: Luminase

Synonyms: Luminase, Luminase^W, Luminase^{XL}, Luminase^{XXL}, Luminase Lite

Product Number: Lu-##, Lu^W-##, Lu^{XL}-##, Lu^{XXL}-##, LuL-## (Where ## Represents Lot Number)

Intended Use: Luciferin/Luciferase Reagent

CAS Number: Blend

Date of MSDS Preparation: July 22, 2010

Company Identification

LuminUltra Technologies Ltd.

440 King Street

King Tower, Suite 630

Fredericton, New Brunswick

Canada, E3B 5H8

+1-506-459-8777 (For product information)

+1-506-459-8777 (For emergencies)

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Component Listing

Chemical Name	Amount	CAS Number
Water	60 – 100 % (w/w)	7732-18-5
EDTA Magnesium Disodium Salt	0.1 – 1.0 % (w/w)	14402-88-1
Luciferase, from Firefly	< 0.1 % (w/w)	61970-00-1
D-Luciferin	< 0.1 % (w/w)	2591-17-5

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Exposure Guidelines

No information available.

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview

Prolonged or repeated contact may cause skin or eye irritation. The health hazards of this product should be low under normal industrial and commercial uses.

Eye

Can cause eye irritation or burns.

Skin

May cause slight skin irritation.

Inhalation

Avoid breathing vapors or mists.

Ingestion

Ingestion can cause irritation of the mouth, throat, and esophagus.

Carcinogenicity Information

No known cancer hazards.

SECTION 4 – FIRST AID MEASURES

Eye Contact First Aid:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Skin Contact First Aid

Wash affected area immediately with large amounts of soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Inhalation First Aid

Although this product is not known to cause respiratory problems, if breathing is difficult, remove to fresh air and provide oxygen. Get medical attention if cough or other symptoms develop.

Ingestion First Aid

Ingestion is not considered a potential route of exposure. If swallowed, immediately give 2 glasses of water. Contact a physician.

Notes to Physician

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Flammable Properties

Non combustible material.

PMCC Flash Point: None

Autoignition Temperature: None

Flammable Limits in Air

LEL: None

UEL: None

Hazardous Combustion Products

None

Extinguishing Media

Use extinguishing media appropriate to surrounding environment.

Fire & Explosion Hazards

No known unusual hazards in a fire/explosion situation.

SECTION 6 – ACCIDENTAL RELEASE MEASURES
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Initial Containment

Contain spilled material. Wipe away excess with an inert absorbent material.

Small Spills Procedure

Wipe away excess with an inert absorbent material.

Containment Technique

MSDS Number: LUMS011

MSDS Version: 2.0

Page 3 of 7

Date Printed: 07/22/10

N/A.

Evacuation Procedures

N/A.

SECTION 7 – HANDLING AND STORAGE

Handling (Personnel)

Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Avoid prolonged contact with skin or eyes. Wash hands thoroughly after handling.

Storage

Keep container tightly closed when not in use and store at 2 to 8°C under normal circumstances and from -10 to -20°C during long-term storage. Avoid prolonged exposure to extreme temperatures >40°C.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility.

Recommended Personal Protective Equipment:

Eye Protection: Chemical goggles are recommended to avoid contact with eyes.

Skin Protection: Wear protective gloves and lab coat to minimize skin contamination.

Inhalation Protection: N/A

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Properties

Appearance: Clear, slight green tinge.

Physical State: Liquid.

Odor: Slight sulfurous.

pH: 5-9

Vapor Pressure: As per water.

Specific Gravity: ~ 1.0 (Water).

Boiling Point: ~ 100°C (Water).

Melting Point: ~ 0°C (Water).

VOC Content: N/A.

Water Solubility: Miscible.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability

Stable when stored under proper conditions.

Polymerization

Hazardous polymerization will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

No information available.

SECTION 12 – ECOLOGICAL INFORMATION

No information available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Recommended Technique(s) For Disposal

Neutralize and dilute small quantities with water, and dispose down drain.

EPA Hazardous Waste

No.

Empty Containers

Rinse three times with water and dispose as normal trash.

SECTION 14 – TRANSPORT INFORMATION

Product Label

MSDS Number: LUMS011

MSDS Version: 2.0

Page 5 of 7

Date Printed: 07/22/10

Lumianse.

D.O.T. Shipping Name:

Not regulated.

SECTION 15 – REGULATORY INFORMATION

SARA 311 Categories:

Immediate (Acute) Health Effects: Yes

Delayed (Chronic) Health Effects: No

Fire Hazard: No

Sudden Release Of Pressure Hazard: No

Reactivity Hazard: No

Regulatory Lists Searched

01 - SARA 313

03 - ACGIH TWA

05 - CANADIAN WHMIS

07 - CERCLA 302.4

09 - OSHA PEL

02 - SARA 302/304

04 - ACGIH Calc TLV

06 - CA Proposition 65

08 - ACGIH STEL

10 - OSHA Ceiling

WHMIS Hazard Symbols

Class D-2(B) - Materials Causing Other Toxic Effects

Miscellaneous Information

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA).

This material or all of its components are listed on the Canadian Domestic Substances List (DSL).

SECTION 16 – OTHER INFORMATION

HMIS Rating:

Health: 1

Flammability: 1

Reactivity: 0

NFPA Rating:

Health: 1

Flammability: 1

Reactivity: 0

Abbreviations used in this MSDS

TLV - THRESHOLD LIMIT VALUE

TWA - Time Weighted Average

STEL - SHORT TERM EXPOSURE LIMIT

TPQ - Threshold Planning Quantity

RQ - REPORTABLE QUANTITY

PEL - Permissible Exposure Level

C - CEILING LIMIT

CAS - Chemical Abstract Service Number

NDA - NO DATA AVAILABLE

N/A - Not Applicable or Not Available

*The information above is believed to be accurate and true to the most current information available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall **LuminUltra™ Technologies Ltd.** be liable for any damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, resulting from the use of our product, even if **LuminUltra™ Technologies Ltd.** has been advised of the possibility of such damages.*