Safety Data Sheet

LUMAX®

Date: 6/16/2015
Replaces: 3/27/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **LUMAX®**
Product No.: A12854L
Use: Herbicide
Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419

Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications: Inhalation: Category 4
Specific Target Organ Toxicity: Repeated Category 2

Signal Word (OSHA): Warning

Hazard Statements: Harmful if inhaled
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:

Precautionary Statements: Do not breathe mist, vapors, spray.
Use only outdoors or in a well-ventilated area.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center, doctor or Syngenta if you feel unwell.
Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Ethylene Glycol	Ethylene Glycol	107-21-1	<1%
1,2-Propanediol	Propylene Glycol	57-55-6	Trade Secret
2H-1,4-Benzoxazine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-	Benoxacor	98730-04-2	<5%

Other ingredients	Other ingredients	Trade Secret	>53.6%
2-chloro-4-ethylamino-6-isopropylamino-s-triazine	Atrazine	1912-24-9	11.0%
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl]-,(S)	S-Metolachlor	87392-12-9	29.4%
2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	Mesotrione	104206-82-8	2.94%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Not Applicable

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

Flammable hydrogen gas may be formed on contact with incompatible metals. See "Conditions to Avoid", Section 10.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions in Protective Equipment Section. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Spray solutions of this product should be mixed, stored and applied using only plastic, plastic-lined steel, stainless steel or fiberglass containers. Concentrate should not be stored in mild steel, cast iron or aluminum containers.

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Ethylene Glycol	Not Established	100 mg/m³ (ceiling) [aerosol]	Not Established	Not Applicable
Propylene Glycol	Not Established	Not Established	10 mg/m³ TWA	AIHA
Benoxacor	Not Established	Not Established	1 mg/m³ TWA	Syngenta
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Atrazine	Not Established	2 mg/m³ TWA (inhalable)	Not Applicable	Not Applicable
S-Metolachlor	Not Established	Not Established	5 mg/m³ TWA	Syngenta
Mesotrione	Not Established	Not Established	5 mg/m³ TWA	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Opaque green liquid

Odor: Latex paint

Odor Threshold: Not Available

pH: 2 - 5 (1% dispersion in H2O @ 77°F [25°C])

Melting point/freezing point: Not Applicable

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): > 210°F

Flammable Limits (% in Air): Not Available

Flammability: Not Applicable

Vapor Pressure: Atrazine 2.9 x 10(-7) mmHg @ 68°F (20°C)
Mesotrione < 4.3 x 10(-8) mmHg @ 68°F (20°C)
S-Metolachlor 2.8 x 10(-5) mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 9.13 lbs/gal (typical)

Solubility (ies): Atrazine 33 mg/l @ 68°F (20°C)
Mesotrione 160 mg/l @ 68°F (20°C) (99.7% pure)
S-Metolachlor 0.48 g/l @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: 842°F

Decomposition Temperature: Not Available

Viscosity: Not Available

Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to Avoid: Concentrate should not be stored in mild steel, cast iron or aluminum containers. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.

Incompatible materials: None known.

Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Not Applicable

Delayed, immediate and chronic effects of exposure: Not Applicable

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Female Rat) :	3129 mg/kg body weight
Dermal:	Dermal (LD50 Rabbit) :	> 5000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.5 mg/l air - 4 hours
Eye Contact:	Moderately Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Atrazine : None observed.

Mesotrione : Did not show reproductive effects in animal experiments.

S-Metolachlor: Did not show reproductive effects in animal experiments.

Chronic/Subchronic Toxicity Studies

Atrazine : Cardiotoxicity in long term study with high doses (dogs).

Mesotrione : No adverse effect has been observed in chronic toxicity tests.

S-Metolachlor: No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity

Atrazine : Mammary tumors (female Sprague-Dawley rats), sex and strain specific. None observed (male Sprague-Dawley rats, F-344 rats or mice).

Mesotrione : Did not show carcinogenic effects in animal experiments.

S-Metolachlor: Did not show carcinogenic effects in animal experiments.

Chemical Name	NTP/IARC/OSHA Carcinogen
Ethylene Glycol	No
1,2-Propanediol	No
2H-1,4-Benzoxazine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-	No

Other ingredients	No
2-chloro-4-ethylamino-6-isopropylamino-s-triazine	IARC Group 3
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl]-,(S)	No
2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	No

Other Toxicity Information

None

Toxicity of Other Components

Benoxacor

Results in stomach, liver, and kidney toxicity at high doses. Caused tumors in nonglandular portion of stomach of rodents (hitomorphologic region not found in humans). Exposure may cause slight eye irritation. Repeated skin contact may cause a sensitization (allergic) reaction in sensitive individuals.

Ethylene Glycol

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice. Exposure to high concentrations of mists or aerosols may result in effects on the hematopoietic system and central nervous system with headache, dizziness and drowsiness. Severe kidney damage results from swallowing large amounts of ethylene glycol.

Other ingredients

Not Applicable

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs

Active Ingredients

Atrazine :	Heart
Mesotrione :	Blood, eye, kidney, liver.
S-Metolachlor:	Liver

Inert Ingredients

Benoxacor:	Gastrointestinal tract, liver, kidney
Ethylene Glycol:	Blood, kidney, CNS
Other ingredients:	Not Applicable
Propylene Glycol:	CNS, kidney, liver

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Atrazine :

Fish (Rainbow Trout) 96-hour LC50 4.5 ppm

Green Algae 5-day EC50 49 ppb

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 6.9 ppm

Bird (Bobwhite Quail) 12-day LD50 940 mg/kg

S-Metolachlor:

Fish (Rainbow Trout) 96-hour LC50 1.23 mg/l

Green Algae 96-hour ErC50 0.077 mg/l

Invertebrate (Water Flea) 48-hour EC50 11.24 mg/l

Mesotrione :

Fish (Rainbow Trout) 96-hour LC50 >120 mg/l

Fish (Bluegill Sunfish) 96-hour LC50 >120 mg/l

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 900 mg/l

Green Algae 72-hour EbC50 4.5 mg/l

Environmental Fate

Atrazine :

The information presented here is for the active ingredient, atrazine.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Highly mobile in soil. Will leach. Sinks in water (after 24 h).

Mesotrione :

The substance has low potential for bioaccumulation. Mesotrione has medium to high mobility in soil.

S-Metolachlor:

The information presented here is for the active ingredient, S-Metolachlor.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (s-Metolachlor), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (s-Metolachlor)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III
Note: This product is currently not regulated for airfreight within the NAFTA region. However, effective 01/01/2011 the above classification must be used.

15. REGULATORY INFORMATION

Pesticide Registration:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Harmful if swallowed. Causes moderate eye injury. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

EPA Registration Number(s):
100-1152

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Atrazine 11.0% (CAS No. 1912-24-9)
Ethylene Glycol <1% (CAS No. 107-21-1)

CERCLA/SARA 304 Reportable Quantity (RQ):
Report product spills > 82400 gal. (based on ethylene glycol [RQ = 5000 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261):
Not Applicable

TSCA Status:
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	2	Health:	1
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: B,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 2/24/2004
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Section(s) Revised: 2, 4, 11

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