Safety Data Sheet

SEQUENCE® Herbicide

Date: 11/3/2015
Replaces: 9/28/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **SEQUENCE® Herbicide**
Product No.: A13886E
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: Not Applicable
Signal Word (OSHA): Warning
Hazard Statements: Not Applicable

Hazard Symbols:

Precautionary Statements: Not Applicable

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Other ingredients	Other ingredients	Trade Secret	49.2%
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl]-,(S)	S-Metolachlor	87392-12-9	29.0%
N-(phosphonomethyl) glycine, in the form of the monopotassium salt	Glyphosate	39600-42-5	21.8%

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:

This product may form flammable and explosive hydrogen gas when in contact with galvanized or unlined steel.

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 outlined in Section 8. 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 galvanized steel, carbon steel, aluminum or unlined steel 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:

Not Applicable

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
Other ingredients	Not Established	Not Established	Not Established	Not Applicable
S-Metolachlor	Not Established	Not Established	5 mg/m³ TWA	Syngenta
Glyphosate	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.

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: Beige liquid

Odor: Aromatic

Odor Threshold: Not Available

pH: 4.7 (1% in deionized 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 (Pensky-Martens CC)

Flammable Limits (% in Air): Not Applicable

Flammability: Not Applicable

Vapor Pressure: Glyphosate Not Available
S-Metolachlor 2.8 x 10(-5) mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 1.2216 g/cm³ @ 68°F (20°C)

Solubility (ies): Glyphosate Miscible in/with water
S-Metolachlor 0.48 g/l @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Applicable

Autoignition Temperature: Not Available

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 galvanized steel, carbon steel, aluminum or unlined steel 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: Flammable hydrogen gas may be formed on contact with incompatible metals. See "Conditions to Avoid", Section 10.

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) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rabbit) :	> 5050 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.56 mg/l air - 4 hours
Eye Contact:	Minimally Irritating (Rabbit)	
Skin Contact:	Non-Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Glyphosate : Did not show reproductive or teratogenic effects in animal experiments.

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

Chronic/Subchronic Toxicity Studies

Glyphosate : Not Applicable

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

Carcinogenicity

Glyphosate : Not carcinogenic in rats or mice. Listed as Category 2A by the International Agency for Research on Cancer (IARC) but our expert opinion is that classification as a carcinigen is not warranted. Did not show carcinogenic or mutagenic effects in animal experiments.

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

Chemical Name	NTP/IARC/OSHA Carcinogen
Other ingredients	No
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl]-,(S)	No
N-(phosphonomethyl) glycine, in the form of the monopotassium salt	2A

Other Toxicity Information

None

Toxicity of Other Components

Other ingredients

Not Established

Target Organs

Active Ingredients

Glyphosate :	Skin
S-Metolachlor:	Liver

Inert Ingredients

Other ingredients: Not Established

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

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

Glyphosate :

Fish (Rainbow Trout) 96-hour LC50 (calculated) Approx 280 mg/l

Fish (Bluegill Sunfish) 96-hour LC50 (calculated) Approx 100 mg/l

Green Algae 72-hour ErC50 (calculated) Approx 39 mg/l

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 (calculated) > 1,000 mg/l

Green Algae 72-hour EbC50 (calculated) Approx 37 mg/l

Environmental Fate

Glyphosate :

Information applies to glyphosate acid: Substance is soluble in water. Substance has low mobility in soil. There is evidence of photodegradation in water. (acid pH) Substance is substantially biodegradable in soil. (aerobic conditions)

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. (Glyphosate/S-Metolachlor), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Glyphosate/S-Metolachlor)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

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: Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes, skin, or clothing.

EPA Registration Number(s):

100-1185

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: None

California Proposition 65:

This product does not contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

CERCLA/SARA 304 Reportable Quantity (RQ):

None

RCRA Hazardous Waste Classification (40 CFR 261):

Not Available

TSCA Status:

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

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

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

Syngenta Hazard Category: A

For non-emergency questions about this product call:

1-800-334-9481

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