

EXPERT® Herbicide

Date: 11/3/2015
 Replaces: 6/9/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **EXPERT® Herbicide**
 Product No.: A12453F
 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: Specific Target Organ Toxicity: Repeated Category 2
 Signal Word (OSHA): Warning
 Hazard Statements: May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Do not breathe mist, vapors, spray.
 Get medical advice if you feel unwell.
 Dispose of contents and container in accordance with local regulations.

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
Ethylene Glycol	Ethylene Glycol	107-21-1	Trade Secret
Other ingredients	Other ingredients	Trade Secret	47.7%
2-chloro-4-ethylamino-6-isopropylamino-s-triazine	Atrazine	1912-24-9	22.9%
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)-,(S)	S-Metolachlor	87392-12-9	18.6%

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N-(phosphonomethyl)glycine in the form of its isopropylamine salt	Glyphosate	38641-94-0	10.8%
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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 control 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 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.

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7. HANDLING AND STORAGE

Precautions for safe handling:

Store above 65°F (18°C), preferably 77°F - 86°F (25°C - 30°C) to avoid caking.

This product has a minimum ignition energy between 100 - 300 millijoules. Mechanical sparks, open flames and certain hot surfaces can serve as ignition sources for this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form.

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.

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
Ethylene Glycol	Not Established	100 mg/m ³ (ceiling) [aerosol]	Not Established	Not Applicable
Other ingredients	Not Established	Not Established	Not Established	Not Applicable
Atrazine	Not Established	2 mg/m ³ TWA (inhalable)	Not Applicable	Not Applicable
S-Metolachlor	Not Established	Not Established	5 mg/m ³ TWA	Syngenta
Glyphosate	Not Established	Not Established	10 mg/m ³ TWA	Manufacturer

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.

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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: Light beige liquid

Odor: Faint latex paint

Odor Threshold: Not Available

pH: 4 - 6 (1% solution @ 77°F (25°C) (Typical)

Melting point/freezing point: Not Applicable

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): > 221°F

Flammable Limits (% in Air): Not Available

Flammability: Not Applicable

Vapor Pressure: Atrazine 2.9 x 10⁻⁷ mmHg @ 68°F (20°C)
Glyphosate 9.8 x 10⁻⁸ mmHg @ 77°F (25°C)
S-Metolachlor 2.8 x 10⁻⁵ mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 9.45 lbs/gal (typical) @ 68°F (20°C)

Solubility (ies): Atrazine 33 mg/l @ 68°F (20°C)
Glyphosate 11.6 g/l @ 77°F (25°C)
S-Metolachlor 0.48 g/l @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: 977°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 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.

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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 Rabbit) :	2000 - 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 5000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.56 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Atrazine : None observed.

Glyphosate: None observed.

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

Chronic/Subchronic Toxicity Studies

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

Glyphosate: Decreased weight gain and liver effects in highest dose level (mice). Reduced body weight gain and eye effects in high dose level (rats).

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).

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 carcinogen is not warranted.

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

Chemical Name	NTP/IARC/OSHA Carcinogen
Ethylene Glycol	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

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N-(phosphonomethyl)glycine in the form of its isopropylamine salt 2A

Other Toxicity Information

None

Toxicity of Other Components

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 Established

Target Organs

Active Ingredients

Atrazine :	Heart
Glyphosate:	Eye, liver
S-Metolachlor:	Liver

Inert Ingredients

Ethylene Glycol:	Blood, kidney, CNS
Other ingredients:	Not Established

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

Glyphosate:

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 3 ppm
Bird (Bobwhite Quail) 8-day LD50 > 3851 mg/kg
Fish (Bluegill Sunfish) 96-hour LC50 2.4 ppm

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).

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Glyphosate:

The information presented here is for the active ingredient, glyphosate.
In soil (field), DT50 3 - 174 d, depending on edaphic and climatic conditions. In water, DT50 varies from a few to 91 d. Photodegradation in water occurs under natural conditions. DT50 \leq 28 d; no substantial photodegradation in soil was recorded over 31 d. In a lab. whole system with water and sediment, DT50 \leq 14 d (aerobic), 14 - 22 d (anaerobic). The major metabolite in soil and water is aminomethylphosphonic acid.

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: Under certain circumstances, discarded product may exhibit TCLP hazardous characteristics. A hazardous waste determination should be done on a case by case basis.

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., (Atrazine, 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., (Atrazine, 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: Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. This product may cause skin sensitization reactions in some people.

EPA Registration Number(s):

100-1161

EPCRA SARA Title III Classification:

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Section 311/312 Hazard Classes: Acute Health Hazard
 Section 313 Toxic Chemicals: Atrazine 22.9% (CAS No. 1912-24-9)
 Ethylene Glycol Trade Secret (CAS No. 107-21-1)

CERCLA/SARA 304 Reportable Quantity (RQ):
 Report product spills > 38,600 gal. (based on ethylene glycol [RQ = 5,000 lbs.] content in the formulation)
 RCRA Hazardous Waste Classification (40 CFR 261):
 Under certain circumstances, discarded product may exhibit TCLP hazardous characteristics. A hazardous waste determination should be done on a case by case basis.
 TSCA Status:
 Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 1
 Flammability: 1
 Instability: 0

HMIS Hazard Ratings

Health: 1
 Flammability: 1
 Reactivity: 0

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

Syngenta Hazard Category: B

For non-emergency questions about this product call:
 1-800-334-9481

Original Issued Date: 11/25/2002
 Revision Date: 11/3/2015 Replaces: 6/9/2015
 Section(s) Revised: 11

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.