



# SAFETY DATA SHEET

EMERGENCY CALL: 1-800-424-9300 (CHEMTREC)

## 1. IDENTIFICATION

**PRODUCT NAME:** Spirus  
**DESCRIPTION:** Liquid Herbicide  
**EPA Reg. No.:** 91234-188  
**COMPANY IDENTIFICATION:** Atticus, LLC  
940 NW Cary Parkway, Suite 200  
Cary, NC 27513

## 2. HAZARD IDENTIFICATION

### DANGER

May cause cancer (H350)  
May be fatal if swallowed and enters airways (H304)  
May cause damage to organs through prolonged or repeated exposure. (H373)  
May cause respiratory irritation. (H335)  
May cause an allergic skin reaction (H317)  
Causes eye irritation (H320)  
May be harmful if swallowed (H303)  
Very toxic to aquatic life with long lasting effects (H400+H410)



### HAZARD CLASSIFICATION

Health Hazards	Category	Physical Hazards	Category
Acute toxicity, oral	5	None	-
Serious eye damage / eye irritation	2B	<b>Environmental Hazards</b>	<b>Category</b>
Skin sensitization	1B	Hazardous to the aquatic environment, short-term	1
Carcinogenicity	1B	Hazardous to the aquatic environment, long-term	1
Specific target organ toxicity, single exposure	3		
Specific target organ toxicity, repeated exposure	2		
Aspiration	1		

### HAZARDS NOT REQUIRING CLASSIFICATION

Do not mix or allow contact with oxidizing agents. Hazardous chemical reaction may occur.

### PRECAUTIONARY STATEMENTS

Do not handle until all safety precautions have been read and understood. (P202)

Wear protective clothing as described in Section 8 of this document. (P280)

Do not breath mist/vapors/sprays. Use only outdoors or in a well-ventilated area. (P260+P271)

Contaminated work clothing should not be allowed out of the workplace. (P272)

Wash hands and exposed skin thoroughly after handling. (P264)

Avoid release to the environment not in accordance with the product label. Collect spillage. (P273+P391)

**IF exposed or concerned:** Get medical advice/attention. (P308+P313)  
Get medical advice/attention if you feel unwell. (P314)

**IF SWALLOWED:** Immediately call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting. (P301+P310+P331)

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell (P304+P340+P312)

**IF ON SKIN:** Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. For specific treatment see Section 4 of this document. Take off contaminated clothing and wash it before reuse. (P302+P352+P333+P313+P321+P362+P364)

**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. (P305+P351+P338+P337+P313)

Store locked up. (P405)

Dispose of contents / container in accordance with local regulations. Refer to the product label for specific disposal instructions. (P501)

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name	Chemical Name	CAS #	Composition
S-Metolachlor	(S)-2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide	87392-12-9	83.7%
1,2,4-Trimethylbenzene	-	95-63-6	< 1.0%
Naphthalene	-	91-20-3	< 1.0%
Petroleum Solvent	-	64742-94-5	< 10.0%

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

## 4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency medical assistance, call SafetyCall®: **1-844-685-9173**. For chemical emergency: spill, leak, fire, exposure or accident, call CHEMTREC: **1-800-424-9300**.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

**IF SWALLOWED:** Immediately call a poison control center or doctor for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIAN:** Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

## 5. FIREFIGHTING MEASURES

**Flash Point:** 99°C (210.2°F)

**Fire and Explosion Hazards:** During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Medium:** Foam, dry chemical, or carbon dioxide (CO<sub>2</sub>). If water is used to fight fire, dike, and collect runoff.

**Fire Fighting Equipment:** Firefighters should be equipped with self-contained positive pressure breathing apparatus and full bunker gear.

**Fire Fighting Instructions:** Evacuate area of all unnecessary personnel and fight fire from a safe distance upwind. Contain contaminated water / firefighting water; do not allow to enter drains or waterways. Use foam or dry chemical fire extinguishing systems to prevent environmental damage from excessive water runoff. Decontaminate fire fighting gear and personal protective equipment before reuse.

**Hazardous Combustion Products:** Irritating and possibly toxic gases may be generated through combustion or thermal decomposition.

**NFPA Ratings:** Health – 2 / Flammability – 1 / Reactivity - 0

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Isolate area and keep unnecessary and unprotected personnel from entering. Wear suitable personal protective clothing and equipment as described in Section 8 of this document.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain.

**Spill Cleanup:** 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

**Handling:** Avoid contact with skin, eyes, or clothing. This product may cause skin sensitization reactions in some people.

**Storage:** Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)]. When using the closed system, the mixers' and loaders' PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**Protective Clothing:** Applicators, and other handlers must wear: long-sleeved shirt and long pants; chemical-resistant gloves made of barrier laminate or Viton ≥ 14 mils; shoes plus socks; and protective eyewear.

**General:** Follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	golden brown liquid
<b>Odor:</b>	sweet
<b>Melting / Freezing Point:</b>	not applicable
<b>Boiling Point / Range:</b>	not available
<b>Flammability:</b>	not applicable
<b>Flam. Limits (upper/lower):</b>	not available
<b>Flash Point:</b>	99°C (210.2°F)
<b>Auto-Ignition Temp.:</b>	not available
<b>Decomposition Temp.:</b>	not available
<b>pH:</b>	5 - 7 (1% disp. @ 25°C)
<b>Viscosity:</b>	not available
<b>Solubility:</b>	0.48 g/L (S-Metolachlor)
<b>Partition Coefficient:</b>	not available
<b>Vapor Pressure:</b>	2.8 x 10 <sup>-5</sup> mmHg @ 77°F (25°C)
<b>Density:</b>	1.1 g/cm <sup>3</sup> @ 68°F (20°C)
<b>Vapor Density:</b>	not available
<b>Particle Char.:</b>	not available

## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** None known.

**CHEMICAL STABILITY:** Stable under normal use and storage conditions.

**INCOMPATIBILITY WITH OTHER MATERIALS:** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** No data available.

**HAZARDOUS POLYMERIZATION:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

Information presented below is from an identical or substantially similar product:

**ORAL TOXICITY (rat LD<sub>50</sub>):** 3425 mg/kg

**DERMAL TOXICITY (rat LD<sub>50</sub>):** > 2000 mg/kg

**INHALATION TOXICITY (rat LC<sub>50</sub>):** > 2.61 mg/L (4-hour)

**EYE IRRITATION:** Moderately irritating (rabbit)

**SKIN IRRITATION:** Slightly irritating (rabbit)

**SKIN SENSITIZATION:** Positive sensitizer (guinea pig)

### **CARCINOGENICITY:**

**NTP:** Suspected (Naphthalene)

**IARC:** Group 2B (Naphthalene)

**EPA:** Carcinogenic potential cannot be determined (Naphthalene);  
Group C – Possible Human Carcinogen (S-metolachlor)

**MUTAGENIC TOXICITY:** No data available.

**REPRODUCTIVE TOXICITY:** Animal testing showed no reproductive toxicity.

**CHRONIC/SUBCHRONIC TOXICITY:** No adverse effect has been observed in chronic toxicity tests.

**OTHER TOXICITY:** Target organ toxicity to liver (S-metolachlor).

### **TOXICITY OF OTHER COMPONENTS**

**1,2,4-Trimethylbenzene:** Inhalation of 1,2,4-trimethylbenzene at high concentrations can cause central nervous system depression, respiratory tract irritation, asphyxiation, cardiac stress and coma. Effects of chronic exposure to this solvent can include blood disorders (anemia, leukopenia) and kidney or liver damage.

**Naphthalene:** Exposure to naphthalene can cause cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma.

**Petroleum Solvent:** May cause irritation to the eyes, skin and respiratory system. Excessive inhalation causes headache, dizziness, nausea and loss of motor skills.

## 12. ECOLOGICAL INFORMATION

This pesticide is highly toxic to non-target plants.

The following information is for the active ingredient, **S-Metolachlor**:

Rainbow Trout (96-hour LC<sub>50</sub>): 1.23 mg/L

Water Flea (48-hour EC<sub>50</sub>): 11.24 mg/L

Green Algae (96-hour LC<sub>50</sub>): 0.077 mg/L

S-metolachlor has low bioaccumulation potential. It is not persistent in soil, stable in water, and sinks in water (after 24-hours). S-metolachlor is known to leach through soil into ground water under certain conditions. S-metolachlor can contaminate surface water through ground spray drift. Under some conditions, S-metolachlor may also have a high potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application.

## 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the user according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Refer to the product label for specific container disposal instructions.

## 14. TRANSPORT INFORMATION

### **US-DOT:**

**Containers ≤ 1,700 gal. (6,435 L) in strong outer packaging:**

Not regulated

**Containers > 1,700 gal. (6,435 L) shipped "ground only":**

Shipping Description: NA3082, Other regulated substances, liquid, N.O.S. (naphthalene), 9, PG III,

Hazardous Substance RQ: 100 lbs. (approximately 1,700 gallons of product)

Emergency Guide: 171

**Containers > 1,700 gal. (6,435 L) shipped all or in part by vessel:**

Shipping Description: UN3082, Environmentally hazardous substance, liquid, N.O.S. (S-metolachlor, naphthalene), 9, PG III, Marine Pollutant

Hazardous Substance RQ: 100 lbs. (approximately 1,700 gallons of product)

Emergency Guide: 171

### **IMDG:**

**Containers ≤ 1.3 gal. (5 L) in strong outer packaging:**

Not regulated

**Containers > 1.3 gal. (5 L):**

Shipped internationally by vessel: UN3082, Environmentally hazardous substance, liquid, N.O.S. (S-metolachlor, naphthalene), 9, PG III, Marine Pollutant

### **IATA:**

Shipped internationally by air: UN3082, Environmentally hazardous substance, liquid, N.O.S. (S-metolachlor), 9, PG III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## 15. REGULATORY INFORMATION

### FIFRA –

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. The following is the hazard information as required on the pesticide label:

#### PRECAUTIONARY STATEMENTS

##### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION.** Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. This product may cause skin sensitization reactions in some people.

##### ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

##### Ground Water Advisory

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

##### Surface Water Advisory

S-metolachlor can contaminate surface water through ground spray drift. Under some conditions, S-metolachlor may also have a high potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA.

### SARA Title III – Section 302 Extremely Hazardous Substances

Not listed

### SARA Title III – Section 311/312 Hazard Categories

Immediate, Delayed

### SARA Title III – Section 312 Threshold Planning Quantity

The threshold planning quantity (TPQ) for this product treated as a mixture is 10,000 lbs. This product contains no ingredients with a TPQ of less than 10,000 lbs.

### SARA Title III – Section 313 Reportable Ingredients

1,2,4-Trimethylbenzene <1.0% (CAS No. 95-63-6)

Naphthalene <1.0% (CAS No. 91-20-3)

### CERCLA Reportable Quantity (RQ) –

Naphthalene <1.0% (CAS No. 91-20-3): RQ 100 lbs. (> 2,500 gallons of product)

### CALIFORNIA PROP 65 STATUS –

**⚠ WARNING:** This product can expose you to naphthalene, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### CANADA –

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

## 16. OTHER INFORMATION

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

To the extent consistent with applicable law, neither Atticus, LLC nor Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE LIABILITY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ATTICUS, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ATTICUS, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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