



NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least				Regulated for ground shipment in quantities greater than 119 gallons. See Section 14 for additional information.
1	Slight	2	Health		
2	Moderate	2	Flammability		
3	High	0	Reactivity		
4	Severe				

SECTION 1: IDENTIFICATION	
Product Name: Presidual™ Herbicide EPA Registration #: 100-1162-1381 Product ID/Unity #: 1578038, 1578039 Common Name: Metribuzin & S-Metolachlor Herbicide Chemical Description: 4-amino-6-(1,1-dimethylethyl-3-methylthio)-1,2,4-triazin-5 (4H)-one and Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)-(S) Recommended Uses: Agricultural Herbicide – See product label for complete list of uses and use sites. Restrictions for Use: See product label for information regarding restrictions on the use of this product.	MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs) Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)
Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	
FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL: CHEMTREC 1-800-424-9300 (24 hours)	

SECTION 2: HAZARDS IDENTIFICATION	
EMERGENCY OVERVIEW: Transparent amber liquid with aromatic sulfur-like odor. Combustible liquid. Harmful if swallowed and may be fatal if swallowed and enters airways. Causes serious eye irritation.	
POTENTIAL HEALTH EFFECTS: Eyes: Causes moderate but temporary eye irritation. Skin: May cause mild but temporary skin irritation with prolonged contact. Inhalation: May cause irritation of the upper respiratory tract and drowsiness or dizziness. Ingestion: Harmful if swallowed. May cause irritation of the gastric system. Preexisting Conditions: None known Chronic Health Effects: See section 11 for full information on chronic effects.	
Carcinogenicity	NTP: Naphthalene (Anticipated Carcinogen) IARC: Naphthalene (Group 2B) OSHA: Not listed
OSHA HCS 2012 CLASSIFICATION: Acute Oral Toxicity Category 4; Eye Irritation Category 2A; Specific Target Organ Toxicity – Single Exposure Category 3; Aspiration Hazard Category 1; Flammable Liquid Category 4; Carcinogenicity Category 1B; Specific Target Organ Toxicity – Repeated Exposure Category 2	
SIGNAL WORD: WARNING	
HAZARD STATEMENTS: Harmful if swallowed. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. Combustible liquid. May cause cancer. May cause damage to organs through prolonged or repeated exposure.	
	

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Percent of product with unknown toxicity: 0%

PRECAUTIONARY STATEMENTS:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Do not breathe mist, vapors, spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective glove, protective clothing, eye protection.

Response: **If swallowed:** Call a poison control center or doctor. Rinse mouth. Do NOT induce vomiting.
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.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If exposed or concerned: Get medical advice/attention.
In case of fire: Use dry chemical, foam or CO2 for extinction.

Storage: Store locked up. Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
S-Metolachlor	58.2%	87392-12-9
Metribuzin	13.8%	21087-64-9
1,2,4-Trimethylbenzene	*	95-63-6
Naphthalene	*	91-20-3
Petroleum solvent	*	64742-94-5

*Ingredients not specifically listed are non-hazardous and/or are considered to be confidential business information under 29 CFR 1910.1200(i).
See Section 8 for exposure limits.

SECTION 4: FIRST AID MEASURES

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Call a poison control center or doctor for treatment advice.

Ingestion: Seek medical attention or call a poison control center immediately for treatment advice. Do not induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eyes: Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.

Skin: Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if irritation occurs.

NOTE TO PHYSICIAN: Contains petroleum distillate – vomiting may cause aspiration pneumonia.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical, foam, carbon dioxide, water fog or water spray.

Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. If water is used to fight fire, dike and collect runoff. Dispose of fire control water later. Avoid breathing vapors; keep upwind.

Hazardous Combustion Products: Toxic gases may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well.

Unusual Fire and Explosion Hazards: Combustible liquid. Can release vapors that form explosive mixtures at temperatures above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Environmental Precautions: Do not allow spilled product to enter sewers or waterways.

Methods for Containment: Contain spilled product by diking area with sand or earth.

Methods for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite or other appropriate material. Scoop, or sweep up material and place in a container for disposal. Do not place spilled material back in original container.

Other Information: Spills of this product may require reporting under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as the product contains Naphthalene with a reportable quantity (RQ) of 100 lbs. See Section 15 for additional information.

SECTION 7: HANDLING AND STORAGE

Handling: RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the pesticide product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Storage: Store in a secured, cool, dry area away from children, food and feed products in an area away from incompatible substances. Protect packaging from physical damage. Do not store near heat or open flame. **See pesticide product label for additional storage information.**

Minimum Storage Temperature: Not determined

Other Precautions: Consult Federal, state and local laws and regulations pertaining to storage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component:	OSHA PEL	ACGIH TLV	NIOSH REL
1,2,4-Trimethylbenzene		25 ppm TWA	25 ppm TWA
Naphthalene	10 ppm TWA	100 ppm TWA (skin)	10 ppm TWA
S-Metolachlor / 10 mg/m3 TWA (Syngenta Occupational Exposure Limit)			
Metribuzin		5 mg/m3 TWA	5 mg/m3 TWA

NOTE TO END USERS: PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING LISTED IN THIS SECTION IS FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD REFER TO THE PESTICIDE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING.

Respiratory Protection: Where airborne exposure to concentrations greater than the above listed exposure limits is likely, use a NIOSH approved air-purifying respirator with an organic vapor (OV) cartridge or canister with an R, P, or HE filter.

Engineering Controls: **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Protective Gloves: Wear chemically protective gloves to prevent exposure to skin.

Eye Protection: To avoid contact with eyes, wear chemical safety goggles or safety glasses and full face shield. Contact lenses are not protective eye devices. An emergency eyewash or water supply should be readily accessible to the work area.

Other Protective Clothing or Equipment: Wear long-sleeve shirt, long pants and chemical resistant footwear plus socks to prevent skin contact.

Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Specific Gravity (H ₂ O=1):	1.08 (typical)
Vapor Pressure (mm Hg):	Not determined	Density (lbs/gallon):	9.01 lbs/gallon (typical)
Vapor Density (Air=1):	Not determined	Melting Point/Freezing Point:	Not determined
Solubility in Water (wt %):	Not available	Boiling Point/Range:	Not determined
Viscosity:	Not available	pH (1% Solution in Water):	3.0 – 5.0
Appearance and odor:	Transparent amber liquid with an aromatic sulfur-like odor	Flash Point:	188°F

SECTION 10: STABILITY AND REACTIVITY

Reactivity: None known
Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions.
Possibility of Hazardous Reactions: Will not occur.
Conditions to Avoid: None known
Incompatible Materials: None known
Hazardous Decomposition Products: None known

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Eye Effects: Moderately irritating (Rabbit)
Skin Effects: Slightly irritating (Rabbit); Not a skin sensitizer (Guinea Pig); LD50 >5,000 mg/kg (Rat)
Acute Inhalation Effects: LC50 >2.53 mg/L (4 hours)(Rat)
Acute Oral Effects: LD50 = 1,805 mg/kg (Rat)
Specific Target Organ Toxicity: Metribuzin: liver
1,2,4-Trimethylbenzene: central nervous system depression, respiratory tract irritation, asphyxiation, cardiac stress, coma, blood disorders (anemia, leukopenia) and kidney or liver damage
Naphthalene: cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma
Petroleum solvent: high vapor concentrations are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects, including death.

CHRONIC TOXICITY

Chronic Effects: See target organ toxicity.
Carcinogenicity: Naphthalene is a possible human carcinogen.
Mutagenicity: None known
Teratogenicity: None known
Reproductive Toxicity: Metribuzin: Developmental toxicity studies in rats showed both developmental and maternal effects. A reproductive toxicity study showed reduced offspring weights at the highest dose level.
S-Metolachlor: Did not show reproductive effects in animal experiments.

POTENTIAL HEALTH EFFECTS:

Eyes: Causes moderate but temporary eye irritation.
Skin: May cause mild but temporary skin irritation with prolonged contact.
Inhalation: May cause irritation of the upper respiratory tract and drowsiness or dizziness.
Ingestion: Harmful if swallowed. May cause irritation of the gastric system.

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SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Not determined	
ECOTOXICITY DATA:	
Fish Acute and Prolonged Toxicity:	S-Metolachlor: Rainbow trout 96-hour LC50 = 1.23 mg/L Metribuzin: Rainbow trout 96-hour LC50 = 42 ppm
Aquatic Invertebrate Acute Toxicity:	S-Metolachlor: <i>Daphnia magna</i> 48-hour EC50 = 11.24 mg/L Metribuzin: <i>Daphnia magna</i> 48-hour EC50 = 4.18 ppm
Aquatic Plant Toxicity:	S-Metolachlor: Green algae 72-hour EbC50 = 0.077 mg/L Metribuzin: Green algae 6-day EC50 = 20.8 ppb
Bird Acute and Prolonged Toxicity:	Metribuzin: Bobwhite Quail 21 day LD50 = 164 mg/kg
Honeybee Toxicity:	Not determined
ENVIRONMENTAL EFFECTS:	
Soil Absorption/Mobility:	Metribuzin has moderate mobility in soil.
Persistence and degradability:	S-Metolachlor and Metribuzin are not persistent in soil and are stable in water. Both actives sink in water (after 24 hours)
Bioaccumulative Potential:	S-Metolachlor has low bioaccumulation potential.
Other adverse effects:	Not determined

SECTION 13: DISPOSAL CONSIDERATIONS

Waste:	Dispose of in accordance with applicable Federal, state and local laws and regulations.
Container:	Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations. See pesticide product label for full instructions on disposal.
RCRA Characteristics:	It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORT INFORMATION

DOT: (Ground)	This product is not regulated by the U.S. Department of Transportation as a hazardous material for ground shipment in packages less than 119 gallons. For packages with capacity of 119 gallons or greater: NA1993, Compounds, Weed Killing, Liquid, (Naphthalene), Combustible liquid, PGIII
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	Not determined

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.	
SARA Title III Information:	
Section 302 - Extremely hazardous substances:	None listed
Section 311/312 - Hazard Categories:	Immediate (Acute); Fire
Section 313 - The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:	
Metribuzin (CAS # 21087-64-9) 13.8%; 1,2,4-Trimethylbenzene (CAS #95-63-6); Naphthalene (CAS # 91-20-3)	
CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):	
Naphthalene has an RQ of 100 lbs. which is met with quantities of 750 gallons or greater.	

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EPA Registration Information: 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

Contains petroleum distillate.

Harmful if swallowed.

Causes moderate eye irritation.

Avoid contact with eyes, skin or clothing.

California Proposition 65: WARNING: This product contains a component known to the state of California to cause cancer and/or reproductive harm.

U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
Petroleum Solvent	64742-94-5	PA
Naphthalene	91-20-3	IL, MN, NJ, PA, RI
1,2,4-trimethylbenzene	95-63-6	IL, MN, NJ, PA, RI
Metribuzin	21087-64-9	MA, NJ, PA

Canadian Domestic Substances List: Not determined

WHMIS Classification: This product is not approved for use in Canada. WHMIS classification is not determined.

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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