



Safety Data Sheet

Issue Date: 07-Jan-2013

Revision Date: 16-Oct-2015

Version 2

1. IDENTIFICATION

Product Identifier

Product Name Tailwind

Other means of identification

SDS # MANA-010

Registration Number(s) EPA Reg. No. 66222-245

Recommended use of the chemical and restrictions on use

Recommended Use EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address

Makhteshim Agan of North America, Inc.
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604
1-919-256-9300

Emergency Telephone Number

Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Amber liquid

Physical State Liquid

Odor Moderate

Classification

Acute toxicity- Oral	Category 4
Acute toxicity- Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Eye damage/ irritation	Category 2
Aspiration toxicity	Category 1
Flammable Liquids	Category 4

Signal Word

Danger

Hazard Statements

Harmful if swallowed
 Harmful if inhaled
 Causes skin irritation
 Causes serious eye irritation
 May be fatal if swallowed and enters airways
 Combustible liquid



Precautionary Statements - Prevention

Wash hands, face, and any exposed skin thoroughly after handling
 Do not eat, drink, or smoke when using this product
 Avoid breathing dust/mist
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Do not induce vomiting
 Rinse mouth
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 Call a poison center/doctor if you feel unwell
 IF ON SKIN: Wash with plenty of water
 Take off contaminated clothing and wash before reuse
 If skin irritation occurs: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IN CASE OF FIRE: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Metolachlor II	51218-45-2	56.76 - 60.28
Metribuzin	21087-64-9	13.23 - 14.63
Proprietary Solvent	Proprietary	balance

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

General Advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.
Skin Contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if necessary.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration. Seek medical advice.
Ingestion	Immediately call a poison center or doctor/physician. Never give anything by mouth to an unconscious person. Obtain medical attention. Do not induce vomiting unless directed by medical personnel.

Most important symptoms and effects

Symptoms	Liquid ingestion may result in vomiting; aspiration of liquid into the lungs must be avoided as liquid contact with the lungs can result in chemical pneumonitis and pulmonary edema/hemorrhage. May cause skin and eye irritation.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Foam. Carbon dioxide (CO2).

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustible liquid.

Hazardous Combustion Products Toxic gases may be formed by fire.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area of unprotected personnel. Remain upwind of fire to avoid hazardous vapors and decomposition products. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.
Environmental Precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

- Methods for Containment** Prevent further leakage or spillage if safe to do so.
- Methods for Clean-Up** For small spills, absorb with sand, clay, or other inert absorbent. Place in appropriate containers for disposal. For large spills: recover free product. Dike for later disposal. Absorb with inert material, and then place in suitable container for chemical waste. Flush spill area with water, collect rinse water in containers for proper disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

- Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Wash face, hands, and any exposed skin thoroughly after handling. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not eat, drink or smoke when using this product. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities

- Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of the reach of children. Store away from incompatible materials. Protect from excessive heat. Store locked up. Keep/store only in original container.
- Incompatible Materials** None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Metribuzin 21087-64-9	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

- Engineering Controls** Please refer to the product label. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

- Eye/Face Protection** Use splash goggles or face shield when contact may occur.
- Skin and Body Protection** Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Viton or other impervious gloves are required. Long sleeve shirt, trousers, and safety shoes.
- Respiratory Protection** Ensure adequate ventilation, especially in confined areas. Wear an appropriate NIOSH/MSHA approved respirator if ventilation is inadequate.
- General Hygiene Considerations** Wash hands before eating, drinking, smoking and using the toilet. Remove contaminated clothing promptly and wash thoroughly before reused. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product’s concentrate. Do not reuse them. Follow manufacturer’s instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Moderate
Appearance	Amber liquid	Odor Threshold	Not determined
Color	Amber		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.0 - 6.0	
Melting Point/Freezing Point	Not applicable	
Boiling Point/Boiling Range	Not determined	
Flash Point	82.2 °C / 180 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-not applicable	
Upper Flammability Limits	Not available	
Lower Flammability Limit	Not available	
Vapor Pressure	Not determined	(lambda-cyhalothrin technical)
Vapor Density	Not determined	
Specific Gravity	Not determined	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not available	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	50.7 @ 24°C; 23.2 @ 40°C	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
Bulk Density	8.9 lb/gal - 9.1 lb/gal	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization	Not known to occur.
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Conditions to Avoid

Elevated temperatures.

Incompatible Materials

None known.

Hazardous Decomposition Products

May emit toxic fumes under fire conditions.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

- Eye Contact** Causes serious eye damage.
- Skin Contact** Causes skin irritation.
- Inhalation** Harmful if inhaled.
- Ingestion** Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Metolachlor II 51218-45-2	= 2200 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 1750 mg/m ³ (Rat) 4 h
Proprietary Solvent	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
Metribuzin 21087-64-9	= 1100 mg/kg (Rat)	= 2 g/kg (Rat) > 20 g/kg (Rabbit)	> 860 mg/m ³ (Rat) 4 h

Information on physical, chemical and toxicological effects

- Symptoms** Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

- Carcinogenicity** Not classifiable as a human carcinogen.
- Aspiration hazard** May be fatal if swallowed and enters airways.

Product Information (Numerical measures of toxicity)

- Acute Oral LD50 (Rat):** >1,098 mg/kg
- Acute Dermal LD50 (Rabbit):** >5,000 mg/kg
- Acute Inhalation LC50 (Rat):** >2.07 mg/L (4-hr)
- Eye Irritation:** Moderately irritating.
- Dermal Irritation:** Severely irritating.
- Dermal Sensitization:** Not a skin sensitizer.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects. For terrestrial uses only. Do not apply directly to water, or 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 waters or rinsate. Do not apply when weather conditions favor drift from target area.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Metolachlor II 51218-45-2	57.1: 72 h Desmodesmus subspicatus mg/L EC50 static 0.0448 - 0.0568: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	8.6 - 12: 96 h Lepomis macrochirus mg/L LC50 static 3.3 - 4.6: 96 h Oncorhynchus mykiss mg/L LC50 static 5.4 - 12: 96 h Pimephales promelas mg/L LC50 static 7.4 - 10.5: 96 h Poecilia reticulata mg/L LC50 static		25.1: 48 h Daphnia magna mg/L LC50 4.25: 48 h Daphnia magna mg/L EC50 13 - 18.4: 48 h Daphnia magna mg/L EC50 Static
Proprietary Solvent	2.5: 72 h Skeletonema costatum mg/L EC50	19: 96 h Pimephales promelas mg/L LC50 static 2.34: 96 h Oncorhynchus mykiss mg/L LC50 1740: 96 h Lepomis macrochirus mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 41: 96 h Pimephales promelas mg/L LC50		0.95: 48 h Daphnia magna mg/L EC50

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Metolachlor II 51218-45-2	2.9
Proprietary Solvent	6.1

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinse is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or Hazardous Waste representative at the nearest EPA regional office. Never place any unused product down an indoor or outdoor drain. Do not contaminate water, food or feed by disposal.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT Package less than 119 Gallons(450 Lt) : Not Regulated

Package over 119 Gallons (450 Lt):

UN/ID No NA1993
Proper Shipping Name Combustible liquid, n.o.s. (hydrocarbon mixture)
Hazard Class 3
Packing Group III

IATA

UN/ID No UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s. (Metolaclor)
Hazard Class 9
Packing Group III
Description Marine Pollutant

IMDG

UN/ID No UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s. (Metolaclor)
Hazard Class 9
Packing Group III
Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

15. REGULATORY INFORMATION

International Inventories

TSCA All ingredients are listed or exempt from listing on Chemical Substance Inventory

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Metribuzin - 21087-64-9	21087-64-9	13.23 - 14.63	1.0

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania

Metolachlor II 51218-45-2	X		
Metribuzin 21087-64-9	X	X	X

EPA Pesticide Registration Number 66222-245

EPA Statement

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:

EPA Pesticide Label

Signal Word: Warning

Causes skin irritation. Harmful if swallowed. Causes moderate eye irritation. Do not get on skin or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Difference between SDS and EPA pesticide label

	EPA	OSHA
Signal Word	Warning	Danger
Acute toxicity - Oral	Harmful if swallowed	harmful if swallowed
Acute toxicity – Inhalation	N/A	Harmful if inhaled
Skin corrosion/irritation	Causes skin irritation	Causes skin irritation
Serious eye damage/eye irritation	Causes moderate eye irritation	Causes serious eye irritation
Aspiration Hazard	N/A	May be fatal if swallowed and enters airways

16. OTHER INFORMATION

NFPA	Health Hazards	Flammability	Instability	Special Hazards
	2	2	0	None
HMIS	Health Hazards	Flammability	Physical Hazards	Personal Protection
	2	2	0	See section 8

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet