


## Restraint herbicide

SECTION 1. IDENTIFICATION	
<b>Product Name:</b>	Restraint herbicide
<b>Synonyms:</b>	Tolpyralate + Acetochlor Herbicide
<b>Chemical Name:</b>	Tolpyralate: 1-[[1-ethyl-4-[3-(2-methoxyethoxy)-2-methyl-4-(methylsulfonyl)benzoyl]-1H-pyrazol-5-yl]oxy]ethyl methyl carbonate Acetochlor: 2-chloro-2'-methyl-6'-ethyl-N-ethoxymethylacetanilide
<b>Chemical Family:</b>	Benzoyl pyrazole + chloroacetanilide mixture
<b>Recommended Uses:</b>	Agricultural industry: Herbicide
<b>EPA Registration No.:</b>	71512-46-88783
<b>Company Identification:</b>	Summit Agro USA, LLC 240 Leigh Farm Road, Suite 415 Durham, NC 27707
<b>24 Hour Emergency Number:</b>	For Transportation emergency, spills, leak, fire or accident call: CHEMTREC 1-800-424-9300  For Medical emergency call: 1-888-484-7546

SECTION 2. HAZARDS IDENTIFICATION	
<b>Hazard Classification:</b>	Specific target organ toxicity, single exposure (Category 3) [Respiratory irritation and narcotic effects] Specific target organ toxicity, repeated exposure (Category 2) Eye irritation (Category 2B) Skin irritation (Category 3) Skin sensitization (Category 1) Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 1)
<b>Signal Word:</b>	<b>WARNING</b>
<b>Hazard Symbols:</b>	
<b>Hazard Statements:</b>	May be fatal if swallowed and enters airways. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May causes damage to organs (blood, eyes). May cause damage to organs (lung, nose, eyes) through prolonged or repeated exposure. May cause damage to eye, liver and kidney through prolonged or repeated exposure. Causes eye irritation. Causes mild skin irritation. May cause an allergic skin reaction. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
<b>Precautionary Statements:</b>	Do not handle until all safety precautions have been read and understood. Do not breathe dust/mist/vapors. Only use outdoors or in a well-ventilated area. If swallowed, get medical attention immediately. DO NOT induce vomiting. Wash hands, forearms and face thoroughly after handling. Avoid release to the environment. Get medical attention if you feel unwell. Collect spillage. Dispose of contents and container in accordance with the product label.

<b>SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS</b>			
<b>Chemical Name:</b>	<b>CAS #:</b>	<b>% by Weight:</b>	<b>TLV/PEL:</b>
Acetochlor	34256-82-1	68.2	Not established
Tolpyralate	1101132-67-5	1.0	Not established
Dichlormid	37764-25-3	10 – 15	Not established
Aromatic hydrocarbons	64742-94-5	1 – 5	50 mg/m <sup>3</sup> (10 ppm)
Alkylbenzene (C11-13) sulfonate(Br), calcium salt	68953-96-8	1 – 5	Not established

<b>SECTION 4. FIRST-AID MEASURES</b>	
<b>Ingestion:</b>	Immediately call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>Skin Contact:</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
<b>Eye Contact:</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
<b>Inhalation:</b>	Move person to fresh air. 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 treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	

<b>SECTION 5. FIRE-FIGHTING MEASURES</b>	
<b>Extinguishing Media:</b>	<b>SMALL FIRE:</b> Use carbon dioxide, foam or dry powder. <b>LARGE FIRE:</b> Use polar resistant foam or water fog. Avoid use of water jet.
<b>Unusual Fire and Explosion Hazards:</b>	May decompose under fire conditions emitting gases and vapors hazardous to health.
<b>Fire Fighting Instructions:</b>	Wear full firefighting turn-out gear and self-contained breathing apparatus.

<b>SECTION 6. ACCIDENTAL RELEASE MEASURES</b>	
<b>Precautionary Measures:</b>	Use protective equipment and engineering controls identified in section 8 of this document.
<b>Containment and Clean-Up:</b>	Contain spill. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Wash spillage area with water. Do not allow wash water to enter drains or surface waters.

<b>SECTION 7. HANDLING AND STORAGE</b>	
<b>Precautions:</b>	Avoid contact with skin, eyes or clothing. Avoid breathing mist and vapors. Keep away from heat, sparks, open flames or hot surfaces. 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 use.

## SECTION 7. HANDLING AND STORAGE (continued)

**Storage:** Store in original container, in a secured, dry and cool place separate from fertilizer, food, and feed. Keep away from direct sunlight, flames and other heat sources. Do not contaminate water, food or feed by storage or disposal.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The recommendations in this section for exposure controls and Personal Protection are intended for industrial settings (such as formulation or packaging facilities) or for other non-application situations.

For additional information, refer to the precautions/warnings on the product label. Always follow the label instructions when handling and using this product.

**Exposure Limits:** Aromatic hydrocarbons:  
USA OSHA PEL (TWA) (mg/m<sup>3</sup>) 50 mg/m<sup>3</sup>  
USA OSHA PEL (TWA) (ppm) 10 ppm

**Engineering Controls:** Indoors, use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

### Personal Protection:

**Ingestion:** Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

**Eye Contact:** Where eye contact is likely, use protective eyewear (such as chemical splash goggles).

**Skin Contact:** Where contact is likely, wear chemical-resistant gloves (such as polyethylene, polyvinyl chloride (PVC), or nitrile rubber), coveralls over long-sleeved shirt and long pants, socks and chemical-resistant footwear.

**Inhalation:** An approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical Appearance:** Clear amber liquid

**Odor:** Moderately bittersweet

**pH:** 5.43 (1% dispersion)

**Boiling Point:** Not available

**Melting Point:** Not available

**Freezing Point:** Not applicable

**Evaporation Rate:** Not available

**Flash Point:** > 230°F (110°C)

**Flammable Limits:** Not available

**Vapor Pressure:** Not available

**Vapor Density:** Not available

**Density:** 1.120 g/cm<sup>3</sup> @ 25°C

**Solubility:** Not available

**N-Octanol/Water:** Not available

**Auto-Ignition Temperature:** Not available

**Decomposition Temperature:** Not available

**Viscosity:** 59.2 centipoise at 25°C

SECTION 10. STABILITY AND REACTIVITY	
<b>Reactivity:</b>	No evidence of reactivity.
<b>Stability:</b>	This product is stable under normal use and storage conditions.
<b>Possibility of Hazardous Reactions:</b>	Hazardous chemical reaction and/or increase in temperature may occur as a result of contact with oxidizing agents.
<b>Conditions to Avoid:</b>	Avoid contact with heat or open flame.
<b>Incompatible Materials:</b>	Oxidizing agents, reducing agents, organic solvents
<b>Hazardous Decomposition Products:</b>	May decompose under fire conditions to release vapors or gases which are toxic and irritating to the respiratory tract.

SECTION 11. TOXICOLOGICAL INFORMATION	
<b>Acute Toxicity:</b>	Acute oral toxicity (LD <sub>50</sub> ): 1750 mg/kg [Rat] Acute dermal toxicity (LD <sub>50</sub> ): > 5000 mg/kg [Rat] Acute inhalation toxicity (LC <sub>50</sub> ): > 2.05 mg/L
<b>Skin Irritation:</b>	Moderate skin irritant
<b>Eye Irritation:</b>	Moderate eye irritant
<b>Sensitization:</b>	Possible skin sensitizer
<b>Mutagenicity:</b>	No evidence of mutagenicity.
<b>Carcinogenicity:</b>	Components of aromatic hydrocarbons have been classified by IARC as possibly carcinogenic to humans. No testing has been done on the formulation as a whole.
<b>Reproductive Toxicity:</b>	A two-generation study on rats with tolpyralate showed no evidence of reproductive toxicity at dietary doses of up to 1000 ppm (up to 90 mg/kg bw/day). Other formulation ingredients have shown no evidence of reproductive toxicity.
<b>Target Organ Effects:</b>	Ocular opacity was observed in rats and dogs at exposure levels ranging from 50 – 2000 ppm of tolpyralate. Systemic effects to liver and kidneys were seen at extremely high doses of 2000 ppm or greater. Aromatic hydrocarbons have shown potential to affect the eyes, nose, lungs and blood through single or repeated exposure.
<b>Aspiration:</b>	Not expected to present an aspiration hazard, but caution should be exercised due to presence of petroleum distillate.

SECTION 12. ECOLOGICAL INFORMATION	
<b>Ecotoxicity:</b>	Highly toxic to terrestrial and aquatic plants. Very toxic to aquatic life with long lasting effects. Acetochlor has potential to accumulate in aquatic organisms.
<b>Persistence / Degradability:</b>	Tolpyralate degrades rapidly in soil, with half-life values ranging from 0.5 – 2.6 days in field conditions. Hydrolysis is dependent on pH, with increasing pH causing faster degradation. Hydrolysis @ 25°C: DT <sub>50</sub> = 311 days @ pH 4, 31 days @ pH 7, 8.5 hours @ pH 9. No data is available on other formulation components.
<b>Bioaccumulative Potential:</b>	The potential for tolpyralate to bioaccumulate is extremely low (Log P <sub>ow</sub> = 1.9). Acetochlor has potential to bioaccumulate based on its n-octanol /water partition coefficient of 3.03 (log K <sub>ow</sub> ).

**SECTION 12. ECOLOGICAL INFORMATION (continued)**

**Mobility in Soil:** Tolpyralate shows high to very high mobility in various soils under laboratory conditions, but field dissipation studies show limited downward movement through soil leaching.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Waste Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** DO NOT reuse or refill container. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**SECTION 14. TRANSPORT INFORMATION**

<b>US DOT Classification:</b>	CLASS 9. Not regulated when shipped in non-bulk packaging by highway or rail.	
<b>Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Acetochlor, Tolpyralate), MARINE POLLUTANT	
<b>Hazard Class:</b>	Class 9	
<b>Identification Number:</b>	UN 3082	
<b>Packing Group:</b>	PG III	
<b>Hazardous Substances Reportable Quantity:</b>	Not applicable.	
<b>Special Provisions for Transport:</b>	Class 9 placard not required for non-bulk packaging transported by highway or rail within the U.S. [49CFR 172.504(f)(9)].	
	<b>IATA (Air Transport)</b>	<b>IMDG (Ocean Transport)</b>
<b>Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Acetochlor, Tolpyralate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ACETOCHLOR, TOLPYRALATE), MARINE POLLUTANT
<b>Hazard Class:</b>	Class 9	CLASS 9
<b>Identification Number:</b>	UN 3082	UN 3082
<b>Packing Group:</b>	PG III	PG III

**SECTION 15. REGULATORY INFORMATION**

**U.S. Federal and State Regulations:**

**SARA 313 Inventory Ingredients:** Not Listed

**SARA 312 Hazards Classification:** Acute health hazard  
Chronic health hazard

**Listed as carcinogen by:**

**IARC:** Aromatic hydrocarbons (naphthalene)

**NTP:** Not Listed

**OSHA:** Not Listed

**CA Prop 65:** This product contains, or may contain, trace quantities of naphthalene, a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

**TSCA:** Exempt from TSCA, subject to FIFRA.

## SECTION 15. REGULATORY INFORMATION (Continued)

### FIFRA:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law (FIFRA). FIFRA requirements differ from the OSHA classification criteria and hazard information required for safety data sheets in Section 2 above, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required by FIFRA on the pesticide label:

### CAUTION

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes and clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. 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.

This product is toxic to fish. 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 rinse water. DO NOT apply where/when conditions could favor runoff. Tolpyralate and acetochlor have properties and characteristics associated with chemicals detected in groundwater. Tolpyralate and acetochlor may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow. This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application.

## SECTION 16. OTHER INFORMATION

### NFPA Hazard Ratings

Health: 2  
Flammability: 1  
Instability: 0

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

### Notice to Reader

*All information contained in this Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion, the information as of the date of the Safety Data Sheet is reliable; however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you; and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee expressed or implied is made by Summit Agro USA, LLC as to the results to be obtained based upon your use of the information, nor does Summit Agro USA, LLC assume any liability arising out of your use of the information.*

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