

SAFETY DATA SHEET

Emergency Phone: 1-800-308-5391

Effective Date: Mar. 17, 2015

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ArmorTech PAC 223

PRODUCT DESCRIPTION: A plant growth regulator.

EPA Reg. No. 80697-4-86064

COMPANY IDENTIFICATION:

United Turf Alliance, LLC

8014 Cumming Highway

Suite 403-282

Canton GA 30115

2. HAZARD(S) IDENTIFICATION

Classified as Hazardous according to criteria of the Hazard Communication Standard (HCS) or 29 CFR §1910.1200 (2012).

Classification of the substance or mixture:

Acute Inhalation (Category 4)

Acute skin irritation (Category 2)

Acute aquatic toxicity (Category 3)

Label elements

HCS labeling

Hazard pictograms (HCS)



Signal Word: WARNING

GHS Hazard Statements:

Causes skin irritation.

Harmful if inhaled.

Harmful to aquatic life.

Precautionary Statements:

Other hazard information:

NFPA Ratings: Health-2 Flammability-0 Reactivity-0

Signs and Symptoms of Systemic Effects:

No information available

Environmental hazards:

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Active ingredient	CAS No.	Content (w/w,%)	ACIGH
Paclobutrazol	76738-62-0	22.3% min.	5.0 mg/m ³ TWA
Propylene glycol	57-55-6	13.0%max	10 mg/m ³ TWA
Bentonite	1302-78-9	1.5%max	3 mg/m ³ TWA
Morwet D425	-	5.0% max	NA
Other ingredient deemed not to be hazardous	-	Balance	NA

4. FIRST AID

If poisoning occurs, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Show this Safety Data Sheet to the doctor.

If swallowed:

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing:

Take off contaminated clothing and wash it before reuse. Rinse skin immediately with plenty of water for 15-20 minutes. Specific treatments see first aid on label. Call a poison control center or doctor for treatment advice. If skin irritation occurs: Get medical advice/attention.

If in eyes:

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. If eye irritation persists: Get medical advice/attention.

If inhaled:

Remove person to fresh air and keep comfortable for breathing. If person is not breathing, call an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a POISON CENTER or doctor if you feel unwell.

HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-308-5391 for emergency medical treatment information.

Note to physician:

There is no specific antidote, treatment symptomatically.

5. FIRE-FIGHTING MEASURES

Flashpoint: > 200° F (Setaflash CC)

Combustibility: No data applicable

OSHA Flammability Classification: None

Flammable Limits (% in Air): N/A

Autoginition Temperature: N/A

Extinguishing Media: Use dry chemical, foam or CO₂ extinguishing media.

Protective equipment: A self-contained breathing apparatus and suitable protective clothing must be worn in fire conditions.

Fire Fighting Instructions:

Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Dike and collect water used to fight fire to prevent environmental damage due to run off.

Fire fighting equipment: Full fire fighting turn-out gear.

Hazardous combustion products: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Wear suitable protective clothing and eye protection to prevent skin and eye contact.

Method for 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 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.

Large spills should be handled according to a spill plan. Otherwise, in case of emergency call day or night, 1-800-308-5391.

7. HANDLING AND STORAGE

Safe handling advice:

Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Keep out of reach of children. Avoid breathing dust/fume/gas/mist/ vapours/spray. Wear eye protection/face protection. Wear protective gloves. Avoid contact with skin and eyes. Do not swallow. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Wash face and hands before eating, drinking or smoking. Remove contaminated clothing and wash before reuse.

Requirements for storage rooms:

Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

Additional information: Read the label before use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit values

Components.	CAS-No	Control parameters	Basis
Paclobutrazol	76738-62-0	5.0 mg/m ³	TWA OSHA/ACGIH

Engineering controls:

Use in ventilated areas only. Use local exhaust at all process locations. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.

Personal protection:

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton

Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Wash PPE after each day's use.

If needed, use local exhaust to keep exposures to a minimum.

Eye protection:

Chemical tight goggles; full face shield in addition of splashing is possible.



Tightly sealed goggle

Skin protection:

Wear impervious gloves when handling.



Chemical resistant gloves

Body protection:

Depending on conditions of use, additional protection may be required such as an apron, arm covers, or full body suit.

Respiratory protection:

Use MSHA-NIOSH approved respirator for pesticides.

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.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Environmental controls:

See Sections 6, 7, 12, 13.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Beige or off-white opaque Liquid

Odor: Not determined

Odor threshold: No Data Available

pH: No Data Available

Melting point/freezing point: No Data Available

Initial boiling point and boiling range: Approx. 212° F

Flammability: Not flammable.

Explosibility: Not explosive

Evaporation rate: No Data Available

Vapor pressure: 1.0×10^{-3} mPa (20°C, gas saturation) for the technical

Vapor density: No Data Available

Density: 1.08 ± 0.02 grams/cubic cm at 20°C

Solubility: Miscible

Octanol/water partition coefficient: $\log P_{OW} = 3.2$ for the technical

Auto-ignition temperature: No Data Available

Decomposition temperature: No Data Available

Viscosity: No Data Available

These physical data are typical values based on material test but may vary from sample to sample. Typical values should not construed as a guaranteed analysis and any specific lot or as specification items.

10. STABILITY AND REACTIVITY

Reactivity: Product will not undergo polymerization

Chemical Stability: Stable under normal use and storage conditions. Stable for more than 2 years at 20°C under normal use and storage conditions. . Stable to hydrolysis (pH 4-9) and not degraded by UV light (pH 7 10 days).

Possibility of hazardous reactions: Will not occur hazardous polymerization.

Conditions to avoid:

High temperatures and excess moisture. Do not store for prolonged periods in direct sunlight.

Incompatible Materials: Oxidizing agents.

Hazardous decomposition products:

Combustion or thermal decomposition will evolve toxic and irritant vapors.

11. TOXICOLOGICAL INFORMATION**Paclobutrazol Technical:**

Exposure routes: Eyes, skin, ingestion & inhalation.

Toxicity:**Acute toxicity:**

Acute oral (rats): LD₅₀ 5,000mg/kg

Acute dermal (rabbits): LD₅₀ >5,050mg/kg

Acute inhalation (Rats): LC₅₀: >2.40mg/L. Mists may cause irritation of upper respiratory tract.

Acute eye irritation (rabbits): Minimally irritating, Toxicity category IV (Minimal effects clearing in less than 24 hours. No positive effects at 24 hours.). May cause pain and slight transient (temporary) eye irritation. Corneal injury is unlikely.

Acute dermal irritation (rabbits): Slightly irritating, Toxicity category IV (Non-irritating, mild, or slight irritation at 72 hours)

Skin sensitization (mice): Is not considered a sensitizer.

Reproductive/Developmental Effects:

Dose-related increase in minor skeletal defects and evidence of fetotoxicity in rat studies (urogenital defects). No adverse effects seen on reproductive parameters or reproductive organs in a 2-generation rat study. Liver effects were noted at the highest does level in the FO females and male and female offspring.

Teratology (birth defects):

Paclobutrazol caused birth defects in lab animals only at doses toxic to the mother. Paclobutrazol has been toxic to the fetus at doses non-toxic to the mother.

Chronic/Subchronic Toxicity Studies:

Evidence of liver toxicity in repeat dose rodent studies at high dose levels. (1250 ppm, 90 day and 2-year tests). No effects noted in rabbit studies. Non-genotoxic in a range of *in vitro* and *vivo* short-term tests. No medication that Paclobutrazol is an endocrine disruptor.

Carcinogenicity:

Paclobutrazol did not cause cancer in laboratory animals. Commercial bentonite may contain crystalline silica, which is listed as a potential carcinogen by IARC. Crystalline silica has been shown to cancer in laboratory animals and humans.

Toxicity of Other Components:

Not available

Target Organs: Liver

Systemic (other target organ) effects: Effects have been reported on the following organ: central nervous system. Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs. Some evidence suggests that kidney effects may result from excessive exposures also.

12. ECOLOGICAL INFORMATION**Paclobutrazol Technical:****Ecotoxicity:**

LC50 (96 h): 27.8 mg/l for *Rainbow trout*; 23.6 mg/l for *Bluegill sunfish*

Eco-chroc toxicity:

N/A.

Summary of effects:

Practically non-toxic to birds and bees. Slight toxic to fish and invertebrates.

Persistence/Degradability:

Paclobutrazol has been characterized as an environmentally stable compound in soil and water environments (U.S. EPA, 2007B). Laboratory studies with US loam and silt-loam soils indicated that PBZ degraded with a half-life of more than 1 year under both aerobic and anaerobic conditions.

Mobility in soil:

Results from laboratory soil column leaching experiments summarized in U.S. EPA (2007B) indicated low mobility in the experiments using methine-labeled paclobutrazol in soils ranging in texture from sand to clay-loam. The experiments using triazole-labeled paclobutrazol showed low mobility in columns of sand and sandy loam soils, and mobility in loamy sand and clay loam soils. In all cases, the majority (58.6 – 90.7%) of applied paclobutrazol aged residue did not leach out of the upper 10 cm of the treated soil columns.

13. DISPOSAL CONSIDERATIONS

Dispose of product containers, water containers, and residues according to local regulations.

Waste Disposal:

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate 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 the hazardous waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

UN number;	Not classified
D.O.T. Shipping Name:	Plant Growth Inhibitor, Modifier or Regulator
Technical Shipping Name:	ArmorTech PAC 223
Packing Group:	Not classified
D.O.T. Hazard Class:	Not classified
Marine pollutant	Not classified

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:

CAUTION

Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist.

ENVIRONMENTAL HAZARDS

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 by cleaning of equipment or disposal of equipment washwaters.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

US Federal Regulations

TSCA list: The ingredients of this product are listed on the TSCA inventory or are exempt.

SARA Title III - Section 302 - notification and information None
SARA Title III - Section 313 - toxic chemical release reporting None
SARA Title III - Section 311/312 - hazard identification

Immediate (Acute)

This product contains none of the components listed as Extremely Hazardous substances.

OSHA Hazardous Components:

None

U.S. Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

State information:

Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

Pennsylvania Right To Know Components

Paclobutrazol CAS-No. 76738-62-0

Propylene Glycol CAS-No.57-55-6

New Jersey Right To Know Components

Paclobutrazol CAS-No. 76738-62-0

Propylene Glycol CAS-No.57-55-6

CAS# 1302-78-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Canadian Regulations

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.

Environmental

CERCLA

None of the chemicals in this material have an RQ.

16. OTHER INFORMATION

SDS# ZTCS-PGR806974

Created date: 03/17/2015

Update date:

Revised for:

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