



REVISION DATE: 12/13/2017 VERSION 2.0

**[1. Identification]**

Product name: Tide Paclo 2SC

Chemical name: (R\*,R\*)-beta-[(4-chlorophenyl)methyl]-alpha-(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol

Chemical family: Triazole

EPA Reg. No.: 80697-4

Recommended Use: Plant growth regulator

Supplier: Zhejiang Tide CropScience Co., Ltd.  
21 Hubble, Irvine, CA 92618  
(949) 679-3535

For medical or chemical\* emergencies: Call CHEMTREC®: 1-800-424-9300 (24 hours/day)  
\*Spill, leak, fire, exposure or accident

For non-emergency product information: Call the NATIONAL PESTICIDE INFORMATION CENTER  
1-800-858-7378 (Monday - Friday, 8-12 PM Pacific time)

**[2. Hazard(s) Identification]**

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR §1910.1200 (2012)

**Classification of the substance or mixture**

Acute oral toxicity (Category 5)

Acute inhalation toxicity (Category 4)

Acute aquatic toxicity (Category 3)

Specific target organ toxicity - repeated exposure (Category 2)

Reproductive Toxicity (Category 2)

**GHS pictograms**

**Signal Word: WARNING**

**GHS Hazard Statements:**

H302 May be harmful if swallowed.

H332 Harmful if inhaled.

H402 Harmful to aquatic life.

H373 May cause damage to organs (central nervous system, liver) through prolonged or repeated exposure.

H361 Suspected of damaging fertility of the unborn child

**Precautionary Statements:****Prevention:**

P280	Wear protective gloves/protective clothing/eye protection/face protection
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P314	Get Medical advice/attention if you feel unwell.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a poison center/doctor if you feel unwell.
P273	Avoid release to the environment.

**Storage:**

P405	Store locked up.
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**Disposal:**

P501	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.
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**Routes of exposure:** Eyes, skin, ingestion & inhalation.

**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 cause cancer in laboratory animals and humans.

**Other hazard information:**

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

**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.

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]**

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR §1910.1200 (2012)**

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

#### **[4. First aid measures]**

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact CHEMTREC at 1-800-424-9300 for emergency medical treatment information.

**If inhaled:** 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 further treatment advice.

**If on skin:** Take off contaminated clothing and wash it before reuse. Rinse skin immediately with plenty of water for 15-20 minutes. 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. Call a poison control center or doctor for treatment advice.

**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.

**Most important symptoms/effects, acute and delayed:** No information available.

**Note to physician:** There is no specific antidote, treatment symptomatically.

#### **[5. Fire-Fighting measures]**

**Suitable extinguishing media:** Use dry chemical, foam or CO<sub>2</sub> extinguishing media.

**Unsuitable extinguishing media:** High volume water jet

**Special hazards arising from the chemical (hazardous combustion products):** During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion. Under fire conditions may produce oxides of carbon, hydrogen and nitrogen.

**Special protective equipment and precautions for fire-fighters:** A self-contained breathing apparatus and suitable protective clothing must be worn in fire conditions.

**Advice for firefighters:** 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. Dispose of fire debris and contaminated extinguishing water in accordance with local regulations.

#### **[6. Accidental release measures]**

**Personal precautions, protective equipment and emergency procedures:**

Wear PPE; see section 8. Keep unauthorized and unprotected people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

**Environmental precautions:**

Prevent further release of material if safe to do so. 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 into drains, sewer or ground water systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water

Board or Regional Office of the EPA. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal. Do not contaminate water when disposing of equipment washwaters or rinsate.

**Methods and materials for containment and cleaning up:**

Clean up spills immediately, observing precautions in Section 8 of this document. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Cover entire spill with absorbing material such as sand, clay or vermiculite and place into appropriate and compatible container for disposal.

**Large spills:** Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible. Allow absorbed material to solidify, and scrape up for disposal. After removal, clean contaminated area thoroughly with water and hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place in a disposable container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

Large spills should be handled according to a spill plan. Otherwise, in case of emergency call CHEMTREC® day or night, 1-800-424-9300.

**Reference to other sections:**

Information regarding safe handling, see section 7.

Information regarding personal protective equipment, see section 8.

Information regarding waste disposal, see section 13.

## **[7. Handling and Storage]**

### **KEEP OUT OF REACH OF CHILDREN!**

**Precautions for safe handling:**

Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid release to the environment. No smoking. Keep away from flames and hot surfaces. Eating or drinking should not be allowed where material is used or stored. Wear personal protective equipment (PPE) to prevent skin and eye contamination. When opening the container, preparing spray and using prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC gloves and goggles. For space applications, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC gloves, goggles and half face piece respirator with dust cartridge or canister. Use personal protective equipment as required. Wear protective gloves and eye / face protection. Avoid breathing mist / vapours. Avoid skin and eye contact and inhalation of vapour. Wash hands thoroughly after handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

**Conditions for safe storage:**

Store the material in a well ventilated, secure area out of reach of children and domestic animals. Store in a cool, dry place away from food, drink and animal feeding stuffs. Store away from any incompatible materials described in Section 10. Store away from sources of heat or ignition. Keep containers closed tightly when not in use. Check containers regularly for leaks. If spilled, see (Environmental Precautions, Section 6).

**[8. Exposure controls / Personal protection]****Control parameters:**

Components.	CAS-No	Control parameters	Basis
Paclobutrazol	76738-62-0	5.0 mg/m <sup>3</sup>	TWA OSHA/ACGIH
Propylene glycol	57-55-6	10 mg/m <sup>3</sup> TWA	TWA OSHA/ACGIH
Bentonite	1302-78-9	3 mg/m <sup>3</sup> TWA	TWA OSHA/ACGIH
Morwet D425	-	NA	NA

**Appropriate engineering controls:**

Provide adequate ventilation when product is used. Eyewash and shower should be provided in mixing and loading areas. Use local exhaust at all process locations. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.

**Personal protective equipment:**

Always follow the label instructions when handling this product. In all other cases the following recommendations would apply.

**Respiratory protection:** When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Hand protection:** Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or Viton

**Eye protection:** Chemical tight goggles; full face shield in addition of splashing is possible.

**Skin and body protection:** Wear long-sleeved shirt and long pants and shoes plus socks. Wear a chemical resistant apron when mixing/loading and cleaning equipment.

**General protective measures:** 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/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Eye wash facility and safety shower should be available. If needed, use local exhaust to keep exposures to a minimum.

**[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

**Flashpoint:** > 200° F (Setaflash CC)  
**Evaporation rate:** No Data Available  
**Flammability:** Not flammable.  
**Upper/lower flammability or explosive limits:** No Data Available  
**Vapor pressure:**  $1.0 \times 10^{-3}$  mPa (20°C, gas saturation) for the technical  
**Vapor density:** No Data Available  
**Relative Density:**  $1.08 \pm 0.02$  grams/cubic cm at 20°C  
**Solubility:** Miscible  
**Partition coefficient: n-octanol/water:**  $\log P_{ow} = 3.2$  for the technical  
**Auto-ignition temperature:** No Data Available  
**Decomposition temperature:** No Data Available  
**Viscosity:** No Data Available

**Note** Physical data are typical values based on material test but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis or as a specification.

## [10. Stability and reactivity]

**Reactivity:** No hazardous reactions if stored and handled as prescribed.  
**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:** This product is chemically stable. Product will not undergo 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):** LD<sub>50</sub> 5,000mg/kg b.w.

**Acute dermal (rabbits):** LD<sub>50</sub> >5,050mg/kg b.w.

**Acute inhalation (Rats):** LC<sub>50</sub>: >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 dose 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 *in 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 cause 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]**

**Ecotoxicity (Based on Paclobutrazol Technical):**

LC<sub>50</sub> (96 h): 27.8 mg/l for *Rainbow trout*; 23.6 mg/l for *Bluegill sunfish*

**Eco-chronic toxicity:** N/A.

**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.

**Other adverse effects:** Practically non-toxic to birds and bees. Slight toxic to fish and invertebrates.

**Environmental Precautions:**

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.

### **[13. Disposal considerations]**

Dispose of contents and container in accordance with 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]**

#### **49CFR**

According to national and international transport regulations this material is not classified as dangerous goods/hazardous material.

#### **D.O.T.**

UN number:	N/A
Shipping Description:	Not Regulated by DOT
D.O.T. Hazard Class:	N/A
Packing group:	NA
Marine pollutant (Yes/No):	No

#### **IMDG/IMO**

UN number:	N/A
UN proper shipping Name:	Not Regulated
Hazard Class:	N/A
Packing group:	NA
Marine pollutant (Yes/No):	No

#### **ICAO/IATA**

UN number:	N/A
UN proper shipping Name:	Not Regulated
Hazard Class:	N/A
Packing group:	NA

### **[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:

**EPA Reg. No.:** 80697-4

**EPA Signal word:** Caution

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**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.

**US Federal Regulations**

**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]**

*The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. Zhejiang Tide CropScience Co., Ltd. assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of these data.*