

**[1. Identification]**

Product name:	Tide Acephate 90 WSG
Chemical name:	O,S-Dimethyl acetylphosphoramidothioate)
Chemical family:	Organophosphate chemical
EPA Reg. No.:	84229-12
Recommended Use:	Insecticide
Supplier	Zhejiang Tide CropScience Co., Ltd. 21 Hubble, Irvine, CA 92618
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 (Category 4)
Acute Dermal (Category 5)
Acute Inhalation (Category 4)
Skin sensitization (Category 1B)

GHS pictograms

Signal Word: WARNING

GHS Hazard Statements:

H302 Harmful if swallowed
H313 May be harmful in contact with skin
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction

Precautionary Statements:**Prevention:**

P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves.

Response:

P301 + P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P321 Specific treatment (see first aid measures on the label).

P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage: See section 7 for storage information.

Disposal:

P501 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations

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 health concerns

NFPA Ratings: Health-2 Flammability-1 Reactivity-0

Signs and Symptoms of Systemic Effects:

This product contains Acephate, a cholinesterase inhibitor. Acute overexposures by oral, dermal or inhalation routes may produce signs and symptoms of toxicity, usually within several hours of exposure, including but not limited to headaches, dizziness, weakness, constriction of the pupil, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating, abdominal cramps, nausea, diarrhea and vomiting. Severe poisonings may result in incontinence, unconsciousness, convulsions and death.

Environmental hazards:

This pesticide is toxic to birds. For terrestrial uses, 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 cleaning equipment or disposing of equipment washwaters. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

[3. Composition / Information on Ingredients]

According to Hazard Communication Standard (HCS) or 29 CFR §1910.1200 (2012).

Active ingredient	CAS No.	Content (w/w,%)	ACGIH
Acephate	30560-19-1	90.0% min.	NA

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

[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:

Remove person to fresh air and keep comfortable for breathing. If person is not breathing, call 911 for an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a POISON CENTER or doctor/physician if you feel unwell.

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 on skin:

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Get medical advice/attention. Wash contaminated clothing before reuse.

If swallowed:

Immediately call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. 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: Acephate is a cholinesterase inhibitor. Measurement of blood cholinesterase activity may be useful in monitoring exposure but decisions regarding treatment will usually need to be made before test results are available. If signs of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone.

[5. Fire-Fighting measures]

Suitable extinguishing media: Carbon dioxide, dry chemical, foam, water fog.

Unsuitable extinguishing media: No data available

Special hazards arising from the chemical (hazardous combustion products): Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorous. Incomplete combustion can produce carbon monoxide.

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: Products of combustion from fires involving this product may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for firefighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and firefighting equipment before reuse.

[6. Accidental release measures]

Personal precautions, protective equipment and emergency procedures:

Precautions: Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled

product or contaminated surfaces. Wear suitable personal protective clothing and equipment. Avoid breathing dust. Remove contaminated clothing and wash before reuse. Ensure adequate ventilation. **Environmental precautions:** Prevent further release of material if safe to do so. Do not flush material into drains, sewers, waterways and/or ground water systems. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal. Do not apply directly to water, or to areas where surface water is present. Do not apply to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate.

Methods and materials for containment and cleaning up:

Methods for cleaning up: Containment: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water. Cleanup: Cleanup spill immediately. Vacuum or sweep up material and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

Containment: This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further contamination of the soil, surface water, or ground water.

Cleanup: Cleanup spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

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

[7. Handling and Storage]

Precautions for safe handling:

Use only outdoors or in a well-ventilated area. Avoid breathing dust/mist/spray. Keep exposure to this product to a minimum, and minimize the quantities kept in work areas. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimize risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10. Avoid release to the environment.

Conditions for safe storage:

Keep pesticide in original container. Store in a cool, dry place away from excessive heat. Do not put concentrate or dilute into food or drink containers.

[8. Exposure controls / Personal protection]

Control parameters:

Components.	CAS-No	Control parameters	Basis
Acephate	30560-19-1	NA	NA

Appropriate engineering controls:

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

The use of human flaggers is prohibited.

Personal protective equipment:

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber, and Viton. If you want more options, follow the instructions for category F on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators and other handlers must wear:

Long-sleeved shirt and long pants Socks and shoes

Chemical-resistant gloves

Respiratory protection Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. If needed, use MSHA/NOISH approved respirator for pesticides.

Hand protection Chemical-resistant gloves.

Eye protection Tightly sealed goggle. Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin and body protection To avoid contact with skin, wear coveralls over with long- or short-sleeved shirt and long or short pants, chemical-resistant footwear plus socks and chemical resistant gloves. Wear chemical-resistant apron when cleaning equipment, mixing or loading. For overhead exposure, wear chemical-resistant headgear. An emergency eyewash or water supply should be readily accessible to the work area.

General protective measures: Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Avoid breathing dust/fume/gas/mist/ vapors/spray. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace.

[9. Physical and chemical properties]

Appearance: White solid granular

Odor: A characteristic order (Sulfur Type)

Odor threshold: No Data Available

PH: 3.5-5.5

Melting point/freezing point: 85-88°C

Initial boiling point and boiling range: No Data Available

Flashpoint: No Data Available

Evaporation rate: No Data Available

Flammability: No flammable

Upper/lower flammability or explosive limits: No Data Available

Vapor pressure: 1.7×10^{-6} mmHg at 23-25°C (Acephate)

Vapor density: No Data Available

Density: 0.53±0.05g/mL

Solubility: Soluble in water

Partition coefficient: n-octanol/water: Kow: 0.13 at 25°C

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: Product will not undergo polymerization

Chemical Stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur hazardous polymerization.

Conditions to avoid: High temperatures and excess moisture.

Incompatible Materials: Avoid contact with alkaline materials.

Hazardous decomposition products: Contact with alkaline materials including hypochlorite oxidants may produce noxious gases.

[11. Toxicological information]

Exposure routes: Eyes, skin, ingestion & inhalation.

Toxicity:

Acute toxicity:

Acute oral (rats): LD₅₀ for female rat 1780 mg/kg b.w., male rat 2150 mg/kg b.w.

Acute dermal (rabbits): LD₅₀ for rabbits >2000mg/kg b.w.

Acute inhalation (Rats): LC₅₀ (4h) >2.0mg/L

Acute eye irritation (rabbits): No irritation to eyes (rabbits).

Acute dermal irritation (rabbits): No skin irritating.

Skin sensitization (mice): Minimally skin sensitizing reaction in guinea pig.

Chronic Toxicity: In 2-year feeding trials, dogs exhibited depression of cholinesterase at 100 mg/kg diet (maximum dose level) of Acephate but no other significant effects; rats showed depression of cholinesterase but no effect on weight gain or pathological effect at 30 mg/kg diet. Another feeding study noted that rats did not produce pathological changes over a 90-day period when fed up to 300 mg/kg body weight of Acephate.

Carcinogenicity:

High doses of Acephate Technical have produced cancer in mice but there is no evidence that Acephate Technical causes cancer in humans. EPA has classified Acephate as a Group C (possible) human carcinogen based on the cancer produced in female mice. This product is not listed as a carcinogen by the national toxicology program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

Reproduction:

There is no evidence that Acephate Technical causes reproductive effects in humans.

Developmental Toxicity:

There is no evidence that Acephate Technical causes birth defects.

Neurotoxicity:

No delayed neurotoxicity

Mutagenicity:

Acephate is not considered to be a mutagenic hazard.

[12. Ecological information]

Ecotoxicity (Based on Acephate Technical):

This pesticide is toxic to birds. For terrestrial uses, 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 cleaning equipment or disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

Avian toxicity: Acephate

Japanese quail (*C. coturnix japonica*) Diet LC₅₀ = 3275mg mg/kg diet

Northern bobwhite (*C. virginianus*) Diet LC₅₀ = 1280mg mg/kg diet

Mallard duck (*A. platyrhinchus*) Oral LD₅₀=350mg mg/kg

Northern bobwhite (*C. virginianus*) Reproductive NOEL =20ppm

Mallard duck (*A. platyrhinchus*) Reproductive NOEL =5ppm

Aquatic organism toxicity: Acephate

Bluegill (*L. macrochirus*) LC₅₀=2050mg mg/L

Mosquitofish (*G. affinis*) LC₅₀=6650 mg mg/L

Goldfish (*C. auratus*) LC₅₀≈9550mg mg/L

Crayfish (*P. clarki*) LC₅₀>750mg mg/L

Other non-target organism toxicity: Acephate

Honeybee (*A. mellifera* L.) 48hr contact LD₅₀=0.357µg/bee

96hr oral LD₅₀=0.271µg/bee

Persistence/Degradability: Acephate is rapidly degraded in soil by microorganisms under both aerobic and anaerobic conditions. The half-life of acephate ranged from 0.5 to 3 days.

Bioaccumulative potential: Low bioaccumulation potential.

Mobility in soil: Acephate is highly soluble in water and adheres very poorly to all soil types. The potential for acephate to move off the site of application with rain or irrigation water is rated high. There was no bound acephate or methamidophos present in the soil

[13. Disposal considerations]

Dispose of contents and container in accordance with local regulations. End users must dispose of any unused product as per the label recommendations.

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:

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling if available or dispose of empty bag 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: Insecticide, dry, non-regulated

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.: 84229-12

EPA Signal word: Caution

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds. For terrestrial uses, 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 cleaning equipment or disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

U.S Federal Regulations

Regulations under FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

EPCRA SARA Title III Classification

Section 302 (EHS) TPQ: None

Section 304 (EHS) RQ: None

Section 311/312 Hazard Classes:

Acute (immediate) Health Hazard

Chronic (delayed) Health Hazard

California Proposition 65

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

CERCLA (Comprehensive Response Compensation, and Liability Act): NA

EPCRA (Emergency Planning and Community Right-to-know Act) Section 313: Yes

OSHA (Occupational Safety and Health Administration): This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910, 1200.)

RCRA (Resource Conservation and Recovery Act): NA

TSCA Status

Acephate is exempt from TSCA, subject to FIFRA

State Regulations

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.

[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.