

**TIDE INTERNATIONAL USA, INC.****—A DIVISION OF TIDE GROUP**

REVISION DATE: 09/09/2021    VERSION 3.0

**[1. Identification]**

Product name: Tide Mesotrione 4SC  
Chemical name: 2-(4-MESYL-2-NITROBENZOYL)-1,3-CYCLOHEXANEDIONE  
Chemical family: Triketone  
EPA Reg. No.: 84229-48  
Recommended Use: Herbicide  
Supplier: Tide International USA, Inc.

21 Hubble, Irvine, CA 92618  
(949) 679-3535  
www.Tide-USA.com

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

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 Dermal Toxicity (Category 5)  
Acute inhalation Toxicity (Category 4)  
Acute aquatic toxicity (Category 3)

**GHS label elements:****GHS pictograms****Signal Word: WARNING****GHS Hazard statements**

H313    May be harmful in contact with skin  
H332    Harmful if inhaled.  
H402    Harmful to aquatic life

**Precautionary statements:****Prevention:**

P261                      Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271                      Use only outdoors or in a well-ventilated area.  
P273                      Avoid release to the environment.



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**Response:**

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P312 Call a poison center/doctor if you feel unwell.

**Disposal**

P501 Dispose of contents/container to hazardous or special waste collection point.

**Routes of exposure:** Eye contact, Inhalation, Skin Absorption, Ingestion.

**Carcinogenicity:** No carcinogenic potential, no classification for carcinogenicity is necessary. Increased incidence of thyroid adenomas in female rats only at the highest dose level in the 2 year rat study was associated with increased plasma tyrosine concentration.

**Other health concerns**

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

**[3. Composition / Information on Ingredients]**

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200"

Active ingredient*	CAS No.	Content (w/w,%)	OSHA TWA PEL
Mesotrione 2-(4-mesyl-2-nitrobenzoyl)cyclohexane-1,3-dione	104206-82-8	40.0	NA
Propylene glycol	57-55-6	< 15	10 mg/m <sup>3</sup>
Other ingredient deemed not to be hazardous	Proprietary	Balance	NA

\*Ingredients not specifically listed are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

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

**If on skin:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a POISON CENTER/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 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 by a poison control center or doctor. Do not give anything to an unconscious person. Immediately call a POISON CENTER or doctor/physician if you fell unwell.


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**Most important symptoms/effects, acute and delayed:**

No information available.

**Note to Physician:** Treat symptomatically. No specific antidote.

**[5. Fire-Fighting measures]**
**Suitable extinguishing media:** Use dry chemical, foam or CO<sub>2</sub> extinguishing media.

**Unsuitable extinguishing media:** No data available.

**Special hazards arising from the chemical (hazardous combustion products):** Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides.

**Special protective equipment and precautions for fire-fighters:** Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing

**Advice for firefighters:** Fight fire from upwind position. Keep out of smoke. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire-fighting to enter drains or water courses.

**[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.

**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 when disposing of equipment wash water or rinsate.

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**[7. Handling and Storage]**
**Precautions for safe handling:**

Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing dust/fume/gas/mist/vapours/spray. 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.

**Conditions for safe storage:**

Keep container tightly closed when not in use. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as -20°F. Keep away from heat and flame.

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

Components.	CAS-No	Control parameters	Basis
Mesotrione	104206-82-8	NE	NE



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Components.	CAS-No	Control parameters	Basis
Propylene glycol	57-55-6	10 mg/m <sup>3</sup>	OSHA TWA PEL

**Appropriate engineering controls:**

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**Personal protective equipment:**

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves

**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 (physical state, color etc.):** Light yellow suspension liquid.

**Odor:** Little odor. No data available.

**Odor threshold:** No data available.

**pH value:** 3.0-5.0.

**Melting point/freezing point:** No data available.

**Initial boiling point and boiling range:** No data available.

**Flash point:** 76.8°C.

**Evaporation rate:** No data available

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits:** No data available.

**Vapor pressure:** No data available.

**Bulk Density:** 1.16-1.19 g/mL.

**Specific gravity (water=1):** No data available



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**Solubility in water:** 36 mg/L.

**Partition coefficient: n-octanol/water:** No data available

**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 recommended storage conditions.

**Possibility of hazardous reactions:** None under normal processing.

**Conditions to avoid** (e.g. static discharge, shock or vibration): Elevated Temperature. Storage near to reactive materials.

**Incompatible materials:** oxidizing agents.

**Hazardous decomposition products:** Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides.

### [11. Toxicological information]

**Exposure routes:** Eye contact, Inhalation, Skin Absorption, Ingestion

**Acute oral toxicity:** LD<sub>50</sub> (rat) > 5000 mg/kg b.w.

**Acute dermal toxicity:** LD<sub>50</sub> (rabbit) >2000mg/kg b.w.

**Acute inhalation toxicity:** LC<sub>50</sub> (4hr) >1.528 mg/L

**Skin irritation:** Not irritant to rabbit skin.

**Eye irritation:** Not irritant to rabbit eye.

**Sensitization:** No skin sensitization to guinea pig.

**Chronic Toxicity:** No adverse effect had been observed in chronic toxicity tests.

**Carcinogenicity:** No carcinogenic potential, no classification for carcinogenicity is necessary. Increased incidence of thyroid adenomas in female rats only at the highest dose level in the 2 year rat study was associated with increased plasma tyrosine concentration.

**Reproduction:** No reproductive effects in animal experiments.

**Developmental Toxicity:** No data available.

**Neurotoxicity:** No evidence of neuropathology in acute and sub-chronic neurotoxicity studies in the rat. Sciatic nerve demyelination in the chronic rat study was associated with increased plasma tyrosine concentration.

**Mutagenicity:** No data available.

### [12. Ecological information]

**Ecotoxicity:**

**Avian toxicity:**

LC<sub>50</sub> for Japanese quail > 2000 mg/kg



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**Aquatic organism toxicity:**LC<sub>50</sub> for fish > 100 mg/LE<sub>r</sub>C<sub>50</sub> (72 h) for algae > 49.66mg/LEC<sub>50</sub> (48 h) for daphnia: 13 mg/L.**Other non-target organism toxicity:**LD<sub>50</sub> for bees >250µg/beeLD<sub>50</sub> for earthworms > 1000mg/kg soil**Persistence/Degradability:** Non-persistent in soil**Bioaccumulative potential:** Low potential of bioaccumulation**Mobility in soil:** Medium to high mobility in soil.**Other adverse effects:** No other effects to be determined.**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 when disposing of equipment wash water or rinsate.**[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.

**Pesticide disposal:** Open dumping is prohibited. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:**

**[Nonrefillable Container (five gallons or less):]** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. 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 reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

**[Nonrefillable Container (greater than five gallons):]** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

**[14. Transport information]****DOT**                      Not regulated**TDG**                      Not regulated**IATA**



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**UN/ID no** UN3082  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**Hazard Class** 9  
**Packing Group** III  
**ERG Code** 9L  
**Special Provisions** A97, A158, A197  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Mesotrione), 9, III

**IMDG**

**UN/ID no** UN3082  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**Hazard Class** 9  
**Packing Group** III  
**EmS-No** F-A, S-F  
**Special Provisions** 274, 335  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Mesotrione), 9, III;  
 Marine pollutant

**[15. Regulatory information]****U.S. EPA Label Information**

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.:** 84229-48

**EPA Signal word:** Caution

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing.

**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 when disposing of equipment wash water or rinsate.

**Surface Water Advisory**

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff from this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

**PHYSICAL AND CHEMICAL HAZARDS**

Do not mix or allow to come into contact with oxidizing agents. Hazardous chemical reactions may occur.

**US Federal Regulations**



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**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories****Acute health hazard****CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US States Regulation**

**RIGHT TO KNOW:** Propylene glycol is listed in CA, I, MA, MN, NJ, PA and RI.

**CA Prop65:** This product does not contain substances known to the State of California to cause reproductive harm.

**[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. Tide International USA, Inc. assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of these data.*



