



TIDE INTERNATIONAL USA, INC.

—A DIVISION OF TIDE GROUP

REVISION DATE: 12/07/2017 VERSION 2.0

[1. Identification]

Product name: Tide MSM 60 DF Herbicide
Chemical name: Methyl 2-[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)ureidosulphonyl] benzoate
Chemical family: Sulfonylurea herbicide
EPA Reg. No.: 84229-8
Recommended Use: Metsulfuron methyl herbicide
Supplier: Tide International, USA, INC.
21 Hubble, Irvine, CA 92618
1-949-679-3535
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 Dermal Toxicity (Category 5)
Acute Inhalation Toxicity (Category 4)
Eye irritation (Category 2B)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS pictograms**Signal Word: WARNING****GHS Hazard Statements:**

H313 May be harmful in contact with skin
H332 Harmful if inhaled
H320 Causes eye irritation
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Precautionary Statements:**Prevention:**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well ventilated area.

P264 Wash hands thoroughly after handling.

P273 Avoid release to the environment

Response:

P312 Call a poison center/doctor if you feel unwell

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

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P391 Collect spillage.

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: ACGIH, NTP, IARC, or OSHA does not list this product as a carcinogen. NOTE: Please refer to Section 11 for detailed toxicological information.

Other health concerns

NFPA Ratings: Health-1 Flammability-1 Instability -0

Signs and Symptoms of Systemic Effects: No data available

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 cleaning equipment or disposing of equipment wash waters or rinsate.

This herbicide is injurious to plants at extremely low concentrations. Non-target plants may be adversely affected from drift and runoff.

[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
Metsulfuron-methyl	74223-64-6	60.0	NA
Ammonium Sulfate	7783-20-2	16.6	NA
Morwet D415 powder	83453-42-3	5-10	NA
Morwet EFW	105864-15-1	1-5	NA
Other ingredients not deemed hazardous	Proprietary	Balance	NA

[4. First aid measures]

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

If inhaled: Remove person to fresh air and keep comfortable for breathing. 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 if you feel unwell

If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20

minutes. Call a poison control center or doctor for treatment advice

If in eyes: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. If eye irritation persists: Get medical advice/attention.

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 a poison control center or doctor. Do not give anything by mouth if unconscious.

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

Note to physician: No information available.

[5. Fire-Fighting measures]

Suitable extinguishing media: Use water spray, foam, dry chemical or carbon dioxide extinguishing agents

Unsuitable extinguishing media: No data available

Special hazards arising from the chemical (hazardous combustion products): Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air

Special protective equipment and precautions for fire-fighters: Wear self-contained breathing apparatus and full protective clothing.

Advice for firefighters: Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

[6. Accidental release measures]

Personal precautions, protective equipment and emergency procedures:

Precautions: Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Equipment: Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Respiratory protection not normally needed. Eyewash and emergency shower should be available in work area.

Emergency Procedures: Keep material out of lakes, streams, ponds and sewer drains. Clean up spills immediately.

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:

Sweep/shovel up. Dike large spills using absorbent or impervious material such as clay or sand. 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.

[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: None

Appropriate engineering controls:

Use only with adequate ventilation

Personal protective equipment:

Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Respiratory protection not normally needed. Eyewash and emergency shower should be available in work area.

Respiratory protection Wear respirator (full face air purifying) if the airborne conditions result in a dust forming.

Hand protection: Chemical resistant gloves.

Eye protection Use safety glasses or goggles, there is potential for dust exposure to cause injury to the eyes.

Skin and body protection Wear chemical resistant glove (Nitrile.) Wear long sleeve shirts, long pants, shoes, and socks.

General protective measures: Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

[9. Physical and chemical properties]

Appearance: Beige granular solid.

Color: Granular.

Odor: Little odor

Odor threshold: No data available

PH: 5.47 (1%)

Melting point/freezing point: Not applicable

Initial boiling point and boiling range: Not applicable

Flashpoint: Not a fire or explosion hazard

Evaporation rate: No data available

Flammability: Nonflammable

Upper/lower flammability or explosive limits: No data available

Combustible: No data available

Vapor pressure: 3.3×10^{-7} mPa (25 Deg C)(MSM)

Vapor density: No data available

Solubility: Dispersible in water

SPECIFIC GRAVITY (water=1): <1

Partition coefficient: n-octanol/water: Kow Log P =0.0018 (MSM)

Auto-ignition temperature: No data available

Decomposition temperature: 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: Not reactive

Chemical Stability: Stable

Possibility of hazardous reactions: Will not occur under normal conditions.

Conditions to avoid: Heat, moisture and light.

Incompatible Materials: Keep away from strong oxidizing agents

Hazardous decomposition products: Oxides of carbon, nitrogen and sulfur.

[11. Toxicological information]

Exposure routes: Eyes, skin, ingestion & inhalation.

Toxicity:

Acute toxicity:

Acute oral (rats): LD₅₀ >5000 mg/kg b.w.

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

Acute inhalation (Rats): LC₅₀>2.05 mg/l

Acute eye irritation (rabbits): Mildly irritating to eyes.

Acute dermal irritation (rabbits): Non skin irritation.

Skin sensitization (mice): No skin sensitizing reaction

Reproductive/Developmental Effects: No data available

Chronic/Subchronic Toxicity Studies: Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity: Not carcinogenic (rat). Not listed by ACGIH, NTP, IARC or OSHA

Other Hazards: No teratogenic potential. Animal tests with metsulfuron-methyl have not demonstrated developmental effects. No evidence of neurotoxicity.

[12. Ecological information]

Ecotoxicity: Avoid contamination of any water supply with chemical or empty container.

Avian toxicity: Metsulfuron-methyl

Birds (Bobwhite Quail) LD₅₀ Oral > 5620 mg/kg, Mallard Duck >2510 mg/kg

Aquatic organism toxicity: Metsulfuron-methyl

LC₅₀ to rainbow trout 413.7 mg/L (96hr) LC₅₀ to daphnia 13.74 mg/L (48hr), Algae ErC₅₀ (72 hr static) 0.157 mg/l.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds.

Other non-target organism toxicity: Metsulfuron-methyl

Bees: Bees Oral LD₅₀ (48 hr) 43.3 ug/bee, Contact LD₅₀ of >50 ug/bee Worms: 14-day LC₅₀ for tebuconazole earthworms is 1000 mg/kg dry soil

Eco-chronic toxicity: N/A.

Persistence/Degradability:

The breakdown of Metsulfuron-methyl in solids is largely dependant on soil temperature, moisture content, and PH. The chemical will degrade faster under acidic conditions, and in soils with higher moisture content and higher temperature.

Mobility in soil:

Metsulfuron-methyl is relatively mobile in most soils but will be retained longer in soils with higher percentages of organic matter. More mobile in alkaline soils than in acidic soils.

Bioaccumulative Potential : No potential

Other adverse effects: A Metsulfuron-methyl is stable to photolysis, but will break down in ultraviolet light. Half-life estimates in soil range from 14 to 180 days, with an average of 30 days. Metsulfuron-methyl is stable to hydrolysis at neutral and alkaline pHs. The estimated half-life in acidic water is 3 weeks.

[13. Disposal considerations]

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

Waste Disposal:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. 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:

Non-refillable 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 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]

US DOT (ground) SHIPPING NAME: Not regulated by ground shipment, per 49 CFR Part 172.101(12)(iv). Regulated in bulk containers > 992 lbs (400 kgs): UN3077, Environmentally Hazardous Substance, solid, N.O.S., (Metsulfuron-methyl), 9, III, Marine Pollutant

IATA (air) SHIPPING NAME (CARGO AIRCRAFT ONLY): Not regulated by air in non-bulk. Regulated in bulk containers: UN3077, Environmentally Hazardous Substance, solid, N.O.S., (Metsulfuron-methyl), 9, III, Marine Pollutant

Use packing instruction 911, with maximum net quantity per package 992 lbs (400 kgs).

IMO (water) SHIPPING NAME: UN3077, Environmentally Hazardous Substance, solid, N.O.S., (Metsulfuron-methyl), 9, III, Marine Pollutant

Use packing instruction P002 and LP02.

[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.: 84229-8

EPA Signal word: CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or 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 when cleaning equipment or disposing of equipment wash waters or rinsate.

This herbicide is injurious to plants at extremely low concentrations. Non-target plants may be adversely affected from drift and runoff.

US Federal Regulations

TSCA list: All components are listed or exempted.

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

Acute health hazardous

Chronic health hazardous

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

OSHA Hazardous Components: None.

US States Regulatory Reporting

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

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.

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.

[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.