



# SAFETY DATA SHEET

## DREXEL MES-O-SATE HERBICIDE

### Section 1: Material Identification

**Product Name:** Drexel Mes-O-Sate Herbicide

**EPA Reg No.:** 19713-694

<b>CAS NO:</b>	Glyphosate Acid	1071-83-6
	Metolachlor	51218-45-2
	Mesotrione	104206-82-8

<b>Formula:</b>	Glyphosate Acid	$C_3H_8NO_5P$
	Metolachlor	$C_{15}H_{22}ClNO_2$
	Mesotrione	$C_{14}H_{13}NO_7S$

**Company:** Drexel Chemical Company  
1700 Channel Avenue  
Memphis, TN 38106

**Identifiers:**

**EINECS:** Glyphosate Acid: 213-997-4  
Metolachlor: 257-060-8

**RTECS:** Glyphosate Acid: MC1075000  
Metolachlor: AN3430000

**DOT information:** See Section 14 for Transportation Information

**Emergency Telephone Number:**

CHEMTREC	Drexel Chemical Co.
Tel: 1-800-424-9300	901-774-4370

This product is an EPA FIFRA registered pesticide. Some of the classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see **Section 15: REGULATORY INFORMATION** for explanation.

### Section 2: Hazard Identification (As defined by the OSHA Hazard Communication Standard, 29)

**GHS classification:**

<b>Health hazards:</b>	Eye damage/irritation	Category 2B
	Skin sensitizer	Category 1B

<b>Environmental hazards:</b>	Hazardous to aquatic environment - acute hazard	Category 1
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**GHS label elements:**

**Signal word:** Warning



**Hazard statements:** Causes eye irritation.  
May cause allergic skin reaction.  
Very toxic to aquatic life.

**Precautionary statements:**

**Prevention:** Wash hands and face thoroughly after handling.  
Wear protective gloves.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Contaminated work clothing should not be allowed out of the workplace.  
Avoid release to the environment.

**Response:** **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **If eye irritation persists:** Get medical advice.  
**If on skin:** Wash with plenty of water. **If skin irritation or rash occur:** Get medical advice/attention. Take off contaminated clothing and wash it before reuse.  
Collect spillage.

**Storage:** Store in a cool, dry, well ventilated and secure area designated specifically for pesticides and away from heat sources.

**Disposal:** Dispose of contents and container in accordance with local regulations.

**Section 3: Composition Information**

<u>Components</u>	<u>CAS No.:</u>	<u>% By Wt.:</u>	<u>OSHA PEL:</u>	<u>ACGIH TLV:</u>
Active ingredients:				
Glyphosate Acid	1071-83-6	20.50%	N/Av	N/Av
Metolachlor	51218-45-2	20.50%	N/Av	N/AV
Mesotrione	104206-82-8	2.05%	N/Av	N/Av
Inert ingredients:	N/A	56.95%	N/A	N/A

**Section 4: First-Aid Measures**

**Eye Contact:** Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

**If Swallowed:** Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water then 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. Have product label with you when calling a poison control center or doctor.

**Skin Contact:** Immediately flush skin with water while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated leather items such as shoes, belts, and watchbands.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**Note to Physician:** There is no specific antidote if this product is ingested. Treat symptomatically.

## Section 5: Fire Fighting Measures

**Fire Hazards:** Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Thermal decomposition during a fire can produce fumes and irritating gases. Flammable hydrogen gas may be formed on contact with incompatible metals. See “Conditions to Avoid,” Section 10.

**Flammability classification (OSHA 29 CFR 1910.1200):** Non-combustible

**Flash point:** >200°F

**Lower flammable limit (% by volume):** N/Av

**Upper flammable limit (% by volume):** N/Av

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Evacuate the area and fight the fire from upwind at a safe distance to avoid hazardous vapors or decomposition products. Dike and collect fire-extinguishing water to prevent environmental damage and excessive waste runoff.

**Firefighting media:** Use foam, dry chemical, carbon dioxide, or water fog when fighting fires involving this product. Do not use water jet, as this may spread burning material. Minimize the use of water to avoid environmental contamination. Contain all runoff.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Use full face shield and operate in positive pressure mode. Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

**Hazardous Combustion Products:** Carbon oxides, nitrogen oxides, halogenated compounds, irritating fumes and smoke.

**NFPA: Health: Flammability: Reactivity:**

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(Rating: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Insignificant)

## Section 6: Accidental Release Measures

### Steps to be taken if Material is Released or Spilled:

- Contain spilled material if possible. Small spills: absorb in earth, sand or absorbent material and sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Drexel Chemical Co. for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

### Personal Precautions:

- Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

## Section 7: Handling and Storage

### KEEP OUT OF REACH OF CHILDREN

**Handling:**     **Special Handling:** Spray solutions of this product should be mixed, stored and applied using only plastic, plastic lined steel, stainless steel or fiberglass/plastic containers. Concentrate should not be stored or maintained in long-term contact with galvanized steel, carbon steel, aluminum, brass or cast iron.

**General Handling:** Avoid contact with eyes, skin, and clothing. When using do not eat, drink or smoke. Wash thoroughly after handling. Do not swallow. Avoid breathing vapor. Use with adequate ventilation. Wear long-sleeved shirt, long pants and shoes with socks when handling. Keep away from heat, sparks and flame. See Section 8, Exposure Controls and Personal Protection.

**Storage:**     Store locked up in a cool, dry, well ventilated and secure area designated specifically for pesticides and away from heat sources. Keep in original containers and keep containers closed when not in use. Do not store in excessive heat. Do not store near children, food, foodstuffs, drugs or potable water supplies.

## Section 8: Exposure Controls / Personal Protection

**Exposure Limits:** TWA - Glyphosate 5 mg/m<sup>3</sup>; Metolachlor 5 mg/m<sup>3</sup>; Mesotrione 5 mg/m<sup>3</sup>

### Personal Protection:

**Eye/Face Protection:** Wear safety glasses with side shields or chemical splash goggles to prevent vapors or mists from entering the eyes. If using a full face shield, always use safety glasses or goggles along with the face shield to ensure adequate protection of the eyes.

**Skin Protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene, Nitrile/butadiene rubber (“nitrile” or “NBR”) or Polyvinyl chloride (“PVC” or “vinyl”).

**Respiratory Protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. When handling in enclosed areas, when large quantities of mists are generated or prolonged exposure is possible in excess of the TLV, use a respirator with either an organic vapor-removing cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

**Ingestion:** Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

#### **Engineering Controls:**

**Ventilation:** When handling this product proper ventilation is required to maintain exposure below the TLV. Ventilate all transport vehicles prior to unloading. Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

## **Section 9: Physical and Chemical Properties**

<b>Physical state:</b>	Liquid
<b>Color:</b>	Tan brown
<b>Odor:</b>	Mild
<b>Odor threshold:</b>	N/Av
<b>pH:</b>	3.5-5.0 (5% dilution)
<b>Melting point/freezing point:</b>	N/Av
<b>Solubility (water):</b>	Emulsifies
<b>Boiling point:</b>	N/Av
<b>Flash point:</b>	>200°F
<b>Evaporation rate:</b>	N/Av
<b>Flammability:</b>	Non-combustible
<b>Upper/lower flammability or explosive limits:</b>	N/Av
<b>Vapor pressure (mmHg):</b>	N/Av
<b>Vapor density:</b>	N/Av
<b>Density:</b>	10.19 lbs. /gal. @ 21°C
<b>Partition co-efficient (n-octanol/water):</b>	N/Av
<b>Auto-ignition temperature:</b>	N/A
<b>Decomposition temperature:</b>	N/Av
<b>Viscosity:</b>	800-1300cP @ 21°C
<b>Explosive properties:</b>	N/A
<b>% Volatiles:</b>	N/Av

## **Section 10: Stability and Reactivity**

**Stability/Instability:** Stable at typical use temperatures and in closed containers.

**Conditions to Avoid:** Concentrate should not be stored in galvanized steel, carbon steel or aluminum. Brass and/or cast iron fittings should not be used. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless or fiberglass/plastic.

**Incompatible Materials:** None known

**Hazardous Polymerization:** Will not occur

**Thermal Decomposition:** Decomposition products can include and are not limited to: Carbon oxides, nitrogen oxides, ammonia and halogenated compounds. Flammable hydrogen gas may be formed on contact with incompatible metals. See "Conditions to Avoid" above.

## Section 11: Toxicological Information

### Acute Toxicity (Based on product of substantially similar composition):

#### Ingestion:

- Oral, LD50 (rabbit): >5,000 mg/kg

#### Dermal:

- Dermal, LD50 (rabbit): >6,147 mg/kg

#### Inhalation:

- Inhalation, LC50, 4 hr. (rat): 1.2 mg/L

#### Eye Irritation (rabbit):

- Minimally irritating

#### Skin Irritation (rabbit):

- Non-irritating

#### Sensitization Skin (Guinea Pig):

- Skin sensitizer in animal test

### Carcinogenicity:

- **Glyphosate Acid:** Did not show carcinogenicity effects in animal experiments. IARC, ACGIH, NTP, OSHA not listed.
- **Mesotrione:** Did not show carcinogenic effects in animal experiments. IARC, ACGIH, NTP, OSHA not listed.
- **Metolachlor:** Did not show carcinogenic effects in animal experiments. IARC, ACGIH, NTP, OSHA not listed.

### Chronic/Sub-chronic Toxicity Studies:

- **Glyphosate Acid:** Rat sub-chronic 90-day study – NOEL of 5000 ppm (410 – 440 mg/kg). Body weight reduction, clinical chemistry changes. No evidence of neurotoxic effects in acute and sub-chronic rat studies (NOEL both studies 2000 mg/kg). No evidence of delayed neurotoxic effects in hens (NOEL 2000 mg/kg).
- **Mesotrione:** No adverse effect has been observed in chronic toxicity tests.
- **Metolachlor:** No adverse effect has been observed in chronic toxicity tests.

### Teratogenicity, mutagenicity, and other reproductive effects: None known

- **Glyphosate Acid:** No developmental effects seen in animal studies.
- **Mesotrione:** Did not show reproductive effects in animal experiments.
- **Metolachlor:** Did not show reproductive effects in animal experiments.

## Section 12: Ecological Information

### Environmental Fate:

- **Glyphosate Acid:** The information presented here is for the active ingredient, glyphosate. Not persistent in soil. Immobile in soil. Sinks in water (after 24h).
- **Mesotrione:** The substance has low potential for bioaccumulation. Mesotrione has medium to high mobility in soil.
- **Metolachlor:** The information presented here is for the active ingredient metolachlor. Low bioaccumulation potential. Not persistent in soil. Stable in water. Sinks in water (after 24 h).

### Ecotoxicological data:

#### Aquatic Toxicity:

- **Glyphosate Acid:**
  - Bluegill, 96 hour, LC50: 45 ppm
  - Daphnia magna, 48 hour, EC50: 134 ppm
  - Green algae, 5 day, EC50: 12.5 ppm
- **Metolachlor:**
  - Rainbow Trout, 96 hour, LC50: 2.0 mg/kg
  - Bluegill, 96 hour, LC50: 15.0 mg/kg
  - Daphnia magna, 48 hour, EC50: 25.1 mg/L
  - Green algae, 96 hour, EC50: 0.077 mg/l
- **Mesotrione:**
  - Rainbow Trout, 96 hour, LC50: >120 mg/l
  - Bluegill Sunfish, 96 hour, LC50: >120 mg/l
  - Daphnia Magna, 48 h, EC50: 900 mg/l
  - Green Algae, 72 hour, EbC50: 4.5 mg/l

#### Bird Toxicity:

- **Glyphosate:** Bobwhite Quail, 12-day, LD50: >2,000 mg/kg
- **Metolachlor:** Bobwhite Quail, 8-day, LC50: >10,000 ppm

## Section 13: Disposal Considerations

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

## Section 14: Transport Information

### DOT:

- **Ground Transportation - NAFTA:** Not regulated

**IMDG/Water Transport:** UN 3082, Environmentally hazardous substance, liquid, n.o.s. (Glyphosate/Metolachlor), 9, PG-III, Marine Pollutant



**IATA/Air Transport:** UN 3082, Environmentally hazardous substances, liquid, n.o.s. (Glyphosate/Metolachlor), 9, PG-III

**Freight Description:** Agricultural herbicide, liquid, n.o.s.

**ERG Guide No.:** 171

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## Section 15: Regulatory Information

### OSHA Hazard Communication Standard:

- This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### EPA FIFRA INFORMATION:

- This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemical. The hazard information required on the pesticide label is listed out below. The pesticide label also includes other important information, including directions for use.
- EPA/CERCLA Reportable Quantity: None known

### SARA/TITLE III:

- **Sec 302. Extremely Hazardous Substance Notification:** Not applicable
- **Sec. 311/312. Hazard Categories:** Acute health hazard
- **Sec. 313. Toxic Chemical(s):** None
- **RCRA Waste Code:** Not applicable

### California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):

- This product is not listed.

### Toxic Substances Control Act (TSCA):

- All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

## Section 16: Other Information

*Drexel Chemical Company recommends that each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown below. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as*



*manufacturer-specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.*

Date Issued: October 12, 2017