



# Material Safety Data Sheet

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:  
CHEMTREC 1-800-424-9300

| <u>Section 1—Chemical Product and Company Identification</u>                                  |   |
|---|---|
| Product name:   | 2, 4-D Amine 4. EPA Reg. No.: 1381-103  |
| Common name:  | 2,4-Dichlorophenoxyacetic acid, dimethylamine salt  |
| Chemical description:   | Phenoxy herbicide   |
| Manufacturer's name:<br>WINFIELD SOLUTIONS, LLC<br>P. O. Box 64589<br>St. Paul, MN 55164-0589 | Medical emergency telephone number:<br>1-877-424-7452<br>MSDS revision 3 authored 01/27/2010.<br>Supersedes revision 2 dated 5/12/2008 and 1 dated 9/18/2007. |

| <u>Section 2—Hazards Identification</u>   |
|---|
| <b>Emergency overview:</b> Severe eye irritant, skin irritant. Clear amber to dark brown liquid.  |
| Keep out of reach of children.  |
| <b>Route(s) of Entry:</b> Inhalation, eyes, skin, and ingestion.  |
| <b>Health hazards (acute):</b><br><b>Inhalation:</b> Single exposure to vapors is not likely to be hazardous.<br><b>Eyes:</b> May cause severe irritation with corneal injury and may result in permanent impairment of vision, even blindness.<br><b>Skin:</b> Repeated contact, as with clothing wetted with material, may cause skin irritation. A single prolonged skin exposure may result in the materials being absorbed in harmful amounts.<br><b>Ingestion:</b> May cause gastrointestinal irritation. |
| <b>Chronic (Long-term exposure):</b> Excessive exposure may cause liver, kidney, gastrointestinal and muscular effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting and abdominal cramps and/or diarrhea.  |
| <b>Systemic (other target organ) effects:</b> In animals, effects have been reported on the following organs: adrenal gland, bone marrow, eye, kidney, liver, spleen, testes, and thyroid.  |
| <b>Medical conditions generally aggravated by exposure:</b> Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.  |

| <u>Section 3—Composition/Information on Ingredients</u> |             |                         |
|---|-------------|-------------------------|
| Ingredient  | % by weight | CAS registration number |
| 2,4-Dichlorophenoxyacetic acid, dimethylamine salt      | 47.3%       | 2008-39-1               |

| <u>HMIS Hazard Rating</u> |          |              |   |
|---------------------------|----------|--------------|---|
| 0                         | Least    |              |   |
| 1                         | Slight   | Health       | 3 |
| 2                         | Moderate | Flammability | 1 |
| 3                         | High     | Reactivity   | 1 |
| 4                         | Severe   |              |   |

| <u>Section 4—First Aid Measures</u> |   |
|-------------------------------------|---|
| <b>Inhalation:</b>                  | If inhaled, remove to fresh air. If not breathing or in respiratory distress, clear person's airway and start artificial respiration. With a physician's advice, give supplemental oxygen using a bag-valve mask or manually triggered oxygen supply. |
| <b>Eyes:</b>                        | Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.                                      |
| <b>Skin:</b>                        | Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for advice.   |
| <b>Ingestion:</b>                   | Call a poison control center or doctor immediately for treatment advice. Have patient 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.                                      |

After first aid, get appropriate in-plant, paramedic, or community medical support.

### Section 5—Fire and Explosion Hazard Data

**Extinguishing Media:** Foam, carbon dioxide, dry chemical, or water spray.

**Special Fire Fighting Procedures:** If water is used, use a soft fog to avoid spreading contamination. Use self-contained breathing apparatus and full protective gear in confined areas of buildings. Contain water to prevent entry into water supplies.

**Hazardous Combustion Products:** Toxic gases may be formed in a fire situation. Flammable dimethyl amine may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well.

**Unusual Fire and Explosion Hazards:** Closed containers may explode from vapor expansion in high heat.

### Section 6—Accidental Release Measures

**Small Spills:** Clean-up personnel should protect against mist inhalation and skin contact. Avoid generating mists. Spills when handling should be cleaned up immediately to prevent spreading.

**Large Spills:** See measures for small spills. Contain spill if possible. Do not let product enter sewers and waterways.

**Containment:** Do not release into sewers or waterways. Dike spills to prevent contamination to water supplies. Contain spills and absorb liquids by covering with clay or other absorbent material. Vacuum, scoop, or sweep up waste and place in a container for disposal.

### Section 7—Precautions for Safe Handling and Use

**Precautions to be taken in handling and storage:** Store in cool, dry areas designated specifically for pesticides, away from children, feed and food products and sources of heat. Immediately clean up spills that occur during handling or storage.

Protect from freezing. Keep containers closed when not in use. Do not store below 45°F (7°C). If frozen (crystallized), warm to 80-90°F (27-32°C) and re-dissolve before using by rolling or shaking the container.

**Other precautions:** Consult local, state, and federal regulations pertaining to storage and disposal.

### Section 8—Control Measures/Personal Protection

**Respiratory protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an OSHA/NIOSH-approved respirator.

**Ventilation: Local exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred.

OSHA PEL: 10 mg/m<sup>3</sup>                      ACGIH TLV: 10 mg/m<sup>3</sup>

**Protective gloves:** Wear chemically protective gloves such as neoprene or nitrile rubber or barrier laminate, or viton.

**Eye protection:** Wear protective eyeglasses or chemical safety goggles. Contact lenses or not eye protective devices.

**Other protective clothing or equipment:** Wear chemically protective boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

**Work/Hygienic practices:** Never eat, drink, nor smoke in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

### Section 9—Physical/Chemical Characteristics

|   |                 |   |   |
|---|-----------------|---|---|
| <b>Flash point/Method:</b>                  | Not combustible | <b>Specific gravity (H<sub>2</sub>O=1):</b> | 1.157                                   |
| <b>Vapor pressure (mm Hg):</b>              | 16.5 at 20C     | <b>Freezing point:</b>                      | Not established                         |
| <b>Vapor density (Air=1):</b>               | < 1             | <b>Boiling point:</b>                       | 212F, 100C                              |
| <b>Solubility in water (wt %):</b>          | Infinite        | <b>Physical state:</b>                      | Liquid                                  |
| <b>pH (1% solution in distilled water):</b> | Not determined  | <b>Appearance and odor:</b>                 | Clear amber to dark brown, fishy smell. |

### Section 10—Reactivity Data

**Stability:** Product stable at room temperature in closed containers under normal storage and handling conditions.

**Chemical Incompatibilities:** Strong oxidizing agents, acids and bases.

**Conditions to Avoid:** Avoid high temperatures. Avoid heat or flame. Keep away from strong acids.

**Hazardous Decomposition Products:** Hydrogen chloride, nitrogen oxides, and dimethyl amine under fire conditions.

**Hazardous Polymerization:** Will not occur.

### Section 11—Toxicological Information

|                                      |   |
|--------------------------------------|---|
| <b>Potential eye effects:</b>        | May cause severe irritation with corneal injury and may result in permanent impairment of vision, including blindness.  |
| <b>Potential ingestion effects:</b>  | May cause gastrointestinal irritation.  |
| <b>Potential skin effects:</b>       | Repeated contact, as with clothing wetted with material, may cause skin irritation. A single prolonged skin exposure may result in the materials being absorbed in harmful amounts. |
| <b>Potential inhalation effects:</b> | Single exposure to vapors is not likely to be hazardous.  |
| <b>Chronic effects:</b>              | Chronic exposure may cause liver, kidney, gastrointestinal and muscular effects.  |
| <b>Carcinogenicity:</b>              | No component of this product is identified as probable, possible, confirmed, potential, or anticipated human carcinogen by IARC, ACGIH, or NTP.                                     |
| <b>Acute dermal effects:</b>         | LD50 = 2244 mg/kg in rabbits.   |
| <b>Acute inhalation effects:</b>     | LC50 > 2.06 mg/L in 4 hours for rats.   |
| <b>Acute oral effects:</b>           | LD50 = 1090 mg/kg in male rats, and 863 mg/kg in female rats.   |
| <b>Mutagenicity:</b>                 | Studies are inconclusive.   |
| <b>Teratogenicity:</b>               | Not determined  |

### Section 12—Ecological Information

**Soil absorption/Mobility:** Bioconcentration potential is low (BCF < 100 or log Pow < 3). Potential for mobility in soil is high (50 < Koc < 150). Soil organic carbon/water partition coefficient (Koc) is 72-136.

**Degradation and persistence:** Biochemical oxygen demand is 0.72 for 5, 10 and 20 days. Chemical oxygen demand is 0.72. Under aerobic soil conditions the half-life is 4 - 23 days. Under aerobic aquatic conditions, the half-life is 0.5 - 11 days.

**Toxicity to aquatic invertebrates:** Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in most sensitive species). Acute LC50 = 184 mg/L for *Daphnia magna* (water flea), = 181 mg/L for *Penaeus duorarum* (pink shrimp), = 469 mg/L for *Menidia beryllina* (tidewater silverside). Acute EC50=136 mg/L for shell deposition inhibition in *Crassostrea virginica* (eastern oyster)

**Toxicity to fish:** Bioconcentration factor in fish is 0.1-0.47. Acute LC50=344 mg/L for *Pimephales promelas* (fathead minnow), = 524 mg/L for *Lepomis macrochirus* (bluegill), =245 mg/L for *Oncorhynchus mykiss* (rainbow trout) in 96 hours.

**Toxicity to birds:** Material is practically non-toxic to birds on a dietary basis (LC50 is > 5000 ppm). Material is moderately toxic to birds on an acute basis (51 < LD50 < 500 mg/kg). Dietary LC50 > 5620 ppm for *Colinus virginianus* (bobwhite) and for *Anas platyrhynchos* (mallard).

**Toxicity to aquatic vegetation:** Growth inhibition EC50= 0.58 mg/L for *Lemna* sp. (duckweed), = 36.60 mg/L for *Skeletonema costatum* (marine diatom), = 153 mg/L for *Anabaena flosaquae* (blue-green alga), = 66.5 mg/L for *Selenastrum capricornutum* (green alga), = 5.28 mg/L for *Navicula* sp. (diatom).

### Section 13—Disposal Considerations

**Waste:** Dispose of in accordance with applicable Federal, state and local laws and regulations.

**Container:** Triple rinse (or equivalent) the empty containers. Puncture the container then offer for recycling or reconditioning.

### Section 14—Transport Information

**Less than 30 gallons –** Not regulated by DOT

**30 gallons or greater:**

- Proper shipping name – Environmentally Hazardous Substance, Liquid, n.o.s. (2,4-D, salts and esters)
- Hazard Class – 9: Environmentally Hazardous Substance
- UN/NA Number – UN3082
- Packing Group – III

Section 15—Regulatory Information

**OSHA hazards:** Hazardous Chemical

**TSCA inventory:** This product's components are listed on the TSCA inventory.

**SARA, Title III, Section 302:** No components are subject to reporting.

**SARA, Title III, Section 311/312:** Immediate: **Yes** Delayed: **Yes**

Sudden Release of Pressure: **No** Fire: **No** Reactive: **No**

**SARA, Title III, Section 313:** No components are subject to reporting.

**CERCLA:** This product contains the following "Hazardous substance" under CERCLA, which may require reporting of releases: 2,4-Dichlorophenol, CAS # 120-83-2, 0.1 weight % in the product. The reportable quantity is 100 pounds.

**RCRA Characteristics:** D016 when product is disposed of as supplied.

Section 16—Other

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