

APG**Analytical Products Group, Inc.**2730 Washington Blvd., Belpre, OH 45714
740-423-4200 800-272-4442 Fax 740-423-5588**Material Safety Data Sheet**

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Section I: Product Identification

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| CATALOG NUMBER: 5350, 5352 | PRODUCT NAME: Herbicides |
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Section II - Hazardous Ingredients/Identity Information

| Chemical Name | CAS Reg. No. | OSHA PEL (TWA) | % Composition* |
|--------------------------|--------------|----------------|----------------|
| Methanol | 67-56-1 | 200 ppm | 99.987% |
| Acifluorfen | 50594-66-6 | N/A | 0.001% |
| Bentazon | 25057-89-0 | N/A | 0.001% |
| 2,4'-D | 94-75-5 | 10 mg/m3 | 0.001% |
| 2,4'-DB | 94-82-6 | N/A | 0.001% |
| DCPA | 2136-79-0 | N/A | 0.001% |
| Dicamba | 1918-00-9 | N/A | 0.001% |
| 3,5-dichlorobenzoic acid | 51-36-5 | N/A | 0.001% |
| Dichlorprop | 120-36-5 | N/A | 0.001% |
| Dinoseb | 88-85-7 | N/A | 0.001% |
| Pentachlorophenol | 87-86-5 | 0.5 mg/m3 | 0.001% |
| Picloram | 1918-02-1 | 5 mg/m3 | 0.001% |
| 2,4,5-T | 93-76-5 | 10 mg/m3 | 0.001% |
| 2,4,5-TP (silvex) | 93-72-1 | N/A | 0.001% |

* Components are calculated on a weight/weight basis.

Section III - Physical/Chemical Characteristics of Hazardous Ingredients

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| BOILING POINT: 65 C | SPECIFIC GRAVITY: .791 @ 20 C | |
| VAPOR PRESSURE: 97mmHg @ 20 C | SOLUBILITY IN WATER: Miscible | APPEARANCE/ODOR: Colorless/Alcohol odor |

Section IV - Fire and Explosion Hazard Data

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| FLASH POINT (Method used): 12 C (CC) | AUTO IGNITION TEMPERATURE: 385 C | FLAMMABLE LIMITS | LEL 6.0% | UEL 36.5% |
| SPECIAL FIRE FIGHTING PROCESURES: In case of fire, wear self-contained breathing apparatus and protective clothing. Heat may build pressure and rupture closed storage containers. Keep fire-exposed containers cool with water spray. May burn with an invisible flame. Mixtures with water as low as 21% by volume are still flammable. Under some circumstances can corrode certain metals, including aluminum and zinc, and generate hydrogen gas. | | | | |
| EXTINGUISHING MEDIA: Dry chemical, CO2, alcohol foam, water mist or fog. | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: N/A | | | | |

Section V - Reactivity Data

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| STABILITY: | Unstable <input type="checkbox"/> | Stable X <input type="checkbox"/> | Conditions to Avoid: Heat, sparks, and contact with ignition source. |
| INCOMPATIBILITY (Materials to avoid): Strong oxidizing agents and reactive metals which will displace hydrogen. | | | |
| HAZARDOUS DECOMPOSITION PRODUCTS: | | | |
| HAZARDOUS POLYMERIZATION: | May Occur <input type="checkbox"/> | Will Not Occur X <input type="checkbox"/> | Conditions to Avoid: N/A |

Section VI - Health Hazard Data

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| ROUTES OF ENTRY | Inhalation? YES | Skin? YES | Ingestion? YES |
| HEALTH HAZARDS (Acute and Chronic): INHALATION: Exposure can cause drowsiness and intoxication, headache, visual disturbance leading to blindness, coughing and shortness of breath, collapse and death at high concentrations. EYE CONTACT: Liquid can cause moderate burning, watering, swelling, and redness. SKIN CONTACT: Extensive, repeated and/or prolonged skin contact can cause burning, itching, redness, or blisters. INGESTION: Causes burning of the GI tract and toxic effects. Swallowing >2oz. of methanol can cause death. CANCER HAZARD | | | |
| COMPONENTS LISTED AS CARCINOGENS OR POTENTIAL CARCINOGENS: Pentachlorophenol 87-86-5 (IARC), Dinoseb 88-85-7 (CA PROP 65), Dichlorprop 120-36-5 (IARC), Acifluorfen 50594-66-6 (CA PROP 65) RTECS #6300000 | | | |
| Consult RTECS for complete information on the effects of these compounds. | | | |
| SIGNS AND SYMPTOMS OF EXPOSURE: Mild poisoning is characterized by fatigue, nausea, headache, and delayed visual burning. Moderate intoxication results in severe depression. Temporary or permanent blindness may follow in 2-6 days. In severe poisoning, symptoms progress to rapid, shallow respiration, cyanosis, coma, hypotension, dilated pupils, and visual disturbance. Death may result from respiratory failure. | | | |
| MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Dermatitis, diseases of eyes, liver, kidneys, lungs, and cardiovascular system. | | | |
| EMERGENCY AND FIRST AID PROCEDURES: EYES: Remove contact lenses if present. Hold eyelids open and irrigate with large volumes of water for 15 min. Seek medical treatment. SKIN: Immediately wash with soap and water. Continue rinsing with large volumes of water for 15 min. Remove contaminated clothing. Seek medical treatment. INHALATION: If inhaled, remove to fresh air. Have a trained person administer oxygen and CPR if needed. Contact a physician immediately. INGESTION: Ingestion may cause blindness. Contact Poison Control Center for assistance. Contact a physician immediately. Never give anything by mouth to a victim unconscious or having convulsions. | | | |

Section VII - Precautions for Safe Handling and Use

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| STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear personal protective equipment. Protect from ignition. Absorb small spills on paper, vermiculite, or other absorbent. Collect and store in closed container for disposal. |
| WASTE DISPOSAL METHOD: Incinerate at an approved facility in accordance with federal, state, and local regulations. |
| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Contains CARCINOGENS or SUSPECTED CARCINOGENS. Avoid all inhalation and contact. Keep in a tightly closed container at all times. Protect from temperature extremes and direct sunlight. Handle with the utmost care. Store in an explosion proof refrigerator at 4 C. |
| OTHER PRECAUTIONS* This product contains a chemical(s) known to the State of California to cause cancer. |

Section VIII - Control Measures

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| RESPIRATORY PROTECTION (Please specify): Follow NIOSH and equipment manufacturer's recommendations to determine appropriate respirator. | |
| VENTILATION: Use in an area provided with general and local exhaust ventilation meeting OSHA requirements. | |
| PROTECTIVE GLOVES: Solvent resistant: neoprene, nitrile, or rubber. | EYE PROTECTION: Safety glasses or goggles. |
| OTHER PROTECTIVE EQUIPMENT: Protective clothing meeting laboratory safety requirements. | |
| EMERGENCY WASH FACILITIES: | |

The information stated in this Material Safety Data Sheet (MSDS) is believed to be correct on the date of publication and must not be considered all conclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. Persons not specifically and properly trained should not handle this chemical or its container. This MSDS is provided without any warranty expressed or implied, including merchantability or fitness for any particular purpose.

This product is furnished for laboratory use ONLY! Our standards may not be used as drugs, cosmetics, agricultural or pesticidal products, food additives or as house hold chemicals.

* Various Government agencies (i.e., Department of Transportation, Occupational Safety and Health Administration, Environmental Protection Agency, and others) may have specific regulations concerning the transportation, handling, storage or use of this product which may not be contained herein. The customer or user of this product should be familiar with these regulations.