

1,4SEED[®] (1,4-DIMETHYLNAPHTHALENE)

MATERIAL SAFETY DATA SHEET

Revision Date: July 31, 2012

EMERGENCY TELEPHONE NUMBER: PERS - 1-800-633-8253

SECTION 1: MANUFACTURER'S INFORMATION

D-I-1-4, a division of 1,4GROUP, Inc.
P.O. Box 860
Meridian, ID 83680
Telephone: 208-887-9766

SECTION 2: PRODUCT IDENTITY

TRADENAME: 1,4SEED[®]
CHEMICAL NAME: 1,4-Dimethylnaphthalene
COMMON NAME: 1,4-DMN
CAS #: 571-58-4
CHEMICAL FAMILY: Alkyl-substituted naphthalene
CHEMICAL FORMULA: C₁₂H₁₂
EPA REGISTRATION NUMBER: 67727-3

SECTION 3: HAZARDOUS INGREDIENTS

EPA PESTICIDE PRECAUTION: WARNING
INGREDIENTS STATEMENT

1,4-Dimethylnaphthalene:	98.4%
Other ingredients:	1.6%

SECTION 4: PHYSICAL DATA

COLOR: Pale yellow @ 21°C
PHYSICAL STATE: Clear liquid @ 21°C
ODOR: Petroleum distillate @ 21°C
BOILING POINT: 264°C @ 744 mm Hg
MELTING POINT: 5°C
SPECIFIC GRAVITY (H₂O=1): 1.014 (25°C/25°C)
pH: 5.9
VISCOSITY: 6 cps @25°C @ 12 and 30 rpm
SOLUBILITY: Water = 5.1 ppm @ 25°C±1°C
VAPOR PRESSURE (Air =1):
1.88 x 10⁻² mm of mercury @ 25°C (2.5 Pa @ 25°C)
4.85 x 10⁻² mm of mercury @ 35°C (4.85 Pa @ 35°C)
8.75 x 10⁻² mm of mercury @ 45°C (11.7 Pa @ 45°C)
FLASH POINT: 122°C @ 760 mm Hg (Pensky-Martens Closed Tester)
EXPLODABILITY: Not explosive @ 25°C @ minimum drop height of 32.25 inches

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY: Not considered flammable under United Nations/DOT criteria. Will support combustion. Do not use or store near heat or open flame.

FLASH POINT: 122°C @ 760 mm Hg (Pensky-Martens Closed Tester)

EXPLODABILITY: Not explosive @ 25°C @ minimum drop height of 32.25 inches

EXTINGUISHING MEDIA: Water spray, CO₂ or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, prevent exposure to smoke, fumes, and products of combustion. Evacuate non-essential personnel. Fire fighters should wear NIOSH/MSHA-approved full-face, self-contained breathing apparatus and impervious clothing.

SECTION 6: TOXICOLOGY/HEALTH HAZARD DATA

ACUTE LD₅₀ ORAL = 2730 mg/kg (rats)

ACUTE LD₅₀ DERMAL > 2000 mg/kg (rabbits)

ACUTE LC₅₀ INHALATION > 4.2 mg/L (rats); 4-hour exposure

SKIN IRRITATION: Can cause moderate irritation

EYE IRRITATION: Can cause moderate irritation

HYPERSENSITIVITY: Did not cause hypersensitivity reaction (guinea pigs)

HYPERSENSITIVITY INCIDENTS: None

MUTAGENICITY - Gene Mutation: Non-mutagenic (two Ames Tests)

MUTAGENICITY- In Vivo Mouse Micronucleus Assay: Non-mutagenic

MUTAGENICITY- In Vivo Rat Unscheduled DNA Synthesis Assay: Non-mutagenic

CARCINOGENICITY: Not listed as a carcinogen by IARC, NTP, ACGIH, OSHA, or EPA.

SECTION 7: ENVIRONMENTAL HAZARDS

AVIAN ACUTE ORAL TOXICITY: LD₅₀ >2000 mg/kg (Bobwhite quail)

FRESHWATER FISH TOXICITY: LC₅₀ = 0.67 mg/L (Rainbow trout)

FRESHWATER INVERTEBRATE TOXICITY: LC₅₀ = 0.56 mg/L (*Daphnia magna*)

This product is highly toxic to freshwater fish and aquatic invertebrates. Do not contaminate water by disposal of can wash waters.

SECTION 8: EFFECTS OF OVEREXPOSURE

This section covers effects of overexposure by inhalation, eye/skin contact, ingestion and other types of overexposure information in the order of the most hazardous and the most likely route of overexposure

ROUTES OF EXPOSURE: The primary routes of exposure are inhalation and skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: There are no medical conditions that are known to be aggravated by exposure to this product.

ACUTE EXPOSURE: Can cause substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear goggles, face shield or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove and wash contaminated clothing before reuse.

EMERGENCY AND FIRST AID PROCEDURES

If in eyes	<ul style="list-style-type: none">▫ 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	<ul style="list-style-type: none">▫ 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 to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none">▫ Take off contaminated clothing.▫ Rinse skin immediately with plenty of water for 15-20 minutes.▫ Call a poison control center or doctor for treatment advice.

SECTION 9: REACTIVITY DATA

STABILITY: No decomposition for 14 days @ 55°C in dark
13.7% decomposition for 14 days @ 55°C in light
No decomposition for 1 hour @ 100°C in presence of Al, Fe, and Sn powders

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and carbon dioxide may form during combustion.

SECTION 10: SPILL OR LEAK PROCEDURES

For spill, leak, fire, exposure, or accident call PERS 1-800-633-8253.

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED: Immediately evacuate the area and provide maximum ventilation. Remove all ignition sources. Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover or absorb spilled material on sawdust or vermiculite and place in closed containers for disposal. After all visible traces have been removed, thoroughly wet vacuum the area.

WASTE DISPOSAL METHOD: Dispose of contaminated sawdust and vermiculite in a permitted hazardous waste management facility. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with the Clean Air Act, Clean Water Act, the Resource Conservation and Recovery Act, as well as any other relevant federal, state, or local laws/regulations regarding disposal.

SECTION 11: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Face-sealing goggles, unless a full-face respirator is worn; and a respirator with 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) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.

VENTILATION: General or local exhaust sufficient to minimize employee exposure.

EYE PROTECTION: Chemical goggles or face shield.

OTHER PROTECTIVE EQUIPMENT: Applicators and other handlers must wear long-sleeved shirt, long pants, shoes plus socks, and chemical resistant gloves (such as Nitrile or Butyl). For reentry into treated areas during application and prior to ventilation or settling of aerosol fog, workers must additionally wear coveralls.

SECTION 12: SPECIAL PRECAUTIONS

GENERAL

- 1,4SEED[®] is used as an aerosol to enhance the dormancy of seed potatoes prior to germination.
- 1,4SEED[®] must not be applied to potatoes in the field.
- Do not allow vapors to come in contact with storage areas used for seed potatoes within 60 days of their planting.

STORAGE

- Keep container closed. Do not contaminate water, food, or feed by storage or disposal. This product temporarily inhibits germination of seed potatoes.

PESTICIDE DISPOSAL

- Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

- Nonrefillable container. Do not reuse or refill this container. Triple rinse (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 ¼ 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. Do not burn, unless allowed by state and local ordinances.

SECTION 13: TRANSPORTATION INFORMATION

DOT Hazard Class: Not Restricted per 49CFR 172.101 (c)(12)(iv)

...(iv) "If it is specifically determined that a material is not a forbidden material and does not meet the definition of any hazard class, the material is not a hazardous material."

Revisions

Initially prepared - July 30, 1999

Revised – 010906-A, March 31, 2006, January 19, 2007, February 16, 2007, September 8, 2009, July 31, 2012