

SPECIMEN

GROUP 3 15 HERBICIDE

FREEHAND™
1.756 HERBICIDE

For use as a preemergence weed control herbicide in ornamentals, landscape and grounds maintenance, and other specified noncrop areas

Active Ingredients:

dimethenamid-P: (S)-2-chloro-N-[(1-methyl-2-methoxy)ethyl]-N-(2,4-dimethyl-thien-3-yl)-acetamide 0.75%

pendimethalin: N-(1-ethylpropyl)-3,4-dimethyl-2, 6-dinitrobenzenamine 1.00%

Other Ingredients: 98.25%

Total: 100.00%

50 lbs contains 0.375 lb of dimethenamid-P and 0.5 lb of pendimethalin.

EPA Reg. No. 7969-273

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCIÓN**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty,** and state-specific crop and/or use site restrictions.

In case of emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

 **BASF**
The Chemical Company

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT give any liquid to the person. • DO NOT give anything by mouth to an unconscious person.
If in eyes	<ul style="list-style-type: none"> • Hold eyes 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. • Call a poison control center for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • 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 inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • 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 for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing dust.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to **Category A** on an EPA chemical-resistance category-selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof materials, such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

Dimethenamid-P has properties that may result in groundwater contamination. Application in areas where soils are permeable or coarse and groundwater is near the surface could result in groundwater contamination. Dimethenamid-P has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

Endangered Species Protection

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law. To determine whether your county has endangered plant species, consult <http://www.epa.gov/espp/usa-map.htm>. Endangered Species Bulletins may also be obtained from county extension offices or state pesticide agencies. If a bulletin is not

available for your specific area, check with the appropriate local state agency to determine if known populations of endangered plants occur in the area.

To avoid adverse effects on endangered plant species, applicators in ornamentals production must comply with the following mitigation measures where and when endangered plant species are known to occur in proximity of the application site:

If applied by ground, leave untreated buffer zones of 200 feet between treatment area and known endangered plant populations.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at the time of pesticide application.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Observe all precautions and limitations in this label and the labels of products used in combination with **FreeHand™ 1.75G herbicide**. The use of **FreeHand 1.75G** not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** are to be followed.

BASF Corporation does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application to ornamentals.

DO NOT apply **FreeHand 1.75G** aerially or as an aerial application.

DO NOT apply **FreeHand 1.75G** in greenhouses, polyhouses or other fully enclosed greenhouse-type structures.

DO NOT apply **FreeHand 1.75G** to any improved or unimproved maintained turfgrass(es) or lawn(s).

FreeHand 1.75G is not for use by consumers or by persons not under direct professional supervision of a person who is authorized/licensed by the state for this type of application.

DO NOT treat plants grown for food or feed.

DO NOT use treated plants for food or feed.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL OR CROP INJURY.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **24 hours**.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof materials, such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride ≥14 mils, or viton ≥14 mils
- Shoes plus socks
- Protective eyewear

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

DO NOT enter or allow others to enter the treated area until dusts have settled.

PESTICIDE STORAGE AND CONTAINER DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage. **DO NOT** store above 120° F. Store in original containers and keep closed. Store in a cool, dry place.

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

(for plastic containers)

Nonrefillable Container. **DO NOT** reuse or refill this container. After completely emptying container into application equipment, offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

(for paper or plastic bags)

Nonrefillable Container. DO NOT reuse or refill this container. After completely emptying container into application equipment, dispose of empty bag in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call:

CHEMTREC: 1-800-424-9300
BASF Corporation: 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation: 1-800-832-HELP (4357)

GENERAL INFORMATION

Mode of Action

FreeHand™ 1.75G herbicide combines two active ingredients: dimethenamid-P, a chloroacetamide, and pendimethalin, a dinitroaniline. Combined, they inhibit both plant cell microtubule assembly (cells do not divide and multiply) and cell growth, inhibiting the germinating shoot portion of the susceptible weed seedlings. A small amount of uptake may also occur through the emerging root system of the weed seedling. **FreeHand 1.75G** is **Chemical Group 3** and **Chemical Group 15**, Mode of Action Classification, for broader weed control spectrum.

Use Sites

FreeHand 1.75G may be applied for preemergence control of certain annual grasses, annual broadleaf weeds and sedges as they germinate in:

- Commercial ornamental production nurseries (bed, container, field, liner)
- Landscaped ornamental maintenance areas
- General grounds maintenance in specified noncrop areas

Application Areas

- **Commercial ornamental production nurseries (bed, container, field, liner).** Applications can be made, but are not limited to, plant species listed on this label, such as trees, shrubs, ground covers, perennials, ornamental grasses, bedding plants, conifer and hardwood seedling liner nurseries, tree plantations (including Christmas trees), pulpwood farms and fiber farms.
- **Landscaped ornamental maintenance areas** in and around residential and commercial establishments, multi-family dwellings, military and other institutions, university or college campuses, parks, airports, roadsides, schools, picnic grounds, athletic fields, houses of worship, cemeteries, golf courses, and prairie grass areas, common areas in residential developments, and in non-production areas in commercial nurseries, such as storage areas, vegetation filter strips, windbreaks, shelterbelts or chart paths.

- **General grounds maintenance in the following specified noncrop areas:** parking lots, driveways and roadsides, highway rights-of-way, alleyways, bike and jogging paths, vacant lots, buildings, stone gardens and gravel yards, around statuary or monuments, utility substations, markers/borders and fence lines, and mulch beds. It may be used under asphalt or concrete treatments as part of a site preparation program.

FreeHand 1.75G may be applied as a soft-residual bare-ground treatment in the use sites described in the section on **Application Areas**.

FreeHand 1.75G controls weeds as they germinate but will not control emerged and established weeds. Therefore, areas to be treated should be free of established weeds. For the control of established weeds, **FreeHand 1.75G** may be used in conjunction with herbicides registered for postemergence use. Consult the labels of those herbicides for use rates, timings, and precautions or restrictions.

Unusually cold, excessively wet, or hot and dry conditions that delay germination or extend germination over a long period of time can reduce weed control.

The efficacy of **FreeHand 1.75G** will improve if the application is followed by 1/2 inch of rainfall or its equivalent in sprinkler irrigation. If **FreeHand 1.75G** is not activated by rainfall or irrigation within 30 days, erratic weed control may result.

If weeds should develop prior to activation of the herbicide, shallow cultivate to destroy existing weeds or, where practical, remove by hand. When cultivating for any reason, it should be shallow. **FreeHand 1.75G** may be used before or after applications of herbicides registered for postemergence use (i.e., **Basagran® T/O herbicide**, **Finale® herbicide**, **Roundup® herbicide**, **Segment™ herbicide**) for the control of established weeds. **DO NOT** apply sprays containing **Finale** or **Roundup** over the top of desirable plants. A **FreeHand 1.75G** treatment may be followed by any registered herbicide to control weeds not listed on the **FreeHand 1.75G** label.

Applied according to label directions and under normal growing conditions, **FreeHand 1.75G** will not cause injury to desirable plants. Over-application can result in stand loss, plant injury, or soil residues. Uneven application can decrease weed control or cause plant injury.

Seedling diseases, cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought can weaken seedlings and plants, and increase the possibility of plant damage from **FreeHand 1.75G**.

APPLICATION INFORMATION

Apply with properly calibrated spreader equipment to provide uniform distribution. Check application routinely to determine proper calibration. Avoid overlaps that will increase rates above those stated on this label. Avoid application when winds may cause drift. Avoid unintentional contact of granules with driveways, stone, wood or

other porous surfaces. **FreeHand™ 1.75G herbicide** may cause temporary discoloration of treated surfaces. Sweep surfaces clean immediately to avoid staining. If granules are crushed into surface, rinse thoroughly.

Dry fertilizers. **FreeHand 1.75G** may be mixed with dry fertilizers. When applied as directed, **FreeHand 1.75G/dry** fertilizer mixtures provide weed control equal to that provided by the same rates of **FreeHand 1.75G** applied alone.

Use Rates

For preemergence control of the listed weed species using broadcast spreader equipment, apply **FreeHand 1.75G** at the following rates.

Table 1. Application Rates for FreeHand 1.75G

Application Rate (lbs product/acre)	Amount (lbs product/1000 sq ft)	Amount (lb product/100 sq ft)
100	2.3	0.23
150	3.4	0.34
200	4.6	0.46

To deliver the proper rate, the applicator must calibrate prior to application of product. Rate settings for a specific type of spreader device must be determined by the applicator. The **FreeHand 1.75G** calibration tray may be used to calibrate the correct application rate.

FreeHand 1.75G may be applied in a single application or in sequential applications. For extended weed control, sequential applications of **FreeHand 1.75G** can be made at a minimum of 8 weeks between applications.

In a single application, **DO NOT** apply more than the equivalent of 200 pounds of **FreeHand 1.75G** per acre.

Application Restrictions and Limitations

- In a single growing season, **DO NOT** apply more than the equivalent of 400 pounds of **FreeHand 1.75G** per acre.
- After applying **FreeHand 1.75G**, wait at least **56 days** before making another application.
- **Stress.** Applications to ornamental plants under stress because of lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures may result in crop injury.
- **DO NOT** contaminate irrigation ditches or water used for domestic purposes.

RECOMMENDED SPECIES

FreeHand 1.75G is safe around and over the top of the established plants listed following. However, not all varieties or strains of the ornamental plants listed have been tested. Refer to the section **APPLICATION INFORMATION** in this label prior to any application of **FreeHand 1.75G**. Unintentional consequences, such as ornamental injury, may result because of certain environmental or growing conditions, manner of use or application. Therefore, before treating a large number of plants, apply to a few plants and observe for plant damage prior to full-scale application.

ORNAMENTALS

FreeHand 1.75G may be used on ornamental plant species not listed on this label. The suitability for such uses should be determined by treating a small number of such plants at the recommended rate. Treated plants should be evaluated 1 to 2 months following treatment for possible injury. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE USER ASSUMES RESPONSIBILITY FOR ANY CROP DAMAGE OR OTHER LIABILITY ASSOCIATED WITH APPLICATIONS TO ORNAMENTAL PLANTS NOT LISTED ON THIS LABEL.**

TREES

Common Name	Scientific Name
Arborvitae	<i>Thuja</i> spp.
Crape myrtle	<i>Lagerstroemia indica</i>
Fir, Fraser	<i>Abies fraseri</i>

SHRUBS

Common Name	Scientific Name
Abelia, glossy	<i>Abelia grandiflora</i>
Azalea	<i>Rhododendron</i> spp.
Boxwood, Japanese	<i>Buxus microphylla</i>
Butterfly bush†	<i>Buddleia davidii</i>
Euonymus	<i>Euonymus</i> spp.
Gardenia	<i>Gardenia jasminoides</i>
Hawthorne, Indian	<i>Raphiolepis indica</i>
Holly	<i>Ilex</i> spp.
Holly, Chinese	<i>Ilex cornuta</i>
Holly, Japanese	<i>Ilex crenata</i>
Hydrangea†	<i>Hydrangea macrophylla</i>
Juniper	<i>Juniperus</i> spp.
Nandina	<i>Nandina domestica</i>
Rose	<i>Rosa</i> spp.
Spiraea	<i>Spiraea</i> spp.
Viburnum	<i>Viburnum</i> spp.

†Crop injury is possible in certain cultivars of these species; therefore, it is recommended to apply **FreeHand 1.75G** at the lowest use rate and apply only to a small number of plants prior to treating an entire block of plants.

HERBACEOUS PERENNIALS

Common Name	Scientific Name
Daylily [†]	<i>Hemerocallis</i> spp.
Flag [†]	<i>Iris</i> spp.
Hosta	<i>Hosta</i> spp.
Lantana	<i>Lantana</i> spp.
Sage	<i>Salvia</i> spp.
Sage, Ramona	<i>Salvia sylvestris</i>

[†]Crop injury is possible in certain cultivars of these species; therefore, it is recommended to apply **FreeHand™ 1.75G herbicide** at the lowest use rate and apply only to a small number of plants prior to treating an entire block of plants.

BEDDING PLANTS

After planting bedding plants and before **FreeHand 1.75G** is applied, the area to be treated should be watered sufficiently to pack soil around roots.

Common Name	Scientific Name
Periwinkle, rose	<i>Catharanthus roseus</i>
Petunia	<i>Petunia</i> spp.

ORNAMENTAL PRECAUTIONS

- Apply **FreeHand 1.75G** to established plantings.
- **DELAY** applying **FreeHand 1.75G** to seedbeds, transplant beds, or liners until plants have become well rooted.
- For container-grown ornamentals, delay first application of this product to bare-root liners 2 to 4 weeks.
- Care must be taken that soil or planting mixes have settled firmly following transplanting and there are no cracks that would allow direct contact of **FreeHand 1.75G** with roots. Applications where soil and media surfaces are uniformly covered will result in best weed control and ornamental tolerance.
- Plant only those desirable plant species listed on this label into soil treated the previous season with any **FreeHand 1.75G** product or injury may occur.

LANDSCAPE AND GROUNDS MAINTENANCE

FreeHand 1.75G can be incorporated into landscape and grounds maintenance programs to provide extended pre-emergence control of most annual grasses, certain broadleaf weeds, and sedges. Areas to be treated include those areas where gravel, pebble, stones, rock and other porous surfaces are used instead of organic mulches as bedding for landscaping. Areas to be treated should be free of emerged weeds before application. To remove emerged weeds, cultivate **OR** apply a postemergence product labeled for such use.

TREE PLANTATIONS

FreeHand 1.75G can be used for preemergence weed control during site preparation, establishment and/or maintenance of tree plantations (including Christmas trees).

FreeHand 1.75G may also be used for hardwood and conifer regeneration on Conservation Reserve Program land or similar areas.

FreeHand 1.75G may be applied at planting or to established trees. When making an application at planting, it is important that slit closure be achieved to prevent **FreeHand 1.75G** from directly contacting the tree roots or being washed into the root zone via the open slit, or root stunting may occur. **DO NOT** apply to newly transplanted seedlings until plants have been watered and soil has been thoroughly packed and settled around roots.

WEED SPECIES CONTROLLED

Use **FreeHand 1.75G** for preemergence control of the following weed species listed according to use rate.

Weeds controlled when **FreeHand 1.75G** is
100 lbs/A applied at 100 lbs/acre (2.3 lbs **FreeHand 1.75G**/1000 sq ft)

Common Name	Scientific Name
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Carpetweed	<i>Mollugo verticillata</i>
Foxtail, giant	<i>Setaria faberi</i>
Foxtail, green	<i>Setaria viridis</i>
Foxtail, yellow	<i>Setaria glauca</i>
Henbit	<i>Lamium amplexicaule</i>
Lambsquarters, common	<i>Chenopodium album</i>
Pigweed, prostrate	<i>Amaranthus blitoides</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Pigweed, tumble	<i>Amaranthus albus</i>
Pusley, Florida	<i>Richardia scabra</i>

150 lbs/A

In addition to the weeds controlled at 100 lbs **FreeHand™ 1.75G herbicide**/acre application rate, the following weeds will be controlled when **FreeHand 1.75G** is applied at 150 lbs/acre (3.4 lbs **FreeHand 1.75G**/1000 sq ft)

Common Name	Scientific Name
Amaranth, Powell	<i>Amaranthus powellii</i>
Bittercress	<i>Cardamine</i> spp.
Bluegrass, annual	<i>Poa annua</i>
Bluegrass, roughstalk	<i>Poa trivialis</i>
Brome, California	<i>Bromus carinatus</i>
Brome, downy	<i>Bromus tectorum</i>
Chamomile, mayweed	<i>Anthemis cotula</i>
Chickweed, common	<i>Stellaria media</i>
Chickweed, mouseear	<i>Cerastium vulgatum</i>
Crabgrass, large	<i>Digitaria sanguinalis</i>
Crabgrass, smooth	<i>Digitaria ischaemum</i>
Cudweed	<i>Gnaphalium</i> spp.
Cupgrass, Southwestern	<i>Eriochloa gracilis</i>
Doveweed	<i>Murdannia nudiflora</i>
Evening primrose	<i>Oenothera biennis</i>
Flatsedge, rice	<i>Cyperus iria</i>
Goosegrass	<i>Eleusine indica</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Knotweed, prostrate	<i>Polygonum aviculare</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum ptycanthum</i>
Nightshade, cutleaf	<i>Solanum triflorum</i>
Nightshade, hairy	<i>Solanum sarrachoides</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Pearlwort*	<i>Sagina procumbens</i> or <i>S. decumbens</i>
Purslane, common	<i>Portulaca oleracea</i>
Red rice	<i>Oryza sativa</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Sandbur, field	<i>Cenchrus incertus</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
Speedwell, corn	<i>Veronica arvensis</i>
Spurges, annual	<i>Chamaesyce</i> spp., <i>Euphorbia</i> spp.
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatus</i>
Witchgrass	<i>Panicum capillare</i>

*Not controlled in California.

200 lbs/A

In addition to the weeds controlled at 100 lbs and 150 lbs **FreeHand 1.75G**/acre application rates, the following weeds will be controlled when **FreeHand 1.75G** is applied at 200 lbs/acre (4.6 lbs **FreeHand 1.75G**/1000 sq ft)

Common Name	Scientific Name
Burnweed, American*	<i>Erechtites hieraciifolia</i>
Burweed, lawn	<i>Soliva pterosperma</i>
Clover, hop	<i>Trifolium procumbens</i>
Crowfootgrass	<i>Dactyloctenium aegyptium</i>
Cupgrass, woolly	<i>Eriochloa villosa</i>
Dogfennel*	<i>Eupatorium capillifolium</i>
Eclipta	<i>Eclipta alba</i> <i>E. prostrata</i>
Fiddleneck	<i>Amsinckia intermedia</i>
Filaree	<i>Erodium</i> spp.
Itchgrass	<i>Rottboellia exaltata</i>
Junglerice	<i>Echinochloa colona</i>
Kochia	<i>Kochia scoparia</i>
Kyllinga species*	<i>Kyllinga</i> spp.
Liverwort*	<i>Marchantia polymorpha</i>
Lovegrass (from seed)	<i>Eragrostis</i> spp.
Mulberry weed*	<i>Fatoua villosa</i>
Panicum, browntop	<i>Panicum fasciculatum</i>
Panicum, fall	<i>Panicum dichotomiflorum</i>
Panicum, Texas	<i>Panicum texanum</i>
Pepperweed*	<i>Lepidium virginicum</i>
Phyllanthus, long-stalked*	<i>Phyllanthus tenellus</i>
Puncturevine	<i>Tribulus terrestris</i>
Ragweed, common	<i>Ambrosia artemisiifolia</i>
Rocket, London	<i>Sisymbrium irio</i>
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Sowthistle	<i>Sonchus arvensis</i>
Sprangletop, Mexican	<i>Leptochloa uninervia</i>
Sprangletop, red	<i>Leptochloa filiformis</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Willowherb	<i>Epilobium</i> spp.
Woodsorrel, yellow	<i>Oxalis stricta</i>

*Not controlled in California.

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

To the extent consistent with applicable law, BASF makes no other express or implied warranty of fitness or merchantability or any other express or implied warranty.

To the extent consistent with applicable law, Buyer's exclusive remedy and BASF's exclusive liability, whether in contract, tort, negligence, strict liability, or otherwise, shall be limited to repayment of the purchase price of the product.

To the extent consistent with applicable law, BASF and the Seller disclaim any liability for consequential, special or indirect damages resulting from the use or handling of this product.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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***FreeHand** and **Segment** are trademarks of BASF.*

***Finale** is a registered trademark of Bayer.*

***Roundup** is a registered trademark of Monsanto Technology, LLC.*

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BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709



The Chemical Company



The Chemical Company

Safety data sheet

FREEHAND HERBICIDE

EPA Reg. No. 7969-273

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Version: 3.0

(30403464/MDS_CPA_US/EN)

1. Substance/preparation and company identification

Company

BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

Substance number:	000000305512
Molecular formula:	C ₂₉ H ₃₃ N ₄ ClO ₈ S
Chemical family:	aniline derivative, carboxylic acid amide, halogenated
Synonyms:	pendimethalin ; dimethenamid-p

2. Composition/information on ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
40487-42-1	1.05 %	pendimethalin (active ingredient)
163515-14-8	0.8 %	S-dimethenamid
	98.15 %	Proprietary ingredients

3. Hazard identification

Emergency overview

CAUTION: May cause moderate but temporary irritation to the eyes.
HARMFUL IF SWALLOWED.
HARMFUL IF ABSORBED THROUGH SKIN.
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of dusts.

Potential health effects

See Product Label for additional precautionary statements.

Primary routes of exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

Moderately toxic after single ingestion. Slightly toxic after short-term skin contact. Slightly toxic after short-term inhalation.

Irritation:

May cause slight irritation to the skin. May cause slight irritation to the eyes.

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Sensitization:

Caused skin sensitization in animal studies.

Repeated dose toxicity:

Information on: pendimethalin

The substance is not considered to pose a carcinogenic risk at low human exposure levels.

Medical conditions aggravated by overexposure:

Individuals with pre-existing diseases of the respiratory, skin or eyes may have increased susceptibility to excessive exposures.

Potential environmental effects

Aquatic toxicity:

Very toxic (acute effect) to aquatic organisms.

Terrestrial toxicity:

Acutely harmful to terrestrial organisms.

4. First-aid measures

General advice:

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled:

Remove the affected individual into fresh air and keep the person calm.

If on skin:

Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:

Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Have person sip a glass of water if able to swallow.

Note to physician

Symptoms:	orange-red coloured urine caused by dye (not associated with methemoglobinemia)
Antidote:	No known specific antidote.
Treatment:	Treat symptomatically.

5. Fire-fighting measures

Flash point:

Not applicable

Suitable extinguishing media:

foam, dry extinguishing media, carbon dioxide, water spray

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, Sulphur dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons,

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The substances/groups of substances mentioned can be released in case of fire. If product is heated above decomposition temperature, toxic vapours will be released.

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions:

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Cleanup:

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and storage

Handling

General advice:

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Storage

General advice:

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

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Storage incompatibility:

General: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Temperature tolerance

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure controls and personal protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and chemical properties

Form:	free flowing, granules	
Colour:	yellow to brown	
pH value:	4.7	(25 °C)
Vapour pressure:		Not applicable
Bulk density:	660 kg/m ³ 38 lb/ft ³	

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Solubility in water:

dispersible, insoluble

10. Stability and reactivity

Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud AND 2. the concentration of the dust is above the lower explosion limit (LEL) AND 3. the limiting oxygen concentration (LOC) is exceeded.

Substances to avoid:

strong oxidizing agents, strong reducing agents

Hazardous reactions:

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

Thermal decomposition:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, Sulphur dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

11. Toxicological information

Acute toxicity

Oral:

LD50/rat: > 2,000 mg/kg (OECD Guideline 423)

Inhalation:

LC50/rat: > 5.103 mg/l

Dermal:

LD50/rat: > 2,000 mg/kg (OECD Guideline 402)

Skin irritation:

rabbit: non-irritant (OECD Guideline 404)

Eye irritation :

rabbit: Irritant. (OECD Guideline 405)

Sensitization:

No sensitizing effect.

Repeated dose toxicity:

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Information on: Dimethenamid-P

Information on: pendimethalin

Genetic toxicity:

Information on: Dimethenamid-P

Results from a number of mutagenicity studies with microorganisms and mammalian cell culture are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

Information on: pendimethalin

No mutagenic effect was found in various tests with microorganisms and mammals.

Carcinogenicity:

Information on: Dimethenamid-P

The induction of tumors in animal studies was due to a reversible, nongenotoxic effect for which a threshold dose can be derived.

Indication of possible carcinogenic effect in animal tests.

Information on: pendimethalin

In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.

In long-term studies in rats the substance induced thyroid tumors.

A marked decrease in body weight gain and an increase in benign thyroid proliferative lesions were observed in the lifetime rat study at the highest dose tested.

The substance is not considered to pose a carcinogenic risk at low human exposure levels.

Reproductive toxicity:

Information on: Dimethenamid-P

The results of animal studies gave no indication of a fertility impairing effect.

Information on: pendimethalin

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity/teratogenicity:

Information on: Dimethenamid-P

In animal studies the substance showed a developmental toxic effect in high doses which were maternally toxic.

Information on: pendimethalin

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological information

Information on: Dimethenamid-P

Information on: pendimethalin

Evaluation: Not readily biodegradable (by OECD criteria).

Evaluation: Not readily biodegradable (by OECD criteria).

Environmental toxicity

Information on: Dimethenamid-P

Acute and prolonged toxicity to fish:

Rainbow trout/LC50 (96 h): 6.3 mg/l

marine minnow, sheepshead/LC50: 12 mg/l

sunfish, bluegill/LC50: 10.0 mg/l

Information on: pendimethalin

Acute and prolonged toxicity to fish:

Rainbow trout/LC50 (96 h): 0.89 mg/l

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Information on: Dimethenamid-P
Acute toxicity to aquatic invertebrates:
Daphnia magna/EC50 (48 h): 12 mg/l

Information on: pendimethalin
Acute toxicity to aquatic invertebrates:
Daphnia magna/EC50 (48 h): 0.977 mg/l

Information on: Dimethenamid-P
Toxicity to aquatic plants:
green algae/EC50 (5 d): 0.017 mg/l
Algae/EC50: 0.38 mg/l
Algae/EC50: 34 mg/l

Information on: pendimethalin
Toxicity to aquatic plants:
green algae/EC50 (72 h): 0.0081 mg/l

Information on: Dimethenamid-P
Other terrestrial non-mammals:
Honey bee/LD50 (24 d): > 1000 ug/bee
mallard duck/LC50: > 5,620 mg/kg
bobwhite quail/LC50: > 5,620 mg/kg

Information on: pendimethalin
Other terrestrial non-mammals:
mallard duck/LD50: 1,421 mg/kg
Acutely harmful to terrestrial organisms.
Honey bee/LD50: 49.8 ug/bee
Acutely harmful to terrestrial organisms.

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated.

Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law.

If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:

This product is not regulated by RCRA.

14. Transport information

Reference Bill of Lading

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15. Regulatory information

Federal Regulations

Registration status:
TSCA, US released / exempt

OSHA hazard category: Skin and/or eye irritant

SARA hazard categories (EPCRA 311/312): Acute

State regulations

CA Prop. 65:
THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

16. Other information

Refer to product label for EPA registration number.

Recommended use: herbicide

Local contact information
Product Stewardship
919 547-2000

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