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IMPORTANT: SHAKE, STIR OR OTHERWISE MIX THIS PRODUCT WELL BEFORE USING

GROUP 7 M FUNGICIDE

Loveland Vitaflo® Fungicide

SUSPENSION

Fungicide seed protectant for commercial and on-farm treatment of flax, dry common beans, snap common beans, peas, lentils and soybeans, and on-farm treatment of wheat, barley, oats, rye, triticale, and corn. . Contains carbathiin and thiram for the control of smuts, common bunt, dwarf bunt, leaf stripe, seed rots and seedling blights, and suppression of root rot.

AGRICULTURAL

CAUTION: SKIN IRRITANT WARNING: EYE IRRITANT

ACTIVE INGREDIENT: Carbathiin.... 15.59%
 Thiram..... 13.25%

REGISTRATION NO. 30380, PEST CONTROL PRODUCTS ACT

KEEP OUT OF REACH OF CHILDREN

READ LABEL BEFORE USING

LOVELAND PRODUCTS CANADA, INC.
789 DONNYBROOK DRIVE
DORCHESTER, ON
N0L 1G5
CANADA

1-800-328-4678

IN CASE OF EMERGENCY DUE TO A MAJOR SPILL, FIRE OR POISONING INVOLVING THIS PRODUCT CALL DAY OR NIGHT, 1-800-561-8273.

NET CONTENTS:
1L - bulk

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GENERAL INFORMATION:

Loveland Vitaflo® Fungicide is a combination of a systemic fungicide (carbathiin) and a contact fungicide (thiram) to control the following diseases:

BARLEY: false loose, covered and true loose smut and leaf stripe, provides suppression of net blotch. Controls seed rot and seedling blight caused by *Pythium spp.* and *Penicillium spp.* Provides control of seed rot, seedling blight and suppression of root rot caused by *Fusarium spp.* and *Cochliobolus sativus*. Also controls seed rot due to storage fungi *Aspergillus spp.* and *Alternaria*.

WHEAT: loose smut, stinking smut or common bunt and seed-borne dwarf bunt. Controls seed rot and seedling blight caused by *Pythium spp.*, and *Penicillium spp.* Provides control of seed rot, seedling blight and suppression of root rot caused by *Fusarium spp.* and *Cochliobolus sativus*. Also controls seed rot due to storage fungi *Aspergillus spp.* and *Alternaria*. Controls seed-borne *Septoria*.

OATS: loose and covered smut. Controls seed rot and seedling blight caused by *Pythium spp.* and *Penicillium spp.* Provides control of seed rot, seedling blight caused by *Fusarium spp.* and suppression of root rot caused by *Cochliobolus sativus*. Also controls seed rot due to storage fungi *Aspergillus spp.* and *Alternaria*.

RYE: damping-off, seedling blight and seed decay, stem smut. Controls seed rot and seedling blight caused by *Pythium spp.*, and *Penicillium spp.* Provides control of seed rot, seedling blight and suppression of root rot caused by *Fusarium spp.* and *Cochliobolus sativus*. Also controls seed rot due to storage fungi *Aspergillus spp.* and *Alternaria*.

TRITICALE: damping-off, seedling blight and seed decay.

FLAX AND EDIBLE OIL FLAX INCLUDING LOW LINOLENIC ACID VARIETIES: seed rot, root rot and seedling blight caused by *Rhizoctonia solani* and *Fusarium*.

CORN: damping-off and seed decay.

DRY COMMON BEANS: early season seed rot, root rot and seedling blight caused by *Rhizoctonia solani*. Also controls seedborne Anthracnose (*Colletotrichum lindemuthianum*). Will not protect from wind borne spores. This product will not control Anthracnose if seed is severely infected.

SNAP COMMON BEANS: early season seed rot, root rot and seedling blight caused by *Rhizoctonia solani*. Also controls seedborne Anthracnose (*Colletotrichum lindemuthianum*). Will not protect from wind borne spores. This product will not control Anthracnose if seed is severely infected.

PEAS: seed rot and seedling blight caused by *Mycosphaerella (Ascochyta)*, *Fusarium spp.* and *Rhizoctonia solani* and *Pythium*.

LENTILS: control of seed rot, early season root rot and seedling blight caused by *Botrytis cinerea*, *Fusarium*, *Pythium spp.* and *Rhizoctonia solani*.

SOYBEANS: seed rot and seedling blight caused by *Phomopsis spp.*, *Rhizoctonia solani* and *Fusarium spp.*

Loveland Vitaflo® Fungicide will generally increase emergence and plant stands of wheat, oats, barley and peas by reducing seed-borne seed rots and seedling blights.

Loveland Vitaflo Fungicide has no vapour action. Thorough seed coverage is required.

DIRECTIONS FOR USE:

Loveland Vitaflo Fungicide is designed to be used undiluted in commercial seed treaters, for on-farm and commercial seed treatment (facilities and mobile treaters)

Flax, Dry Common Beans, Snap Common Beans, Peas, Lentils and Soybeans: For on-farm and commercial seed treatment (facilities and mobile treaters).

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Wheat, barley, oats, rye, triticale, corn: For on-farm use only. **DO NOT** use for commercial seed treatment (in facilities or with mobile treaters).

Undiluted **Loveland Vitaflo Fungicide** can be used at temperatures down to -20 C. Treater calibration will be affected by temperature and should be rechecked on a regular basis.

Centrifugal pumps are not recommended for pumping **Loveland Vitaflo Fungicide**. Positive displacement / peristaltic pumps using propylene lines with a minimum inside diameter of 2 cm are recommended for pumping **Loveland Vitaflo Fungicide**.

SHAKE, STIR OR OTHERWISE MIX THIS PRODUCT WELL BEFORE USING. If containers of **Loveland Vitaflo Fungicide** have been in storage for several months, some settling may occur and require agitation to re-suspend the product. To re-suspend the settled material prior to application:

- 1L to 10L containers can be shaken;
- 10L to 200L containers should be turned upside down for ½ hour and then rolled back and forth several times;
- 200L to bulk must be mechanically agitated or recirculated.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that **Loveland Vitaflo Fungicide** contains a Group 7 and a Group M fungicide. Any fungal population may contain individuals naturally resistant to **Loveland Vitaflo Fungicide** and other Group 7 or M fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance:

- Where possible, rotate the use of **Loveland Fungicide** or other Group 7 or M fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicide from a different group when such use is permitted.
- Fungicide use should be based on an IPM program that includes scouting, historical information related to pesticide use and crop rotation and considers cultural, biological and other chemical control practices.
- Monitor treated fungal populations for resistance development.
- If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide with a different target site of action, if available.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and or IPM recommendations for specific crops and pathogens.
- For further information and to report suspected resistance, contact the Technical Service, Loveland Products Canada Inc., 1-800-328-4678 or at www.uap.ca.

RATE OF APPLICATION:

Treatment Rate for Undiluted
Loveland Vitaflo Fungicide
in mL per 100 kg seed

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Barley	230-330
Wheat	230-330
Rye	230-330

(The 230 mL rate will give partial control of true loose smut in wheat and barley and stem smut in rye. Use 330 mL rate for the control of seed borne *Septoria* on wheat and seed rot and seedling blight caused by *Fusarium* spp., *Cochliobolus sativus*, *Pythium* spp., *Penicillium* spp., *Aspergillus* spp., *Alternaria*; also suppression of root rot caused by *Cochliobolus sativus* on cereals (wheat, barley, oats and rye.)

Oats	330
Triticale	200
Flax including edible oil flax (solin)	525
Corn (field & sweet)	280
Peas	260 for control of <i>Rhizoctonia solani</i> and <i>Fusarium</i> spp. 330 for control of <i>Mycosphaerella pinodes</i> (Ascochyta)
Lentils	330
Soybeans	260
Dry common beans	260
Snap common beans	260

CORN HEAD SMUT:

For control of seed-borne head smut. Treat corn at 560 to 750 mL of UNDILUTED **Loveland Vitaflo Fungicide** per 100 kg of seed. Avoid planting corn under cold, wet conditions. Stress conditions during the first few weeks after planting may increase the incidence of head smut. Will not control soil-borne head smut.

EDIBLE OIL FLAX (low linolenic acid varieties):

Care should be taken to prevent damaged/split seeds when combining the seed crop to maximize the benefit from this treatment.

DWARF BUNT OF WINTERWHEAT:

Dwarf Bunt is caused primarily by soil-borne teliospores of *Tilletia controversa*. The incidence of disease can be significantly reduced through a combination of cultural practises and seed treatment. Fields known to be infested with Dwarf Bunt should be planted later and deeper (i.e. seeding depth 3-4 cm) as the teliospores are most active in the warmer top 2 cm of soil. Plant only seed treated with **Loveland Vitaflo Fungicide** at 330 mL/100 kg seed in these fields.

USE RESTRICTIONS:

1. DO NOT use treated seed for food, feed or oil processing.
2. Do not contaminate food, feed domestic or irrigation water supplies, lakes, streams and ponds.
3. Do not store **Loveland Vitaflo Fungicide** in direct sunlight. Do not store **Loveland Vitaflo Fungicide** at temperatures above 35 C.
4. **Loveland Vitaflo Fungicide** becomes more viscous under extreme cold temperatures. This product works best at temperatures of -20° C and above
5. Mixing of **Loveland Vitaflo Fungicide** with other seed treatment products may result in gelling or sedimentation. Seed treater lines and reservoirs should therefore be thoroughly cleaned before changing over to Loveland Vitaflo Fungicide. For cleaning lines and reservoirs, flush with water containing a detergent.
6. Seeding rate should be checked during planting.
7. Do not graze or feed livestock on treated areas for 4 weeks after planting except for the following crops:

Soybeans – Do not graze or feed livestock on forage and hay on treated areas.

Dry Beans – Do not graze or feed on bean forage for 60 days after planting.

8. Do not graze or feed on treated area for **six weeks after planting**: Barley, Oats, Wheat
9. All bags containing treated seed for sale or use in Canada must be labeled or tagged as follows:
“**CAUTION: SKIN IRRITANT**”
“**WARNING: EYE IRRITANT**”
“This seed has been treated with carbathiin and thiram. DO NOT use treated seed for food, feed or oil processing. Store away from food and feed. For all activities involving handling of treated seeds (including planting), wear a long sleeved-shirt, long pants, socks and shoes, and chemical-resistant gloves. Closed cab tractors must be used for planting treated seeds. Chemical-resistant gloves are not required to be worn within the closed cab, but need to be available for exiting the cab during calibration, repair or cleaning of equipment.
10. **Loveland Vitaflo Fungicide** treated wheat, oats, barley, rye, triticale and flax seed may be stored for up to 18 months without reduction in germination due to the treatment chemical.
11. **Loveland Vitaflo Fungicide** treated corn seed may be stored for up to one year without reduction in germination due to the treatment chemical.
12. Do not store treated snap common bean, dry common bean, peas, lentils or soybean seed.
13. Do not plant treated seed by broadcasting to the soil surface. Ensure that all planted seed are thoroughly covered with soil, especially in turn areas. Plant wheat, corn and canola seed a minimum of 1 inch deep. If seeds are not thoroughly incorporated by the planter during planting, additional incorporation may be required to reduce exposed seeds. Clean-up, bury or cover all spilled seed with soil.
14. Seeding practices such as precision drilling, can further reduce exposure of birds and small mammals to treated seed.
15. Toxic to birds and small, wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN.

1. **Warning: Eye Irritant.** DO NOT get into eyes. The operator is advised to wear goggles to protect eyes from possible splashing. In case of contact with eyes, flush IMMEDIATELY with running water and seek medical attention.
2. **Caution: Skin Irritant.** Harmful if swallowed, inhaled or absorbed through the skin. Do not swallow; do not get on skin or on clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash separately before reuse.
3. ALWAYS SHAKE, STIR OR OTHERWISE MIX THIS PRODUCT WELL BEFORE USING.
4. For on-farm seed treatment, use a closed mix/load system. When treating seeds, handling and planting treated seeds, wear coveralls over a long-sleeved shirt, long pants, socks and shoes, and chemical-resistant gloves
5. Use a closed cab tractor for planting. Chemical-resistant gloves are not required to be worn within the closed cab, but need to be available for exiting the cab during calibration, repair or cleaning of equipment
6. For commercial seed treatment (facilities and mobile treaters), use a closed transfer system. Closed transfer includes closed mixing, loading, calibrating and closed treatment equipment. No open transfer is permitted. When treating or handling treated seeds, cleaning seed treatment equipment for commercial seed treatment, wear coveralls over a long-sleeved shirt, long pants, shoes plus socks, and chemical-resistant

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gloves. When cleaning seed treatment equipment also wear a respirator with a NIOSH approved organic-vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH approved canister approved for pesticides, and coveralls must be chemical-resistant.

7. Because of possible unpleasant side effects, alcoholic beverages should be avoided for 24 hours before or after working with **Loveland Vitaflo Fungicide** or treated seed.
8. If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website at www.croplife.ca.

FIRST AID:

IF SWALLOWED:

Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

IF IN EYES:

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 centre or doctor immediately for treatment advice.

IF ON SKIN OR CLOTHING:

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor immediately for treatment advice.

IF INHALED:

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 centre or doctor for further treatment advice.

Take container, label and product name, and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: This product contains petroleum distillate. Vomiting may cause aspiration pneumonia. Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS:

The product contains petroleum distillate, which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Also, in cleaning of equipment or disposing of wastes, do not contaminate water used for human or animal consumption or by wildlife and aquatic life or for irrigation purposes.

Treated seed is toxic to birds and small, wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.

STORAGE AND DISPOSAL:

STORAGE:

Store product in original container or in storage tank, away from other pesticides, fertilizer, food or feed. Keep container closed when not in use. ALWAYS SHAKE, STIR OR OTHERWISE MIX THIS PRODUCT WELL BEFORE USING. Users of **Loveland Vitaflo Fungicide** purchased in containers of 200 L or greater should contact their **Loveland Vitaflo Fungicide** dealer for information on connecting and transferring the product to a storage tank.

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**DISPOSAL:
UNUSED, UNWANTED PRODUCT:**

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

1L - 10L: container may be recycled.
10 - 200L: container may be recycled or returned.
>200L - bulk: container may be returned or refilled.

CONTAINER:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.

RECYCLABLE (200L or less):

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of container in accordance with provincial requirements.

RETURNABLE:

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer). Contact a **Loveland Vitaflo Fungicide** dealer for additional information on washing of container.

REFILLABLE:

For disposal, this empty container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

NOTICE TO USER:

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

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