



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

1/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**Product identifier**

Trade name FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE  
Product code (UVP) 06478182  
SDS Number 102000012417  
EPA Registration No. 432-1279

**Relevant identified uses of the substance or mixture and uses advised against**

Use Insecticide, Miticide  
Restrictions on use See product label for restrictions.

**Information on manufacturer**

Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
United States

**Emergency telephone no.**

All Emergencies, 24hr/ 7 days 1-800-334-7577 (24 hours/day)

**Product Information  
Telephone No.**

1-800-331-2867

**SDS Information or Request** SDSINFO.BCS-NA@bayer.com

**SECTION 2: HAZARDS IDENTIFICATION**

**Classification in accordance with regulation HCS 29CFR §1910.1200**

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

**Other hazards**

No particular hazards known.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Hazardous Component Name	CAS-No.	Average % by Weight
Spiromesifen	283594-90-1	45.20
Glycerine	56-81-5	10.00



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

2/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

**SECTION 4: FIRST AID MEASURES**

**Description of first aid measures**

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
<b>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Eye contact</b>	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 physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** To date no symptoms are known.

**Indication of any immediate medical attention and special treatment needed**

**Treatment** Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

**SECTION 5: FIREFIGHTING MEASURES**

**Extinguishing media**

**Suitable** Water spray, Carbon dioxide (CO<sub>2</sub>), Dry chemical

**Unsuitable** None known.

**Special hazards arising from the substance or mixture** Dangerous gases are evolved in the event of a fire.

**Advice for firefighters**

**Special protective equipment for fire-fighters** Wear self-contained breathing apparatus and protective suit.

**Further information** Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

3/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

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<b>Flash point</b>	Not combustible.
<b>Autoignition temperature</b>	no data available
<b>Lower explosion limit</b>	no data available
<b>Upper explosion limit</b>	no data available
<b>Explosivity</b>	not applicable

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Precautions** Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. Ensure adequate ventilation.

**Methods and materials for containment and cleaning up**

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice** Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

**Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

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**SECTION 7: HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

**Hygiene measures** Wash hands before breaks and immediately after handling the product.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**Conditions for safe storage, including any incompatibilities**



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

4/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

**Requirements for storage areas and containers**

Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Protect from freezing.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Spiromesifen	283594-90-1	0.92 mg/m3 (TWA)		OES BCS*
Glycerine (Total dust.)	56-81-5	15 mg/m3 (PEL)	02 2006	OSHA Z1
Glycerine (Respirable fraction.)	56-81-5	5 mg/m3 (PEL)	02 2006	OSHA Z1
Glycerine (Respirable fraction.)	56-81-5	5 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine (Total dust.)	56-81-5	10 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine (Total dust and mist.)	56-81-5	10 mg/m3 (TWA)	06 2008	TN OEL
Glycerine (Respirable fraction and dust or fume.)	56-81-5	5 mg/m3 (TWA)	06 2008	TN OEL
Glycerine (Particulate.)	56-81-5	50 ug/m3 (ST ESL)	02 2013	TX ESL
Glycerine (Particulate.)	56-81-5	5 ug/m3 (AN ESL)	02 2013	TX ESL
Glycerine (Vapor.)	56-81-5	100 ug/m3 (AN ESL)	02 2013	TX ESL
Glycerine (Vapor.)	56-81-5	1000 ug/m3 (ST ESL)	02 2013	TX ESL

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**Exposure controls**

**Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

**Respiratory protection**

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Hand protection**

Chemical resistant nitrile rubber gloves

**Eye protection**

Goggles



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

5/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

---

<b>Skin and body protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>General protective measures</b>	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	white to light beige
<b>Physical State</b>	Liquid
<b>Odor</b>	musty earthy
<b>Odour Threshold</b>	no data available
<b>pH</b>	3.5 - 5.5 (100 %)
<b>Vapor Pressure</b>	no data available
<b>Vapor Density (Air = 1)</b>	no data available
<b>Density</b>	1.08 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	no data available
<b>Boiling Point</b>	no data available
<b>Melting / Freezing Point</b>	no data available
<b>Water solubility</b>	miscible
<b>Minimum Ignition Energy</b>	not applicable
<b>Decomposition temperature</b>	not applicable
<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Viscosity</b>	900 - 1,500 mPa.s
<b>Flash point</b>	Not combustible.
<b>Autoignition temperature</b>	no data available



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
10200012417

6/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

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<b>Lower explosion limit</b>	no data available
<b>Upper explosion limit</b>	no data available
<b>Explosivity</b>	not applicable

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**SECTION 10: STABILITY AND REACTIVITY**

**Reactivity**

**Thermal decomposition**      not applicable

**Chemical stability**              Stable under normal conditions.

**Possibility of hazardous reactions**      No dangerous reaction known under conditions of normal use.

**Conditions to avoid**              freezing

**Incompatible materials**          no data available

**Hazardous decomposition products**      No decomposition products expected under normal conditions of use.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

**Exposure routes**                  Ingestion, Inhalation, Eye contact, Skin Absorption

**Immediate Effects**

**Eye**                                      May be minimally irritating following prolonged direct contact.

**Skin**                                     Harmful if absorbed through skin. May cause slight irritation.

**Ingestion**                             Harmful if swallowed.

**Inhalation**                            Harmful if inhaled. Mists may cause respiratory tract irritation.

**Information on toxicological effects**

**Acute oral toxicity**                LD50 (male/female combined rat) > 2,000 mg/kg



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

7/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

<b>Acute inhalation toxicity</b>	LC50 (male/female combined rat) 1.8 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
	LC50 (male/female combined rat) > 7.2 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
<b>Acute dermal toxicity</b>	LD50 (male/female combined rat) > 2,000 mg/kg
<b>Skin irritation</b>	Slight irritation (rabbit)
<b>Eye irritation</b>	Minimally irritating. (rabbit)
<b>Sensitisation</b>	Non-sensitizing. (guinea pig)

**Assessment repeated dose toxicity**  
Spiromesifen did not cause specific target organ toxicity in experimental animal studies.

**Assessment Mutagenicity**  
Spiromesifen was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment Carcinogenicity**  
Spiromesifen was not carcinogenic in lifetime feeding studies in rats and mice.

**ACGIH**  
None.

**NTP**  
None.

**IARC**  
None.

**OSHA**  
None.

**Assessment toxicity to reproduction**  
Spiromesifen caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Spiromesifen is related to parental toxicity.

**Assessment developmental toxicity**  
Spiromesifen caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Spiromesifen are related to maternal toxicity.

**Further information**  
Only acute toxicity studies have been performed on the formulated product.



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

8/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

The non-acute information pertains to the active ingredient(s).

**SECTION 12: ECOLOGICAL INFORMATION**

<b>Toxicity to fish</b>	LC50 (Rainbow trout ( <i>Oncorhynchus mykiss</i> )) 0.0155 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient spiromesifen.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Water flea ( <i>Daphnia magna</i> )) > 0.0923 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient spiromesifen.
<b>Toxicity to aquatic plants</b>	IC50 ( <i>Pseudokirchneriella subcapitata</i> ) > 0.094 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient spiromesifen.
<b>Biodegradability</b>	Spiromesifen: not rapidly biodegradable
<b>Koc</b>	Spiromesifen: Koc:30900
<b>Bioaccumulation</b>	Spiromesifen: Bioconcentration factor (BCF) 545 Does not bioaccumulate.
<b>Mobility in soil</b>	Spiromesifen: Immobile in soil
<b>Environmental precautions</b>	Apply this product as specified on the label. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Product</b>	Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
<b>Contaminated packaging</b>	Do not re-use empty containers. Triple rinse containers.





**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

9/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

Empty residue into application equipment.  
Puncture container to avoid re-use.  
Dispose of empty container in a sanitary landfill or by incineration,  
or, if allowed by State/Provincial and local authorities, by burning.  
If burned, stay out of smoke.

**RCRA Information**

Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

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**SECTION 14: TRANSPORT INFORMATION**

**49CFR** Not dangerous goods / not hazardous material

**IMDG**

UN number **3082**  
Class 9  
Packaging group III  
Marine pollutant YES  
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(SPIROMESIFEN SOLUTION)

**IATA**

UN number **3082**  
Class 9  
Packaging group III  
Environm. Hazardous Mark YES  
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(SPIROMESIFEN SOLUTION )

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

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**SECTION 15: REGULATORY INFORMATION**

**EPA Registration No.** 432-1279  
**US Federal Regulations**  
**TSCA list**  
Glycerine 56-81-5



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
10200012417

10/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

None.

**SARA Title III - Section 302 - Notification and Information**

None.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

None.

**US States Regulatory Reporting**

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

Glycerine	56-81-5	MN
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**Canadian Regulations**

**Canadian Domestic Substance List**

Glycerine	56-81-5
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**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**International Regulations**

**European Inventory of Existing Commercial Substances (EINECS)**

Glycerine	56-81-5
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**EPA/FIFRA Information:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed, inhaled or absorbed through the skin.  
Avoid contact with skin, eyes and clothing.  
Avoid breathing spray mist.  
Wash thoroughly with soap and water after handling.

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**SECTION 16: OTHER INFORMATION**



**FORBID® 4F ORNAMENTAL INSECTICIDE/MITICIDE**

Version 2 / USA  
102000012417

11/11  
Revision Date: 02/07/2014  
Print Date: 03/25/2015

---

NFPA 704 (National Fire Protection Association):

Health - 2      Flammability - 0      Instability - 0      Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 2      Flammability - 0      Physical Hazard - 0      PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

Revision Date: 02/07/2014

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