



LUXEMBOURG

# SAFETY DATA SHEET

Issue date: 08/06/2015

## 1. Identification of the substance or mixture and of the supplier

**Product:** Tebuconazole 38.7%  
**Commercial product names:** Tegrol<sup>®</sup> 3.6F, Integral 3.6F  
**Recommended use:** Fungicide  
**EPA registration number:** 42519-28  
**Supplier:** Luxembourg-Pamol, Inc.  
3647 Willowbend Boulevard, Suite 810  
Houston, TX 77054, USA  
Tel: 877-343-4239  
**Manufacture:** Luxembourg Industries Ltd.  
27 Hamered St., Tel Aviv, 6812509  
ISRAEL  
**Emergency phone number:** +972 3 796 4300  
**For USA Only:** 1-800-424-9300

\*Tegrol<sup>®</sup> is a registered trademark of Luxembourg

## 2. Hazards identification

**Classification of the product** (two classifications are presented: a. according to Global Harmonized System of Classification and Labelling of Chemicals (GHS, *fifth revised edition, 2013*) and b. according to OSHA HCS 2012, 29 C.F.R. § 1910.1200

### a. ACCORDING TO GHS

**Hazard classification:** Reproductive toxicity: Category 2  
Acute toxicity, Oral: Category 5  
Hazardous to the aquatic environment  
Acute hazard: Category 2  
Long term hazard: Category 2

**Label elements:** Pictogram:  Signal word: Warning

**Hazard statement(s):** H361 Suspected of damaging fertility or the unborn child.  
H303 May be harmful if swallowed.  
H411 Toxic to aquatic life with long lasting effects.

### Precautionary statement(s):

Prevention: P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.


Tebuconazole 38.7% SDS

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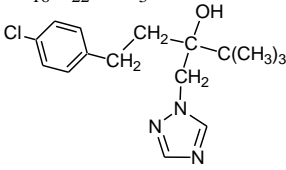
**LUXEMBOURG-PAMOL, INC.**

	P280	wear protective gloves/protective clothing/eye protection/face protection.
	P273	Avoid release to the environment.
Response:	P308+P313 P312 P391	IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Collect spillage.
Storage:	P405	Store locked up.
Disposal:	P501	Dispose contents/container in accordance with local regulations.

#### b. ACCORDING TO OSHA HCS 2012, 29 C.F.R. § 1910.1200

<b>Hazard(s) identification:</b>	Reproductive toxicity Category 2
<b>Hazard statement:</b>	Suspected of damaging fertility or the unborn child.
<b>Signal word:</b>	Warning
<b>Pictogram:</b>	Health hazard 
<b>Precautionary statements:</b>	
Prevention:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.
Response:	If exposed or concerned: Get medical advice/attention.
Storage:	Store locked up.
Disposal:	Dispose of contents/container in accordance with local regulations.
<b>Hazards Not Otherwise Classified (HNOC):</b>	Not known.

### 3. Information on ingredients contributing to hazard

<b>Common name of the a.i.*:</b>	Tebuconazole
<b>Chemical name of the a.i.:</b>	( <i>RS</i> )-1- <i>p</i> -chlorophenyl-4,4-dimethyl-3-(1 <i>H</i> -1,2,4-triazol-1-ylmethyl)pentan-3-ol (IUPAC)
<b>Chemical formula:</b>	C <sub>16</sub> H <sub>22</sub> ClN <sub>3</sub> O
<b>Structural formula:</b>	
<b>CAS No.:</b>	107534-96-3
<b>Content:</b>	37.5-39.8%, 433 g/L

\*a.i. – active ingredient

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#### 4. First aid measures

- Ingestion:** 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.
- Inhalation:** Move person 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 poison control center or doctor for further treatment advice.
- Eyes:** Hold eye 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 eye.  
Call a poison control center or doctor for treatment advice.
- Skin:** 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.

#### Most important symptoms and effects, both acute and delayed.

No human information available. The symptoms of acute poisoning described in rats consisted of sedation, locomotor incoordination, spastic gait and emaciation. Chronic or delayed effect: this product is suspected as human reproductive toxicant.

#### Indication of any immediate medical attention and special treatment needed.

There is no specific antidote. Treat symptomatically.

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#### 5. Fire-fighting measures

- Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide (CO<sub>2</sub>).
- Specific hazards arising from the substance or mixture:** Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride gas.
- Special protective equipment and precautions for firefighters:** Clear fire area of all non-emergency personnel. Stay upwind of fire. Wear chemical protective clothing and self-contained breathing apparatus (SCBA) with positive pressure.
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## 6. Accidental release measures

<b>Personal precautions, protective equipment:</b>	Use personal protective equipment. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
<b>Environmental precautions:</b>	Prevent further leakage or spillage if safe to do so. Do not let the product enter soil, waterways or drains. Avoid discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters. Avoid release to the environment.
<b>Methods and materials for containment and cleaning up:</b>	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Collect and transfer the residues into suitable labelled and tightly closed containers for disposal according to the local regulations. Clean contaminated floors and objects thoroughly, preferably with a detergent. Contaminated soil may have to be removed and disposed.

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## 7. Handling and storage

<b>Precautions for safe handling:</b>	Wear suitable protective clothing. Do not eat, drink or smoke during product handling. Handle and open container in a manner to avoid spillage and formation of aerosols. Provide appropriate exhaust ventilation to maintain low exposure levels. Normal measures for preventive fire protection.
<b>Conditions for safe storage, including any incompatibilities:</b>	Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of reach of children, preferably in a locked storage area. Keep container tightly closed and well-ventilated place.

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## 8. Exposure controls / personal protection

<b>Occupational exposure limits:</b>	OSHA PEL-TWA: Not established ACGIH (2015) TLV-TWA: Not established Workplace exposure limits (WELs): Not established
<b>Appropriate engineering controls:</b>	When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler Personal Protective Equipment (PPE) requirements may be reduced or modified as specified in the WPS. However, full PPE must be available in the event that the handler exits the aircraft, enclosed cab, etc., prior to the restricted entry interval (REI).

## Personal protective equipment:

<b>Respiratory protection:</b>	Where 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.
<b>Eye protection:</b>	Face shield and safety glasses.
<b>Skin /face protection:</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>Hand protection:</b>	Chemical-resistant gloves with barrier laminate made of materials such as, butyl rubber thicker than 14 mils, nitrile rubber thicker than 14 mils, neoprene rubber thicker than 14 mils, PVC thicker than 14 mils, and Vitron thicker than 14 mils. For additional options, follow the instructions for Category C, on an EPA chemical-resistant category selection chart.
<b>Hygiene measures:</b>	Avoid contact with skin, eyes and clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately after handling this product or if pesticide gets inside. Before removing gloves clean them with soap and water. Wash thoroughly and put on clean clothing.

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## 9. Physical and chemical properties

<b>Appearance:</b>	Thick, opaque liquid
<b>Color:</b>	Off-white
<b>Odor:</b>	Faint odour
<b>Odor threshold:</b>	Not available
<b>pH (25°C):</b>	6.5
<b>Melting point/Freezing point:</b>	Not available
<b>Boiling point:</b>	Not available
<b>Evaporation rate:</b>	Not available
<b>Flash point:</b>	> 100°C No flash point. Determination conducted up to the boiling point.
<b>Flammability:</b>	Not flammable
<b>Upper/lower flammability or explosive limits:</b>	Not relevant
<b>Vapour pressure (25°C):</b>	Not available
<b>Vapour density:</b>	Not available
<b>Bulk density (20°C):</b>	1.09 g/mL
<b>Relative density:</b>	Not available
<b>Solubility in water (23°C):</b>	0.04 g/L*
<b>Partition coefficient n-octanol/water <math>K_{ow}</math> log P:</b>	3.76 (20°C)*

<b>Ignition temperature:</b>	Not available
<b>Decomposition temperature:</b>	Not available
<b>Viscosity:</b>	197.4 cSt at 20°C 117 cSt at 40°C

\* For tebuconazole technical grade

## 10. Stability and reactivity

<b>Reactivity:</b>	Not available.
<b>Chemical stability:</b>	Stable under normal conditions of storage and handling. Store in a cool, well-ventilated place away from foodstuffs and oxidizing agents.
<b>Possibility of hazardous reactions:</b>	Not available.
<b>Conditions to avoid:</b>	Not available.
<b>Incompatible materials:</b>	Strong oxidizing agent, like Potassium permanganate <sup>1</sup>
<b>Hazardous decomposition products:</b>	Not available.

## 11. Toxicological information

### Acute toxicity

Oral LD <sub>50</sub> (rat):	3129 mg/kg
Dermal LD <sub>50</sub> (rabbit):	>5000 mg/kg
Inhalation LC <sub>50</sub> (rat):	>5.093 mg/L (a.i.)

### Skin corrosion/irritation

Skin irritation (rabbit):	Not irritating to skin
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### Serious eye damage/irritation

Eye irritation (rabbit):	Not irritating to eyes
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### Respiratory or skin sensitization

Dermal sensitization (guinea pig):	Not a contact sensitizer
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### Germ cell mutagenicity:

Not available

### Carcinogenicity:

NTP: Not listed

OSHA: Not listed

IARC: Not listed (Tebuconazole technical grade)

### Reproductive toxicity:

GHS-classification: Category 2. Suspected of damaging fertility or the unborn child. (Tebuconazole technical grade)

### STOT\* single exposure:

Not available

### STOT repeated exposure:

Not available

### Aspiration hazard:

Not available

\*Specific Target Organ Toxicity

## 12. Ecological information\*

### Ecotoxicity:

#### Birds:

Bobwhite quail LD <sub>50</sub> :	1988 mg/kg
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**Fish:**

Bluegill sunfish LC <sub>50</sub> (96 h):	5.7 mg/L
Rainbow trout LC <sub>50</sub> (96 h):	4.4 mg/L
Chronic, NOEC (flow through, 83 d):	0.012 mg/L

**Crustacea:**

<i>Daphnia magna</i> EC <sub>50</sub> (48 h):	4.2 mg/L
Chronic, flow through NOEC (21 d):	0.12 mg/L
Chronic, static NOEC (21 d):	0.01 mg/L

**Algae:**

<i>Selenastrum capricornutum</i> ErC <sub>50</sub> (static, 72 h):	3.8 mg/L
NOEC (static, 72 h):	1.19 mg/L

**Bees:**

<i>Apis mellifera</i> LD <sub>50</sub> (48 h, oral)	83 µg/bee
<i>Apis mellifera</i> LD <sub>50</sub> (Contact)	≥200 µg/bee

<b>Persistence and degradability:</b>	Not readily biodegradable
<b>Bioaccumulative potential:</b>	Bioconcentration factor (BCF): 78
<b>Mobility in soil:</b>	It is strongly bound to soil and has low mobility.
<b>Other adverse effects:</b>	Not available

\* For tebuconazole technical grade

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**13. Disposal considerations**

**According to FIFRA:** Pesticide wastes are toxic. 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.

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**14. Transport information**

<b>UN No.:</b>	3082
<b>Proper shipping name:</b>	Environmentally hazardous substance, liquid, n.o.s. (tebuconazole)
<b>Transport hazard class:</b>	9
<b>Packaging group:</b>	III
<b>Marine pollutant:</b>	Yes

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**15. Regulatory information**

This data sheet complies with the requirements of the Global Harmonized System of Classification and Labelling of chemicals (GHS) and the Occupational Safety and Health Standards HCS 2012, 29 C.F.R. § 1910.1200 (OSHA).

**According to FIFRA:** 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 as required on the pesticide label:

**CAUTION**  
Harmful if swallowed.

**TSCA Inventory:** This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

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## 16. Other information

*The information contained herein is applicable solely to the indicated product, and does not relate to any other use of this product as described. Its use is intended by persons having technical skill and at their own discretion and risk. The information has been developed from sources reliable. This information is furnished without warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose is made with respect to the information contained herein.*

Issue date: 08/06/2015 (LS, EA)  
Version: 2  
Replace version: 1 from 02/05/2012