

<p style="text-align: center;"><b>MONSANTO Europe S.A.</b> Safety Data Sheet Commercial Product</p>
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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name**

**Latitude®**

**Product use**

Fungicide

**Chemical name**

Not applicable.

**Synonyms**

None.

**Company/(Sales office)**

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## 2. HAZARDS IDENTIFICATION

**EU label (manufacturer self-classification)** - Classification following the EU Dangerous Preparations' Directive 1999/45/EC.

Not classified as dangerous.

**National classification** - U.K.

Xi - Irritant, N - Dangerous for the environment

R43 May cause sensitization by skin contact.

R52 Harmful to aquatic organisms.

R53 May cause long-term adverse effects in the aquatic environment.

**Potential health effects**

**Likely routes of exposure**

Skin contact, eye contact

**Eye contact, short term**

Not expected to produce significant adverse effects when recommended use instructions are followed.

**Skin contact, short term**

Not expected to produce significant adverse effects when recommended use instructions are followed.

**Inhalation, short term**

Not expected to produce significant adverse effects when recommended use instructions are followed.

**Potential environmental effects**

Not expected to produce significant adverse effects when recommended use instructions are followed.

Refer to section 11 for toxicological and section 12 for environmental information.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Active ingredient**

2-trimethylsilyl-4,5-dimethyl-3-thiophenecarboxylic acid allyl amide; {Silthiofam}

**Composition**

Components	CAS No.	EINECS/ ELINCS No.	% by weight (approximate)	EU Symbols & R phrases of components
Silthiofam	175217-20-6		12	R52/53; { a}
Water	7732-18-5	231-791-2	63	
Minor formulating ingredients			25	

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#### 4. FIRST AID MEASURES

Use personal protection recommended in section 8.

##### Eye contact

Immediately flush with plenty of water.  
If easy to do, remove contact lenses.

##### Skin contact

Wash affected skin with plenty of water.  
Use soap if available.  
Take off contaminated clothing, wristwatch, jewellery.  
Wash clothes and clean shoes before re-use.

##### Inhalation

Remove to fresh air.

##### Ingestion

Immediately give a suspension of activated charcoal to drink.  
Immediately get medical advice from a poison control center or doctor.

##### Advice to doctors

No symptoms diagnostic of systemic poisoning with this product.

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#### 5. FIRE-FIGHTING MEASURES

##### Flash point

Does not flash.

##### Extinguishing media

Recommended: Water, foam, dry chemical, carbon dioxide (CO<sub>2</sub>)

##### Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.  
Environmental precautions: see section 6.

##### Hazardous products of combustion

Carbon monoxide (CO), sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), oxides of silica

##### Fire fighting equipment

Self-contained breathing apparatus.  
Equipment should be thoroughly decontaminated after use.

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#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions

Use personal protection recommended in section 8.

##### Environmental precautions

SMALL QUANTITIES:  
Low environmental hazard.  
LARGE QUANTITIES:  
Minimise spread.  
Contain spillage with sand bags or other means.

Keep out of drains, sewers, ditches and water ways.  
Notify authorities.

#### Methods for cleaning up

SMALL QUANTITIES:

Flush spill area with water.

LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.

Dig up heavily contaminated soil.

Collect in containers for disposal.

Refer to section 7 for types of containers.

Wash spill area with detergent and water.

Refer to section 13 for disposal of spilled material.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

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## 7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

#### Handling

When using do not eat, drink or smoke.

Wash hands thoroughly after handling or contact.

Thoroughly clean equipment after use.

Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.

Emptied containers retain vapour and product residue.

Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.

#### Storage

Minimum storage temperature: 0 °C

Maximum storage temperature: 40 °C

Compatible materials for storage: stainless steel, high-density polyethylene (HDPE), polypropylene (PP)

Keep out of reach of children.

Keep away from food, drink and animal feed.

Keep only in the original container.

Minimum shelf life: 2 years.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Airborne exposure limits

Components	Exposure Guidelines
Silthiofam	No specific occupational exposure limit has been established.
Water	No specific occupational exposure limit has been established.
Minor formulating ingredients	No specific occupational exposure limit has been established.

#### Engineering controls

No special requirement when used as recommended.

#### Eye protection

No special requirement when used as recommended.

#### Skin protection

If repeated or prolonged contact:

Wear chemical resistant gloves.

#### Respiratory protection

No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range:	Red
Odour:	Paint-like
Form:	Suspension
Physical form changes (melting, boiling, etc.):	
Melting point:	Not applicable.
Boiling point:	100 °C
Flash point:	Does not flash.
Explosive properties:	No explosive properties
Auto ignition temperature:	425 °C
Specific gravity:	1.058 @ 20 °C / 4 °C
Vapour pressure:	No significant volatility.
Vapour density:	Not applicable.
Evaporation rate:	No data.
Dynamic viscosity:	15.8 - 93.1 mPa·s @ 20 °C
Kinematic viscosity:	Not applicable.
Density:	1.058 g/cm <sup>3</sup> @ 20 °C
Solubility:	Water: Completely miscible.
pH:	8.7 @ 20 °C @ 10 g/l
Partition coefficient:	log Pow: 3.48 @ 20 °C (active ingredient)

## 10. STABILITY AND REACTIVITY

### Stability

Stable under normal conditions of handling and storage.

### Oxidizing properties

No data.

### Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

## 11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Data obtained on product and components are summarized below.

### Acute oral toxicity

**Rat, LD50:** > 5,000 mg/kg body weight/day

Target organs/systems: none

Other effects: none

No mortality.

### Acute dermal toxicity

**Rat, LD50:** > 5,000 mg/kg body weight

Target organs/systems: none

Other effects: none

No mortality.

### Skin irritation

**Rabbit, 6 animals, OECD 404 test:**

Redness, mean EU score: 0.22  
Swelling, mean EU score: 0.00  
Days to heal: 3

#### **Eye irritation**

##### **Rabbit, 6 animals, OECD 405 test:**

Conjunctival redness, mean EU score: 0.06  
Conjunctival swelling, mean EU score: 0.00  
Corneal opacity, mean EU score: 0.00  
Iris lesions, mean EU score: 0.00  
Days to heal: 2

#### **Skin sensitization**

##### **Guinea pig, maximisation test:**

Positive incidence: 0 %

#### **Active ingredient**

#### **Mutagenicity**

##### **In vitro and in vivo mutagenicity test(s):**

Not mutagenic.

#### **Repeated dose toxicity**

##### **Mouse, oral, 60 days:**

NOAEL toxicity: 1,000 mg/kg diet  
Target organs/systems: liver  
Other effects: decrease of body weight gain, organ weight change, haematological effects, histopathologic effects, blood biochemistry effects

##### **Rat, oral, 3 months:**

NOAEL toxicity: 250 mg/kg diet  
Target organs/systems: liver  
Other effects: decrease of food consumption, weight loss, decrease of body weight gain, organ weight change, haematological effects, histopathologic effects, blood biochemistry effects

##### **Rat, dermal, 21 days:**

NOAEL toxicity: 1,000 mg/kg body weight/day  
Target organs/systems: none  
Other effects: none

#### **Chronic effects/carcinogenicity**

##### **Rat, oral, 23 months:**

NOAEL toxicity: 100 mg/kg diet  
Target organs/systems: liver  
Other effects: decrease of food consumption, decrease of body weight gain, organ weight change, histopathologic effects, increased mortality, blood biochemistry effects  
NOEL tumour:  $\geq$  3,000 mg/kg diet  
Tumours: none

##### **Mouse, oral, 18 months:**

NOAEL toxicity: 1,000 mg/kg diet  
Target organs/systems: liver  
Other effects: weight loss, decrease of body weight gain, organ weight change, histopathologic effects, blood biochemistry effects  
NOEL tumour: 4,000 mg/kg diet  
Tumours: liver, (adenoma), (carcinoma)  
Tumours not relevant to man.

#### **Toxicity to reproduction/fertility**

##### **Rat, oral, 2 generations:**

NOAEL toxicity: 400 mg/kg diet  
NOAEL reproduction:  $>$  4,000 mg/kg diet  
Target organs/systems in parents: kidneys, liver  
Other effects in parents: weight loss, decrease of body weight gain, histopathologic effects, decrease of food consumption, organ weight change  
Other effects in pups: weight loss  
Effects on offspring only observed with maternal toxicity.

#### **Developmental toxicity/teratogenicity**

##### **Rat, oral, 6 - 15 days of gestation:**

NOAEL toxicity: 50 mg/kg body weight/day  
NOAEL development: 500 mg/kg body weight/day  
Target organs/systems in mother animal: liver  
Other effects in mother animal: organ weight change  
Developmental effects: weight loss, post-implantation loss, delayed ossification  
Effects on offspring only observed with maternal toxicity.

**Rabbit, oral, 7 - 19 days of gestation:**

NOAEL toxicity: 60 mg/kg body weight/day  
NOAEL development: 60 mg/kg body weight/day  
Other effects in mother animal: none  
Developmental effects: none

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## 12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on product, similar products and on components are summarized below.

### Arthropod toxicity

**Honey bee (*Apis mellifera*):**

Contact, 48 hours, LD50: > 837 µg/bee

**Honey bee (*Apis mellifera*):**

Oral, 48 hours, LD50: > 871 µg/bee

### Similar formulation

Data obtained on product, similar products and on components are summarized below.

### Soil organism toxicity, microorganisms

**Nitrogen and carbon transformation test:**

80 g/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.

### Active ingredient

#### Aquatic toxicity, fish

**Rainbow trout (*Oncorhynchus mykiss*):**

Acute toxicity, 96 hours, static, LC50: 14 mg/L

**Bluegill sunfish (*Lepomis macrochirus*):**

Acute toxicity, 96 hours, static, LC50: 11 mg/L

#### Aquatic toxicity, invertebrates

**Water flea (*Daphnia magna*):**

Acute toxicity, 48 hours, static, EC50: 14 mg/L

#### Aquatic toxicity, algae/aquatic plants

**Green algae (*Selenastrum capricornutum*):**

Acute toxicity, 72 hours, static, ErC50 (growth rate): 13 mg/L

#### Avian toxicity

**Bobwhite quail (*Colinus virginianus*):**

Dietary toxicity, 5 days, LC50: > 5,670 mg/kg diet

**Mallard duck (*Anas platyrhynchos*):**

Dietary toxicity, 5 days, LC50: > 5,400 mg/kg diet

**Japanese quail (*Coturnix coturnix japonica*):**

Acute oral toxicity, LD50: > 2,250 mg/kg body weight

#### Soil organism toxicity, invertebrates

**Earthworm (*Eisenia foetida*):**

Acute toxicity, 14 days, LC50: 133 mg/kg dry soil

#### Bioaccumulation

**Rainbow trout (*Oncorhynchus mykiss*):**

Whole fish: BCF: 98

Rapid depuration after end of exposure.

#### Photochemical degradation

**Water:**

Half life: 16 days

**Dissipation**

**Soil, 20 °C:**

Half life: 25 - 34 days

**Water/sediment, aerobic, 20 °C:**

Half life: 5 - 52 days

**Biodegradation**

**Modified Sturm test:**

Degradation: 2 % within 28 days

Not readily biodegradable.

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### 13. DISPOSAL CONSIDERATIONS

**Product**

Recycle if appropriate facilities/equipment available.

Burn in proper incinerator.

Dispose of as hazardous industrial waste.

Keep out of drains, sewers, ditches and water ways.

Follow all local/regional/national/international regulations.

**Container**

Empty packaging completely.

Do NOT re-use containers.

Dispose of as hazardous industrial waste.

Store for collection by approved waste disposal service.

Consult supplier for specialist advice.

Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

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### 14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Not regulated for transport under ADR/RID, IMO, or IATA/ICAO Regulations

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### 15. REGULATORY INFORMATION

**EU label (manufacturer self-classification)** - Classification following the EU Dangerous Preparations' Directive 1999/45/EC.

Not classified as dangerous.

**National classification** - U.K.

Xi - Irritant, N - Dangerous for the environment

R43 May cause sensitization by skin contact.

R52 Harmful to aquatic organisms.

R53 May cause long-term adverse effects in the aquatic environment.

S24 Avoid contact with skin.

S35 This material and its container must be disposed of in a safe way.

S37 Wear suitable gloves.

S57 Use appropriate containment to avoid environmental contamination.

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### 16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.

Follow all local/regional/national/international regulations.

Please consult supplier if further information is needed.

This Safety Data Sheet has been prepared following the EU Directive 91/155/EEC as last amended by EU Directive 2001/58/EC and according to EU Regulation 1907/2006.

In this document the British spelling was applied.

® Registered trademark.

|| Significant changes versus previous edition.

**EU Symbols & R phrases of components**

Components	EU Symbols & R phrases of components
Silthiofam	R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Water	
Minor formulating ingredients	

Endnotes:

{ a} EU label (manufacturer self-classification)

{ b} EU label (Annex I)

{ c} National classification

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

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