

## ACTELLIC 050 EC

Version 15.0      Revision Date: 10.07.2018      SDS Number: S176502012      This version replaces all previous versions.

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : ACTELLIC 050 EC

Design code : A5832C

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Insecticide

#### 1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG  
Postfach  
CH-4002 Basel  
Switzerland

Telephone : +41 61 323 11 11

Telefax : +41 61 323 12 12

E-mail address of person responsible for the SDS : sds.ch@syngenta.com

#### 1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3      H226: Flammable liquid and vapour.

Acute toxicity, Category 4      H302: Harmful if swallowed.

Serious eye damage, Category 1      H318: Causes serious eye damage.

Skin sensitisation, Category 1      H317: May cause an allergic skin reaction.

Specific target organ toxicity - single exposure, Category 1      H370: Causes damage to organs.

Specific target organ toxicity - single exposure, Category 3, Central nervous      H336: May cause drowsiness or dizziness.

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system

Specific target organ toxicity - single exposure, Category 3, Respiratory system

H335: May cause respiratory irritation.

Aspiration hazard, Category 1

H304: May be fatal if swallowed and enters airways.

Short-term (acute) aquatic hazard, Category 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.  
H370 Causes damage to organs.  
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements : **Prevention:**  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

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P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.  
P331 Do NOT induce vomiting.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P391 Collect spillage.

Hazardous components which must be listed on the label:

pirimiphos-methyl (ISO)  
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified  
calcium dodecylbenzenesulphonate  
2-methylpropan-1-ol

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

This product contains an anticholinesterase compound. Do not use if under medical advice not to work with such compounds.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
pirimiphos-methyl (ISO)	29232-93-7 249-528-5 015-134-00-5	Acute Tox. 4; H302 STOT SE 1; H370 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 30 - < 50
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	64742-95-6 265-199-0 649-356-00-4 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 STOT SE 3; H335 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 30 - < 50
calcium dodecylbenzenesulphonate	26264-06-2 247-557-8	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 10
4-methylpentan-2-one	108-10-1 203-550-1 606-004-00-4 01-2119473980-30	Flam. Liq. 2; H225 Acute Tox. 4; H332 Eye Irrit. 2; H319 STOT SE 3; H335	>= 1 - < 10
2-methylpropan-1-ol	78-83-1 201-148-0 603-108-00-1	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 1 - < 3

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	01-2119484609-23	STOT SE 3; H336 STOT SE 3; H335	
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For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with soap and plenty of water.  
If skin irritation persists, call a physician.  
Wash off immediately with plenty of water.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.  
Do NOT induce vomiting.

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

- Symptoms : Poisoning produces effects associated with anticholinesterase activity which may include:  
Nausea  
Diarrhoea  
Vomiting

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

- Treatment : Consider taking venous blood for determination of blood cholinesterase activity (use heparin tube)  
Administer atropine sulphate as antidote.  
Specific antidotes are oximes (e.g. Pralidoxime) or Toxogonin

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

#### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.  
Flash back possible over considerable distance.

#### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.
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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Refer to protective measures listed in sections 7 and 8.  
Keep people away from and upwind of spill/leak.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Remove all sources of ignition.  
Pay attention to flashback.

#### 6.2 Environmental precautions

- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

#### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to

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local / national regulations (see section 13).  
Clean contaminated surface thoroughly.  
Clean with detergents. Avoid solvents.  
Retain and dispose of contaminated wash water.

### 6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.  
When using do not eat, drink or smoke.  
Use only in an area containing flame proof equipment.  
Take precautionary measures against static discharges.  
For personal protection see section 8.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. No smoking.

Further information on storage stability : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

### 7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
pirimiphos-methyl (ISO)	29232-93-7	TWA	3 mg/m <sup>3</sup> (Skin)	Syngenta
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	64742-95-6	TWA	19 ppm 100 mg/m <sup>3</sup>	Supplier
4-methylpentan-2-	108-10-1	TWA	20 ppm	2000/39/EC

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one			83 mg/m <sup>3</sup>	
Further information	Indicative			
	108-10-1	STEL	50 ppm 208 mg/m <sup>3</sup>	2000/39/EC
Further information	Indicative			
	108-10-1	TWA	20 ppm 82 mg/m <sup>3</sup>	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Deutsche Forschungsgemeinschaft, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
	108-10-1	STEL	40 ppm 164 mg/m <sup>3</sup>	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Deutsche Forschungsgemeinschaft, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
2-methylpropan-1-ol	78-83-1	TWA	50 ppm 150 mg/m <sup>3</sup>	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
	78-83-1	STEL	50 ppm 150 mg/m <sup>3</sup>	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			

### Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
4-methylpentan-2-one	108-10-1	4-methylpentan-2-one: 20 micromol per litre (Urine)	Immediately after exposition or after working hours	CH BAT
		4-methylpentan-2-one: 2 mg/l (Urine)	Immediately after exposition or after working hours	CH BAT

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -	Workers	Inhalation	Long-term systemic effects	150 mg/m <sup>3</sup>

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unspecified				
	Workers	Dermal	Long-term systemic effects	25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	11 mg/kg
	Consumers	Oral	Long-term systemic effects	11 mg/kg
calcium dodecylbenzenesulphonate	Workers	Dermal	Long-term systemic effects	1.7 mg/kg
	Consumers	Dermal	Acute systemic effects	85 mg/kg
	Consumers	Oral	Long-term local effects	89 mg/kg
4-methylpentan-2-one	Workers	Inhalation	Long-term systemic effects	83 mg/m <sup>3</sup>
	Workers	Inhalation	Acute systemic effects	208 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	83 mg/m <sup>3</sup>
	Workers	Inhalation	Acute local effects	208 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	11.8 mg/kg
	Consumers	Inhalation	Long-term systemic effects	14.7 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute systemic effects	155.2 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	14.7 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute local effects	155.2 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	4.2 mg/kg
	Consumers	Oral	Long-term systemic effects	4.2 mg/kg
2-methylpropan-1-ol	Workers	Inhalation	Long-term systemic effects, Long-term local effects	310 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	55 mg/m <sup>3</sup>
	Consumers	Oral	Long-term systemic effects, Long-term local effects	25 mg/kg

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

Substance name	Environmental Compartment	Value
calcium dodecylbenzenesulphonate	Fresh water	0.023 mg/l
	Marine water	0.0023 mg/l
	Intermittent use/release	0.01 mg/l
	Fresh water sediment	0.174 mg/kg



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	Marine sediment	0.0174 mg/kg
	Sewage treatment plant	3 mg/kg
	Soil	0.62 mg/kg
4-methylpentan-2-one	Fresh water	0.6 mg/l
	Marine water	0.06 mg/l
	Freshwater - intermittent	1.5 mg/l
	Sewage treatment plant	27.5 mg/l
	Fresh water sediment	8.27 mg/kg
	Marine sediment	0.83 mg/kg
	Soil	1.3 mg/kg
2-methylpropan-1-ol	Fresh water	0.4 mg/l
	Sewage treatment plant	10 mg/l
	Soil	0.0699 mg/kg
	Marine sediment	0.152 mg/kg
	Fresh water sediment	1.52 mg/kg
	Marine water	0.04 mg/l

### 8.2 Exposure controls

#### Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.  
Where necessary, seek additional occupational hygiene advice.

#### Personal protective equipment

Eye protection : Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.  
Tightly fitting safety goggles  
Face-shield

Use eye protection according to EN 166.

#### Hand protection

Material : Nitrile rubber  
Break through time : > 480 min  
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and

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- replaced if there is any indication of degradation or chemical breakthrough.  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
- Skin and body protection** : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Remove and wash contaminated clothing before re-use.  
Wear as appropriate:  
Impervious clothing
- Respiratory protection** : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
Suitable respiratory equipment:  
Respirator with combination filter for vapour/particulate (EN 141)  
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
- Filter type** : Combined particulates and organic vapour type (A-P)
- Protective measures** : The use of technical measures should always have priority over the use of personal protective equipment.  
When selecting personal protective equipment, seek appropriate professional advice.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

- Appearance** : liquid, clear
- Colour** : light yellow to brown
- Odour** : aromatic
- Odour Threshold** : No data available
- pH** : 4 - 8  
Concentration: 1 % w/v
- Melting point/range** : No data available
- Boiling point/boiling range** : No data available
- Flash point** : 46 °C

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	Method: Pensky-Martens closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Density	: 1.02 g/cm <sup>3</sup> (25 °C)
Solubility(ies)	
Solubility in other solvents	: Miscible Solvent: Water
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: 410 °C
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: 4.61 mPa.s (40 °C) 8.08 mPa.s (20 °C)
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

### 9.2 Other information

Surface tension : 35.3 mN/m, 25 °C

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None reasonably foreseeable.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

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### 10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Information on likely routes of exposure : Ingestion  
Inhalation  
Skin contact  
Eye contact

#### Acute toxicity

##### Product:

Acute oral toxicity : LD50 (Rat, female): 300 - 2,000 mg/kg  
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

##### Components:

##### **pirimiphos-methyl (ISO):**

Acute oral toxicity : LD50 (Rat, male and female): 1,414 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.04 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

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### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Acute oral toxicity : LD50 (Rat): 3,952 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 6.193 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Highest attainable concentration

### **4-methylpentan-2-one:**

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.

### **2-methylpropan-1-ol:**

Acute oral toxicity : LD50 (Rat): 2,830 - 3,350 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 18.18 mg/l  
Exposure time: 6 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2,000 - 2,460 mg/kg

### **Skin corrosion/irritation**

#### **Product:**

Species : Rabbit  
Result : No skin irritation

#### **Components:**

##### **pirimiphos-methyl (ISO):**

Species : Rabbit  
Result : No skin irritation

### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Species : Rabbit  
Result : No skin irritation

### **calcium dodecylbenzenesulphonate:**

Result : Irritating to skin.

### **2-methylpropan-1-ol:**

Result : Irritating to skin.

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### Serious eye damage/eye irritation

**Product:**

Species : Rabbit  
Result : Risk of serious damage to eyes.

**Components:**

**pirimiphos-methyl (ISO):**

Species : Rabbit  
Result : No eye irritation

**calcium dodecylbenzenesulphonate:**

Result : Irreversible effects on the eye

**4-methylpentan-2-one:**

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days

**2-methylpropan-1-ol:**

Result : Risk of serious damage to eyes.

### Respiratory or skin sensitisation

**Product:**

Test Type : Buehler Test  
Species : Guinea pig  
Result : May cause sensitisation by skin contact.

**Components:**

**pirimiphos-methyl (ISO):**

Species : Guinea pig  
Result : Did not cause sensitisation on laboratory animals.

### Germ cell mutagenicity

**Components:**

**pirimiphos-methyl (ISO):**

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

**Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Germ cell mutagenicity-Assessment : Weight of evidence does not support classification as a germ cell mutagen., Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

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### 2-methylpropan-1-ol:

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

### Carcinogenicity

#### Components:

#### pirimiphos-methyl (ISO):

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

#### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen, Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

### Reproductive toxicity

#### Components:

#### pirimiphos-methyl (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

#### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### 2-methylpropan-1-ol:

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### STOT - single exposure

#### Components:

#### pirimiphos-methyl (ISO):

Target Organs Assessment	: <a href="#">Central nervous system</a> : <a href="#">The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.</a>
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#### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

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### 4-methylpentan-2-one:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

### 2-methylpropan-1-ol:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

### STOT - repeated exposure

#### Components:

### pirimiphos-methyl (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Aspiration toxicity

#### Components:

### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

May be fatal if swallowed and enters airways.

### 2-methylpropan-1-ol:

May be harmful if swallowed and enters airways.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 6.2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.00048 mg/l  
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 8.27 mg/l  
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.22 mg/l  
End point: Growth rate  
Exposure time: 72 h



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### Components:

#### **pirimiphos-methyl (ISO):**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.404 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.000314 mg/l  
Exposure time: 48 h
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 3.38 mg/l  
Exposure time: 72 h
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.3 mg/l  
End point: Growth rate  
Exposure time: 72 h
- M-Factor (Short-term (acute) aquatic hazard) : 1,000
- Toxicity to microorganisms : IC50 (Pseudomonas putida): > 4.5 mg/l  
Exposure time: 6 h
- Toxicity to fish (Chronic toxicity) : NOEC: < 0.025 mg/l  
Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.00005 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- M-Factor (Long-term (chronic) aquatic hazard) : 1,000

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

- Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3.2 mg/l  
Exposure time: 48 h
- Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 2.6 - 2.9 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition
- NOELR (Pseudokirchneriella subcapitata (green algae)): 1 mg/l  
Exposure time: 72 h
- Toxicity to fish (Chronic toxicity) : NOELR: 1.23 mg/l  
Exposure time: 28 d

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Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: 2.14 mg/l  
Exposure time: 28 d  
Species: Daphnia magna (Water flea)

### Ecotoxicology Assessment

Long-term (chronic) aquatic hazard : Toxic to aquatic life with long lasting effects.

### calcium dodecylbenzenesulphonate:

#### Ecotoxicology Assessment

Long-term (chronic) aquatic hazard : Harmful to aquatic life with long lasting effects.

### 2-methylpropan-1-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,430 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): 20 mg/l  
Exposure time: 21 d

EC50 (Daphnia pulex (Water flea)): 1,100 mg/l  
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 1,799 mg/l  
Exposure time: 72 h

## 12.2 Persistence and degradability

### Components:

#### pirimiphos-methyl (ISO):

Stability in water : Degradation half life: 4 - 6 d  
Remarks: Product is not persistent.

#### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Biodegradability : Result: Readily biodegradable.

#### 2-methylpropan-1-ol:

Biodegradability : Result: Readily biodegradable.

## 12.3 Bioaccumulative potential

### Components:

#### pirimiphos-methyl (ISO):

Bioaccumulation : Remarks: High bioaccumulation potential.

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Partition coefficient: n-octanol/water : Pow: 3.9 (20 °C)  
pH: 4

Pow: 4.2 (20 °C)  
pH: 5 - 7

### 12.4 Mobility in soil

#### Components:

##### **pirimiphos-methyl (ISO):**

Distribution among environmental compartments : Remarks: Low mobility in soil.

Stability in soil : Dissipation time: 8.3 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

#### Components:

##### **pirimiphos-methyl (ISO):**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

##### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

##### **4-methylpentan-2-one:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

##### **2-methylpropan-1-ol:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not

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considered to be very persistent and very bioaccumulating (vPvB)..

### 12.6 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

- Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging : Empty remaining contents.  
Triple rinse containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.
- 

## SECTION 14: Transport information

### 14.1 UN number

- ADN : UN 1993  
ADR : UN 1993  
RID : UN 1993  
IMDG : UN 1993  
IATA : UN 1993

### 14.2 UN proper shipping name

- ADN : FLAMMABLE LIQUID, N.O.S.  
(METHYL ISOBUTYL KETONE AND SOLVENT NAPHTHA)
- ADR : FLAMMABLE LIQUID, N.O.S.  
(METHYL ISOBUTYL KETONE AND SOLVENT NAPHTHA)
- RID : FLAMMABLE LIQUID, N.O.S.  
(METHYL ISOBUTYL KETONE AND SOLVENT NAPHTHA)
- IMDG : FLAMMABLE LIQUID, N.O.S.  
(METHYL ISOBUTYL KETONE AND SOLVENT NAPHTHA)
- IATA : Flammable liquid, n.o.s.  
(METHYL ISOBUTYL KETONE AND SOLVENT NAPHTHA)
-

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### 14.3 Transport hazard class(es)

**ADN** : 3  
**ADR** : 3  
**RID** : 3  
**IMDG** : 3  
**IATA** : 3

### 14.4 Packing group

**ADN**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3

**ADR**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 33  
Labels : 3  
Tunnel restriction code : (D/E)

**RID**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3

**IMDG**  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-E

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 366  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquid

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 355  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquid

### 14.5 Environmental hazards

**ADN**  
Environmentally hazardous : yes

**ADR**  
Environmentally hazardous : yes

**RID**

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Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
(3)  
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified (29, 28)  
4-methylpentan-2-one

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
H3	STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE	50 t	200 t
P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t
E1	ENVIRONMENTAL	100 t	200 t

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### HAZARDS

#### Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Article 13 Maternity ordinance (SR 822.111.52): Expectant and nursing mothers are only permitted to come into contact with this product during the course of their work if, based on a risk assessment carried out in accordance with Article 63 of Ordinance 1 on the Employment Act (ArGV 1) (SR 822.111), the chemicals in question have been found not to cause any specific harm to mothers or children or if such harm can be ruled out by taking appropriate protective measures.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

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### SECTION 16: Other information

#### Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H226	: Flammable liquid and vapour.
H302	: Harmful if swallowed.
H304	: May be fatal if swallowed and enters airways.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H370	: Causes damage to organs.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

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### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Skin Irrit.	:	Skin irritation
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
CH BAT	:	Switzerland. List of BAT-values
CH SUVA	:	Switzerland. Limit values at the work place
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
CH SUVA / TWA	:	Time Weighted Average
CH SUVA / STEL	:	Short Term Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative



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### Further information

#### Classification of the mixture:

Flam. Liq. 3	H226
Acute Tox. 4	H302
Eye Dam. 1	H318
Skin Sens. 1	H317
<b>STOT SE 1</b>	<b>H370</b>
STOT SE 3	H336
STOT SE 3	H335
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
<b>Calculation method</b>
Calculation method
Calculation method
Calculation method
Based on product data or assessment
Calculation method

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