**قطاع التنوع الغذائي** | **رقم التسجيل :** AUD-AD-140-1475113

**إدارة التنمية والصحة الزراعية** | **التاريخ :** 30-05-2023

**تسجيل مبيد** **كيميائي** **مقيد**

**مبيد صحة عامة ( حشري)**

**تشهد وزارة التغير المناخي والبيئة بأن المبيد بالمواصفات التالية**

**الاسم التجارى للمبيد :** Actellic 50 CE

**بلد التسجيل:** المكسيك

**المواد الفعالة و تركيزها :** Pirimiphos Methyl 500 g/L

**CAS RN:** 29232-93-7

**صورة المستحضر :** Emulsifiable Concentrate

**حجم العبوة :** لتر 0.5,1,5

**بلد (التسجيل/المنشأ) والشركة المنتجة :** المجر - Syngenta Crop Protection AG

**الشركة المحلية المستوردة :** Agricultural Materials Co, LTD - WLL

**تاريخ إصدار الشهادة :** 30-05-2023 **صالحة حتى :** 21-05-2028

**ملاحظات :** لا يوجد

**وجد مطابقا لنظام تسجيل المبيدات المتبع لديها وقد أعطيت له هذه الشهادة بناء على ذلك.**

**ملاحظات :**

- يعاد تقيم المبيد كل خمس سنوات حتى يتم تجديد هذه الشهادة بعد ذلك.

تلغى هذه الشهادة في حالة شطب أو سحب المبيد من قبل المنظمات والهيئات العالمية المختصة في تسجيل المبيد أو ثبت للوزارة تدهور المبيد أثناء فترة صلاحيته تحت الظروف البيئية للدولة أو ثبت أن لديه أثار جانبية ضارة

**سددت الرسوم** 3021.42 **درهم**

**رقم إيصال الشهادة :** 101432564573490295

**تاريخ إيصال الشهادة :** 05-05-2023

**رمز التحقق :** 231-5140 **مدير إدارة الشؤون البلدية**

## PRECAUTIONARY STATMENTS

Keep locked up out of reach of children and unauthorized persons and animals. Avoid any contact with skin eyes or clothing. Do not breathe the vapor or mist. Do not eat, drink or smoke during the use and handling of the product. If inhalation occurs stop working, follow first aid measures and call a physician. Wear protective clothing, gloves, overalls and eye/face protection.

## التحذيرات

تحفظ العبوات مغلقة بعيدا عن متناول الاطفال والاشخاص غير المخولين والحيوانات .تجنب ملامسة الجلد والملابس واصابة العينين.لا تستنشق بخار ورذاذ المبيد. الامتناع عن الاكل والشرب والتدخين اثناء تداول واستخدام المبيد. التوقف عن العمل فور استنشاق المبيد واتخاذ اجراءات الاسعافات الاولية واستدعاء الطبيب. ضرورة لبس الملابس الواقية .

## First Aid الاسعافات الأولية

**If Swallowed:** Don't induce vomiting, immediately contact a doctor and show him the label or container.

**في حالة الابتلاع:** لا تتقيأ و اتصل فورا بالطبيب و احضر له النشرة الفنية أو عبوة المبيد.

**If Inhaled:** consult a doctor.

**في حال استنشاق المبيد:** استشر الطبيب.

**If on Skin:** should be washed off with soap and water.

**في حال ملامسة المبيد للجلد:** يجب غسله بالماء و الصابون.

**If in Eyes:** wash immediately with running water and consult a doctor.

**في حال ملامسة المبيد للعيون:** تغسل فورا بالماء الجاري و استشارة الطبيب.

## STORAGE AND DISPOSAL

Store in original tightly closed containers, away from children. Store in adequate ventilation. Do not use or store in or around homes. Do not contaminate water, food or feed by storage or disposal. To dispose, triple rinse the container then punctures and disposes in accordance with local regulations. Never reuse empty containers.

## التخزين و التخلص من العبوات

التخزين في العبوات الاصلية محكمة الاغلاق بعيدا عن الاطفال وفي مكان جيد التهوية.عدم استعمال او تخزين المبيد قريبا من السكن.تجنب تلوث الاكل والشراب وطعام الحيوانات اثناء التخزين. التخلص من الفوارغ حسب القوانين المحلية.

# Actellic 50 CE
# اكتيليك سي اي

***Emulsifiable Concentrate***

**مركز قابل للاستحلاب**

****

**مبيد حشري صحة عامة وزراعي لمكافحة افات المخازن وافات الصحة العامة**

**Public Health and agricultural insecticide**

***

**Active Ingredients: Pirimiphos methyl 500g/L**

**المواد الفعالة: بيريميفوس ميثايل 500 جرام / ليتر**

**Inert Ingredients:** 500 g/L **المواد الحاملة**

******

**Caution تحذير**

**KEEP OUT OF REACH OF CHILDREN**

**يحفظ بعيدا عن متناول الأطفال**

******

**MOCCAE Registration Number:**

AUD-AD-140-1475113

**(رقم تسجيل المبيد بوزارة التغير المناخي والبيئة)**

**دولة الامارات العربية المتحدة**

******

**Manufacturing Company- الشركة المنتجة**

***Syngenta Crop Protection AG***

***شركة سنجنتا***

***Country of origin: Denmark/بلد المنشأ: الدنمارك***

**Local Distributor الموزع المحلي**

**Agricultural Materials Company Ltd**

**شركة المواد الزراعية المحدودة –ذ.م.م**

**P.O.Box 1290 AL Ain /UAE**

**Tel 00971 3 7641064**

**Email :** amc.emirates@agrimatco-me.com

**Net Contents: 1L**

**المحتوى الصافي: 1 ليتر**

## DIRECTIONS FOR USE

**Actellic 50 EC:** Is a fast acting broad spectrum organophosphate of low mammalian toxicity. It kills insect s by contact, ingestion and fumigant. Actellic 50 EC control a range of pests in grain, grain store, livestock houses and yards. Insect pests controlled include: Beetles, Weevils, Moth, Wasps and Fly. Actillec 50 EC provides rapid knockdown of insect pests when spraying and will persist on walls, floors and other inert surfaces to give residual control.

## طريقة الاستخدام

اكتيليك أي سي: مبيد حشري يستخدم رشاً لمكافحة طيف واسع من حشرات المخازن والصحة العامة حيث يعمل بالملامسة والاثر المتبقي والجهاز الهضمي والاثر البخاري. ويعتبر مبيد أكتيليك من المبيدات قليلة السمية للحيوانات. ويستخدم المبيد في اماكن متعددة مثل مخازن الحبوب واماكن تربية الحيوانات وفي المنازل لمكافحة الخنافس والسوس والعث والدبابير والذباب.

Table of use next pages

*****Restricted Insecticide to be used by authorized persons or under their supervision.**

***** مبيد حشري مقيد الاستخدام ويجب ان يستخدم تحت اشراف فنيين متخصصين .**

## WARRANTY STATEMENT الضمان

***The manufacturer guarantee the chemical and physical specification of this pesticide if stored in original packing under good storage conditions during its validity period under UAE conditions***

تضمن الشركة المنتجة المواصفات الكيميائة والفيزيائية لهذا المبيد اذا تم تخزينه في ظروف تخزين جيدة بعبواته الاصلية طيلة فترة صلاحيته تحت ظروف دولة الامارات العربية المتحدة.

P/Date: تاريخ الانتاج

E/Date: تاريخ الانتهاء

Batch No.

## USES الاستخدامات

| Pests<br>الآفات | Pest<br>الافة | Application Volume حجم الرش |
|---|---|---|
| Disinfestations of empty grain stores , silos, treatment of bagged small grains<br>معاملة المخازن الفارغة، الصوامع ومعاملة اكياس الحبوب | Beetles, weevils, grain moth, fruit moth, flour mite, lesser moth, dried fruit moth, cereal mite, flat grain , beetle, brown house moth, house moth<br>الخنافس، السوس، عثة الحبوب، عثة الفاكهة، عثة الفاكهة الجافة، العثث الصغرى، عنكبوت الحبوب، العثة المنزلية البنية، عثة المنازل | 200 ml in 10 liters water |
| Unpainted concrete surfaces<br>السطوح الاسمنتية غير المدهونة | | 200 ml in 10 liters water<br>200 مل/ 10 لتر ماء |
| Other surfaces<br>الاسطح الاخرى | | 100 ml in 10 liters water<br>100 مل/ 10 لتر ماء |
| Bagged grain<br>الحبوب المعبأة | | 50-100 ml in 10 liters water<br>100-50 مل/ 10 لتر ماء |
| Admixture to stored grain<br>معاملة الحبوب | | 8 ml per ton of grain<br>8 مل/ طن |
| Indoor residual spray slaughter houses, dairy, factories, poultry houses<br>المسالخ، حظائر الحيوانات، اماكن تربية الدواجن | Flies<br>الذباب | 100 ml in 10 liter water<br>100 مل/ 10 لتر ماء |
| Outdoor: Stockyards, around animal houses, refuse tips, bins and compost heaps<br>الحظائر، محيط بيوت الحيوانات، صفائح القمامة، معاملة الاسمدة العضوية | Flies<br>الذباب | 500 ml in 10 liter water<br>500 مل/ 10 لتر ماء |
| Outdoor nests<br>الاعشاش | Wasps<br>الدبابير | 100 ml in 10 liter water<br>100 مل/ 10 لتر ماء |

## Residual Insect Control

| **Target Pest and Situation**<br>**الافة المستهدفة** | **Application rate (active ingredient)**<br>**معدل الاستخدام مادة فعالة** | **Diluent**<br>**وسط الرش** | **Amount of ACTELLIC® 50EC per 1 Liter spray**<br>**كمية المبيد المستخدمة لكل لتر ماء** | **Application Volume**<br>**حجم الرش** |
|---|---|---|---|---|
| **Malaria mosquitoes**<br>**بعوض الملاريا** | 1-2g/m2<br>2-1غم/م² | **Water**<br>**ماء** | 50-100ml<br>100-50 مل | **40ml spray solution / m2**<br>**40 مل محلول رش / م²** |
| **Flies and nuisance mosquitoes: INDOORS** | 0.5g/m2<br>0ز5 غم/م² | | 25ml<br>25 مل | |
| **Flies: long persistence OUTDOORS** | 1-2g/m2<br>2-1غم/م² | | 50-100ml<br>100-50 مل | |
| **Cockroaches** | **1-2g/m2**<br>2-1غم/م² | | **50-100ml**<br>100-50 مل | |

# Space Treatment

| Target Pest and Situation<br>الافة المستهدفة | Application rate (active ingredient)<br>معدل الاستخدام مادة فعالة | Diluent<br>وسط الرش | Amount of ACTELLIC® 50EC per 1 Liter spray<br>كمية المبيد المستخدمة لكل لتر ماء | Application Volume L/ ha<br>حجم الرش لتر/ هكتار |
|---|---|---|---|---|
| **Mosquitoes-البعوض** | | | | |
| **Thermal Fog- التضبيب الحراري** | | | | |
| **Hand-held**<br>**المحمول باليد** | 100g/ha<br>100 غم/ هكتار | Kerosene / diesel<br>كيروسين او ديزل | 100ml<br>100 مل | **2** |
| **Vehicle-Mounted**<br>**المحمول على سيارة** | | | 40ml<br>40 مل | **5** |
| **Cold aerosol ULV- التضبيب البارد** | | | | |
| **Ground- الرضي** | 100g/ha<br>100 غم/ هكتار | Kerosene / diesel<br>كيروسين او ديزل | 400ml<br>400 مل | **0.5** |
| **Aerial- الهوائي** | 200g/ha<br>200 غم/ هكتار | | 200ml<br>200 مل | **2** |
| **Flies- الذباب** | | | | |
| **Thermal Fog- التضبيب الحراري** | | | | |
| **Hand-held**<br>**المحمول باليد** | 200g/ha<br>200 غم/ هكتار | Kerosene / diesel<br>كيروسين او ديزل | 200ml<br>200 مل | **2** |
| **Vehicle-Mounted**<br>**المحمول على سيارة** | | | 80ml<br>80 مل | **5** |
| **Cold aerosol ULV- التضبيب البارد** | | | | |
| **Ground- الرضي** | 250g/ha<br>250 غم/ هكتار | **Kerosene / diesel**<br>**كيروسين او ديزل** | 1000ml<br>1000 مل | **0.5** |
| **Aerial- الهوائي** | **400g/ha**<br>**400 غم/ هكتار** | | **400ml**<br>**400 مل** | **2** |

# Mosquito larvicide

| Target Pest and Situation<br>الافة المستهدفة | Application rate (active ingredient)<br>معدل الاستخدام مادة فعالة | Diluent<br>وسط الرش | Amount of ACTELLIC® 50EC per 1 Liter spray<br>كمية المبيد المستخدمة لكل لتر ماء | Application Volume L/ ha<br>حجم الرش لتر/ هكتار |
|---|---|---|---|---|
| **Short persistence / Shallow water**<br>**الاستمرار القصير/ المياه الضحلة** | 50g/ha<br>50 غم/ هكتار | **Water**<br>**ماء** | 1ml<br>1 مل | **100** |
| **Long persistence / Deep Water**<br>**الاستمرار الطويل/ المياه العميقة** | **500g/ha**<br>**500 غم/ هكتار** | | **10ml**<br>**100 مل** | **100** |

# ACTELLIC 50EC

| Version | Revision Date: | SDS Number: | This version replaces all previous versions. |
|---|---|---|---|
| 14.0 | 07.08.2018 | S00006573768 | |

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

### 1.1 Product identifier

| | | |
|---|---|---|
| Trade name | : | ACTELLIC 50EC |
| Design code | : | A5832C |
| Product Registration Number | : | MAPP 12726 |

### 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 UK Limited<br>CPC4, Capital Park<br>Fulbourn, Cambridge CB21 5XE<br>United Kingdom |
| Telephone | : | +44 (0) 1223 883400 |
| Telefax | : | +44 (0) 1223 882195 |
| E-mail address of person responsible for the SDS | : | customer.services@syngenta.com |

### 1.4 Emergency telephone number

| | | |
|---|---|---|
| **Emergency telephone number** | : | +44 1484 538444 |

## 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 system | H336: May cause drowsiness or dizziness. |
| 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 : P102 Keep out of reach of children.

**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.
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.

**Disposal:**

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

### 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

**Components**

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

| | | | |
|---|---|---|---|
| | 201-148-0<br>603-108-00-1<br>01-2119484609-23 | Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT SE 3; H336<br>STOT SE 3; H335 | |

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

## 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 fire-fighting : 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.

## 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 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.

## 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.

## 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/m3<br>(Skin) | Syngenta |
| Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified | 64742-95-6 | TWA | 19 ppm<br>100 mg/m3 | Supplier |
| 4-methylpentan-2-one | 108-10-1 | TWA | 20 ppm<br>83 mg/m3 | 2000/39/EC |

| | | | | |
|---|---|---|---|---|
| Further information | Indicative | | | |
| | 108-10-1 | STEL | 50 ppm<br>208 mg/m3 | 2000/39/EC |
| Further information | Indicative | | | |
| | 108-10-1 | TWA | 50 ppm<br>208 mg/m3 | GB EH40 |
| Further information | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | | |
| | 108-10-1 | STEL | 100 ppm<br>416 mg/m3 | GB EH40 |
| Further information | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | | |
| 2-methylpropan-1-ol | 78-83-1 | TWA | 50 ppm<br>154 mg/m3 | GB EH40 |
| | 78-83-1 | STEL | 75 ppm<br>231 mg/m3 | GB EH40 |

**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<br>(Urine) | After shift | GB EH40 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 -unspecified | Workers | Inhalation | Long-term systemic effects | 150 mg/m3 |
| | Workers | Dermal | Long-term systemic effects | 25 mg/kg |
| | Consumers | Inhalation | Long-term systemic effects | 32 mg/m3 |
| | 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/m3 |
| | Workers | Inhalation | Acute systemic effects | 208 mg/m3 |
| | Workers | Inhalation | Long-term local effects | 83 mg/m3 |
| | Workers | Inhalation | Acute local effects | 208 mg/m3 |
| | Workers | Dermal | Long-term systemic | 11.8 mg/kg |

| | | | | |
|---|---|---|---|---|
| | | | effects | |
| | Consumers | Inhalation | Long-term systemic effects | 14.7 mg/m3 |
| | Consumers | Inhalation | Acute systemic effects | 155.2 mg/m3 |
| | Consumers | Inhalation | Long-term local effects | 14.7 mg/m3 |
| | Consumers | Inhalation | Acute local effects | 155.2 mg/m3 |
| | 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/m3 |
| | Consumers | Inhalation | Long-term systemic effects, Long-term local effects | 55 mg/m3 |
| | 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 |
| | 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 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.<br>When selecting personal protective equipment, seek appropriate professional advice. |

## 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<br>Concentration: 1 % w/v |
| Melting point/range | : | No data available |
| Boiling point/boiling range | : | No data available |
| Flash point | : | 46 °C<br>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/cm3 (25 °C) |
| Solubility(ies) | | |
| Solubility in other solvents | : | Miscible<br>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 |

## 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. |

**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. |

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

| | | |
|---|---|---|
| Information on likely routes of exposure | : | Ingestion<br>Inhalation<br>Skin contact<br>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

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

Acute oral toxicity : LD50 (Rat): 3,952 mg/kg

**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

**calcium dodecylbenzenesulphonate:**

Result : Irritating to skin.

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

Result : Irritating to skin.

**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 : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

**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 : 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

**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 : Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

**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.

**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.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Cyprinus carpio (Carp)): 6.2 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.00048 mg/l<br>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

**Components:**

**pirimiphos-methyl (ISO):**

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

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

| | | |
|---|---|---|
| Toxicity to fish | : | LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EL50 (Daphnia magna (Water flea)): 3.2 mg/l<br>Exposure time: 48 h |
| Toxicity to algae | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.6 - 2.9 mg/l<br>Exposure time: 72 h |

Test Type: Growth inhibition

NOEC (Pseudokirchneriella subcapitata (green algae)): 1 mg/l
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC: 1.23 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

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

**Ecotoxicology Assessment**

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

**calcium dodecylbenzenesulphonate:**

**Ecotoxicology Assessment**

Chronic aquatic toxicity : 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. |
| Partition coefficient: n-octanol/water | : | Pow: 3.9 (20 °C)<br>pH: 4<br><br>Pow: 4.2 (20 °C)<br>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<br>Percentage dissipation: 50 % (DT50)<br>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 considered to be very persistent and very bioaccumulating (vPvB)..

### 12.6 Other adverse effects

No data available

## 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.

Waste Code : 150110, packaging containing residues of or contaminated by dangerous substances

## 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)

**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**
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: Number on list 3<br><br>Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified (Number on list 29, 28)<br>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 HAZARDS | 100 t | 200 t |

**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.

Use plant protection products safely. Always read the label and product information before use.

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

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

### 15.2 Chemical safety assessment

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

## 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. |

**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 |
| GB EH40 | : | UK. EH40 WEL - Workplace Exposure Limits |

| | | |
|---|---|---|
| GB EH40 BAT | : | UK. Biological monitoring guidance values |
| 2000/39/EC / TWA | : | Limit Value - eight hours |
| 2000/39/EC / STEL | : | Short term exposure limit |
| GB EH40 / TWA | : | Long-term exposure limit (8-hour TWA reference period) |
| GB EH40 / STEL | : | Short-term exposure limit (15-minute reference period) |

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

**Further information**

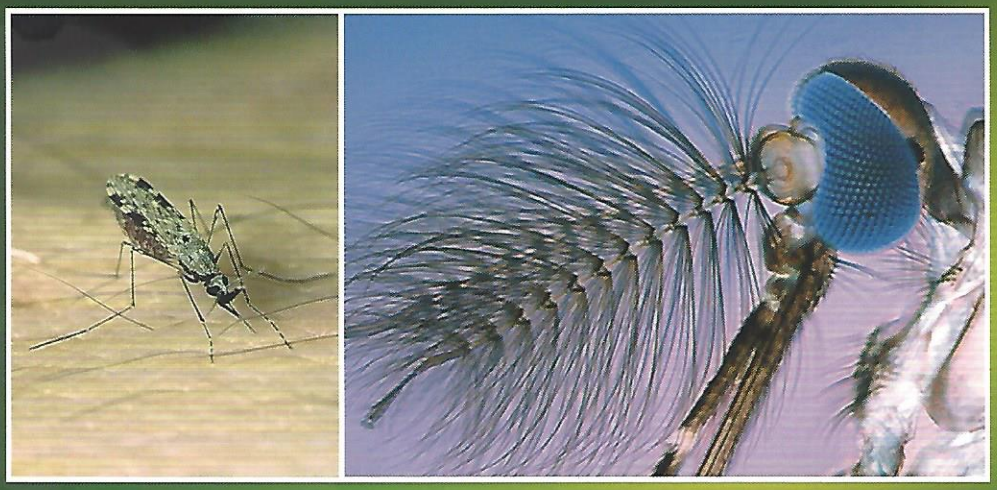
| **Classification of the mixture:** | | **Classification procedure:** |
|---|---|---|
| Flam. Liq. 3 | H226 | Based on product data or assessment |
| Acute Tox. 4 | H302 | Based on product data or assessment |
| Eye Dam. 1 | H318 | Based on product data or assessment |
| Skin Sens. 1 | H317 | Based on product data or assessment |
| STOT SE 1 | H370 | Calculation method |
| STOT SE 3 | H336 | Calculation method |
| STOT SE 3 | H335 | Calculation method |
| Asp. Tox. 1 | H304 | Calculation method |
| Aquatic Acute 1 | H400 | Based on product data or assessment |

| | | |
|---|---|---|
| Aquatic Chronic 1 | H410 | Calculation method |

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN



# ACTELLIC®

An effective, broad spectrum insecticide for the control of public health pests

syngenta

# What is ACTELLIC?

ACTELLIC® is an organophosphate insecticide which controls a wide range of public health pests, including mosquitoes, flies, cockroaches, fleas, ants and other crawling insects. Insects are killed by contact, ingestion and fumigant action. It is equally effective on those insects resistant to organochlorine and some organophosphate chemicals such as malathion.

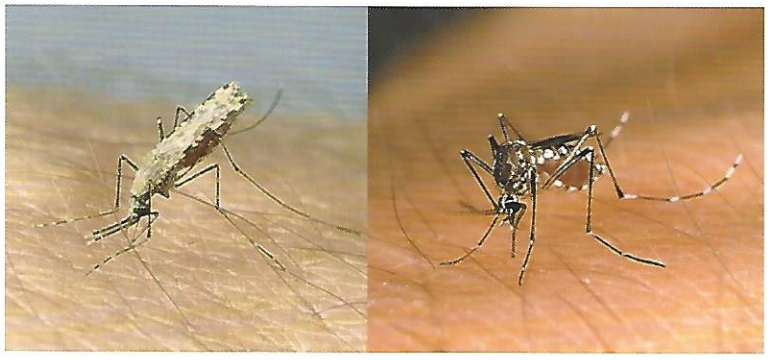
ACTELLIC has a low mammalian toxicity and can be used for the disinfestation of domestic premises, industrial and catering establishments, food stores and education establishments. When used in buildings and domestic premises, ACTELLIC persists on walls, floors, and other inert surfaces to give long-term residual insect control. ACTELLIC can also be used to disinfect beaches, refuse tips and new or seasoned timber.

Furthermore, ACTELLIC has been successfully evaluated by the WHO Pesticide Evaluation Scheme (WHOPES) as a mosquito larvicide, space spray and as a residual spray for malaria vector control.

ACTELLIC is a highly flexible product that can be used in three key segments of vector insect control: Indoor Residual Spraying (IRS), Space Spraying, and Mosquito Larviciding. Whilst being a highly effective standalone product, within these use patterns ACTELLIC is also an excellent alternative to, or rotation partner for pyrethroids as part of a resistance management program. It is extremely important to use products with different modes of action in order to maintain effective long term control of insects such as *Anopheles* spp. that transmit serious human diseases.

## Formulations

ACTELLIC is available as easy-to-use, emulsifiable concentrate formulations containing either 500g ai per litre (50EC) or 250g ai per litre (25EC).



**ACTELLIC controls a wide range of public health pests. The more important of these are listed below.**

**Mosquitoes e.g.**
*Anopheles spp,*
*Aedes spp,*
*Culex spp*

**Flies, e.g.**
*Musca domestica, Calliphoridae,*
*Lucillia cuprina, Coelopa frigida*

**Cockroaches e.g.**
*Blatta orientalis,*
*Blattella germanica*

**Bed Bugs**
*Cimex spp.*

**Reduviid bugs e.g.**
*Triatoma infestans*

**Ants e.g.**
*Lasius niger,*

**Wasps e.g.**
*Vespula vulgaris, Vespa crabro*

ACTELLIC®

# Field data

## Control of pyrethroid-resistant Anopheles funestus with ACTELLIC.

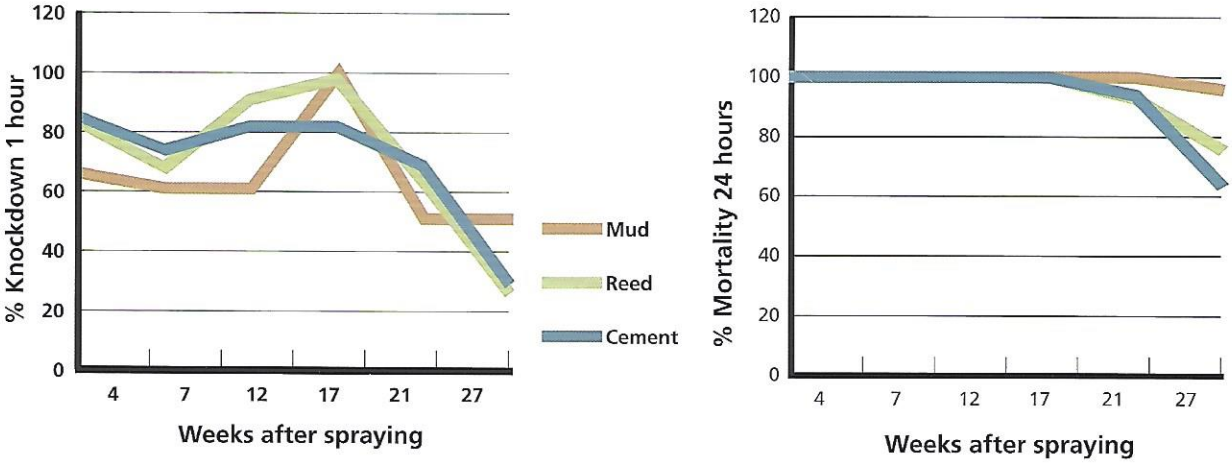
*Source: Casimiro, S., Goncalves R., unpublished data.*

Since 2002, Actellic has been evaluated in more than 4,000 homes as an Indoor Residual Spray treatment, primarily for the control of *Anopheles* spp. in Catembe, Mozambique. The principle malaria vector in Catembe, *Anopheles funestus*, has developed widespread resistance to pyrethroids and carbamates.

The data (below) demonstrates that *Anopheles arabiensis* are effectively controlled by ACTELLIC for at least five months on a variety of typical residential surfaces. Households included in the ACTELLIC trials also benefited from the control of other nuisance pests such as endophilic *Culex* spp., cockroaches, bedbugs, and fleas. Commensurate with the control of the mosquito population in the program, malaria prevalence (measured by blood smears) and fever cases (reported to the local Health centre) were both significantly reduced.

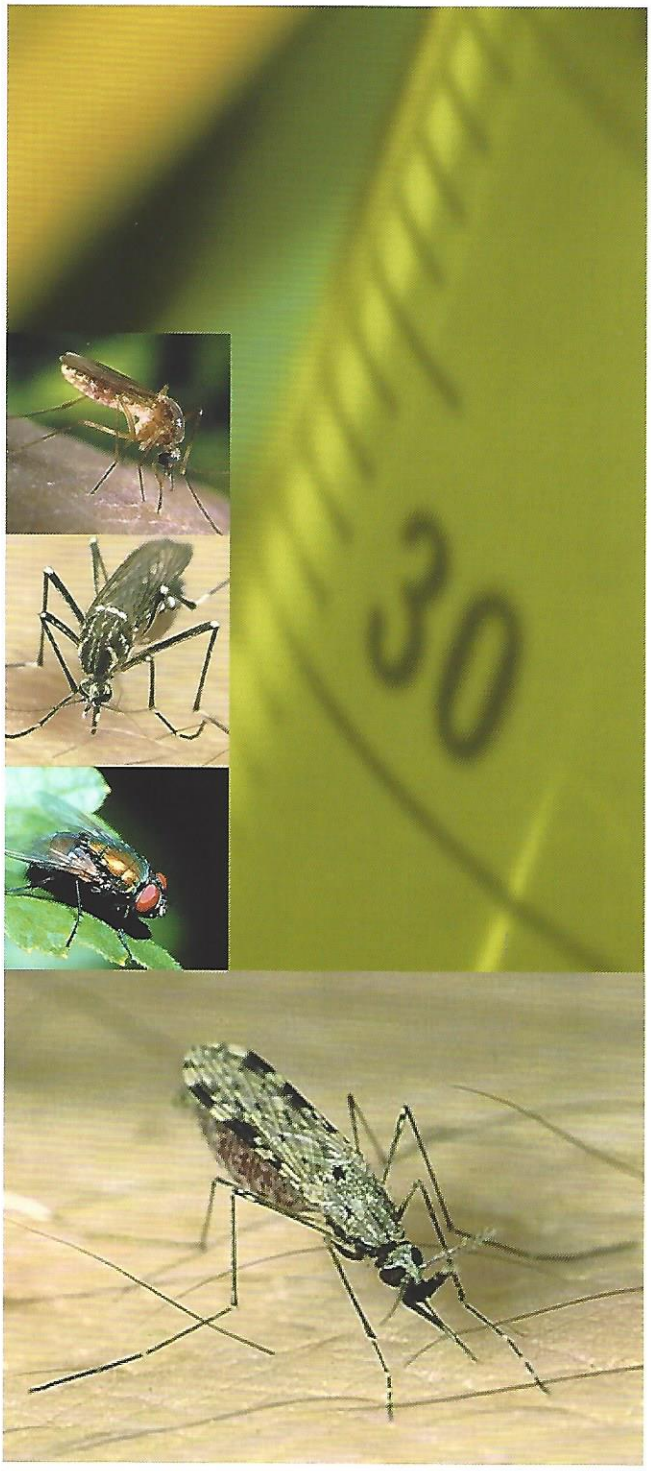
Anopheles arabiensis bioassays on surfaces treated with pirimiphos-methyl 2gai/m2 in houses at Catembe, 2002 - 2003

**Knockdown and Mortality of Anopheles exposed to surfaces treated with pirimiphos-methyl 2g a.i./m² in houses at Catembe, Mozambique 2002-2003**



ACTELLIC®

# Toxicology, environmental safety profile



ACTELLIC has an excellent toxicological and environmental safety profile. The information presented demonstrates that ACTELLIC presents no significant risk to human, other organism or to the environment when used as directed.

## Mammalian toxicity

The toxicity of ACTELLIC is summarized as follows:

| | | |
|---|---|---|
| Acute Oral Median Lethal Dose, Rat (mg/kg) | 1500 - 1800 | Low toxicity |
| Acute Dermal Median Lethal Dose, Rat (mg/kg) | >2000 | Low toxicity |
| Eye Irritation, Rabbit | Moderate | No concern |
| Skin Irritation, Rabbit | Slight | No concern |

ACTELLIC is predicted to be of low acute and dermal toxicity, not a skin sensitiser, moderate irritant to rabbit eyes and slight irritant to rabbit skin.

The active ingredient pirimiphos-methyl is not carcinogenic or teratogenic.

## Fate in Soil

The intended use of ACTELLIC is not expected to result in exposure to soil. Pirimiphos-methyl has a soil half-life of less than one month and under some conditions less than 10 days. Therefore, any indirect exposure to soils will have no significant environmental effect.

## Fate in Water

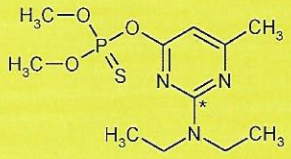
ACTELLIC is currently applied as a mosquito larvicide directly to non-potable, stagnant, saline, brackish and polluted waters. Exposure to ACTELLIC is limited to those aquatic environments, where mosquito breeding occurs, as these waters are unsuitable as a source of drinking water.

ACTELLIC degrades in natural water by hydrolysis and photolysis reactions. In estuarine environments where tidal flushing occurs repeat applictions are not expected to result in accumulation of ACTELLIC residues.

ACTELLIC®

# Toxicology, environmental safety profile

**Physico-Chemical Properties of Active Ingredient**

| | |
|---|---|
| Common name | Pirimiphos-methyl (ISO) |
| Chemical name (IUPAC) | 0-2-diethylamino-6-methylpyrimidin-4-yl 0, 0-dimethylphosphorothioate |
| Chemical Abstract Registry Number | 29232-93-7 |
| Chemical class | Organophosphate |
| Molecular formula | $C_{11}H_{20}N_3O_3PS$ |
| Chemical Structure |  |
| Molecular weight | 305.4 |
| Appearance | White solid |
| Boiling point | Decomposes at 120°C |
| Solubility (water) | 9.7–11 mg/l at pH9 |
| Solubility (other) | acetone>200g/l, 1,2-dichloroethane >200g/l, methanol >200g/l, ethyl acetate >200g/l, n-heptane 189g/l, xylene >200g/l |
| Vapour pressure | 2.0 x $10^{-6}$ kPa at 20°C |

ACTELLIC®

# Recommended rates of application

| Target Pest and situation | Active Ingredient/area | Diluent | Amount of ACTELLIC 50EC for 1 litre of spray | Rate of diluted product/area |
|---|---|---|---|---|
| **RESIDUAL** | | | | |
| Malaria mosquitoes | 1-2 g/m$^2$ | water | 50-100 ml | Apply spray solution at a rate of 40 ml per m$^2$ of surface |
| Flies and nuisance mosquitoes: indoors | 0.5 g/m$^2$ | water | 25 ml | |
| Flies: long persistence outdoors | 1-2 g/m$^2$ | water | 50-100 ml | |
| Cockroaches | 1-2 g/m$^2$ | water | 50-100 ml | |
| **SPACE TREATMENT** | | | | |
| **Mosquitoes** | | | | |
| Thermal fog | | | | |
| - hand held | 100 g/ha | kerosene/diesel | 100 ml | 2 L/ha |
| - vehicle mounted | 100 g/ha | kerosene/diesel | 40 ml | 5 L/ha |
| Cold aerosol ULV | | | | |
| - ground | 100 g/ha | kerosene/diesel | 400 ml | 0.5 L/ha |
| - aerial | 200 g/ha | kerosene/diesel | 200 ml | 2 L/ha |
| **Flies** | | | | |
| Thermal fog | | | | |
| - hand held | 200 g/ha | kerosene/diesel | 200 ml | 2 L/ha |
| - vehicle mounted | 200 g/ha | kerosene/diesel | 80 ml | 5 L/ha |
| Cold aerosol ULV | | | | |
| - ground | 250 g/ha | kerosene/diesel | 1L | 0.5 L/ha |
| - aerial | 400 g/ha | kerosene/diesel | 400 ml | 2 L/ha |
| **MOSQUITO LARVICIDE** | | | | |
| - short persistence/ shallow water | 50 g/ha | water | 1 ml | 100 L/ha |
| - long persistence/ deep water | 500 g/ha | water | 10 ml | 100 L/ha |

**Note:** Always read and follow directions for use on the product label.