1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product/substance name  PYRICAL 480 EC

Product / substance use  Insecticide

Supplier  Arysta LifeScience SAS
BP 80 Route d’Artix
64150 Noguères - France

Tel. : + 33 (0) 5 59 60 92 92
Fax. : + 33 (0) 5 59 60 92 99
Web Site : http://www.arysta-eame.com

Emergency telephone number
Toxico vigilance  + 33 (0) 5 59 60 92 25 (business hours).
Transport accident  + 33 (0) 5 59 60 92 92 (business hours).
Treatment center for poisoning cases  + 33 (0) 1 40 05 48 48
PARIS
Other emergency numbers  /

2 – HAZARDS IDENTIFICATION

Physical and chemical hazards  Flammable.

Health hazards  Harmful by inhalation and if swallowed. Irritating to eyes and respiratory system. Harmful: may cause lung damage if swallowed.

Environmental hazards  Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Others hazards  /

3 - COMPOSITION/INFORMATIONS ON INGREDIENTS

Chemical information  Emulsifiable concentrate (EC)
Chlorpyrifos 480 g/L

Napht solvent

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS Number</th>
<th>EINECS and EC numbers</th>
<th>Classification</th>
<th>Concentration (%)</th>
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</thead>
<tbody>
<tr>
<td>Chlorpyrifos</td>
<td>2921-88-2</td>
<td>220-864-4</td>
<td>T, N, R25, R50/53</td>
<td>48%</td>
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<tr>
<td>Naphta solvent</td>
<td>64742-95-6</td>
<td>/</td>
<td>Xn, N, R10, R37, R51/53, R65, R66, R67</td>
<td>&gt;40 - &lt;50 %</td>
</tr>
</tbody>
</table>

For the complete text of R sentences, please refer to chapter 16.

* paragraph modified at last update
4 – FIRST AID

In general Remove the affected person from the danger zone to a well-ventilated room or to fresh air, and protect from chilling. Do not administer anything by oral route and do not try to make vomit, call a treatment center for poisoning cases or a doctor. Take the label where possible.

After Inhalation Immediately remove to fresh air. Call a doctor immediately.

After eye contact Rinse immediately and thoroughly with plenty of water during at least 10 to 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if pain or redness persists.

After skin contact Remove contaminated clothing and thoroughly wash the affected parts of the body with soap and water.

After Ingestion Call a doctor immediately and show the label. Do not induce vomiting.

Medical instructions Organophosphorous product, inhibitor of cholinesterase. Antidote: Atropine sulfate by intravenous administration at the doses rate of 2 to 4 mg every 15 minutes for 48 hours.

5 – FIRE-FIGHTING MEASURES

Extinguishing means Water spray, foam, dry chemical powder.

Unsuitable extinguishing means Water jet.

Special exposure hazards By thermal decomposition, possibility of formation of toxic gases (sulfur oxide, phosphorus oxide, nitrogen oxide, carbon oxide, chlorides).

Particular protective measures Intervention personnel should wear mask and individual respiratory equipment. Retain water or extinguishing media and eliminate safely.

6 – ACCIDENTAL RELEASE MEASURES

Personal protection Wear protective adapted equipment and take back non protected people. Withdrawal combustion and ignition sources and block bringing in oxygen (ventilation).

* paragraph modified at last update
Environmental protection

Avoid sewage, surface water, ground water and soil contamination.
Retain spilled liquids and collect them with sand or other absorbent inert material (sepiolite).
Absorbent inert material stocks have to be sufficient to face reasonably predictable spillage.
Keep sewers from potential spillage to minimize pollution hazards.
Do not throw washing waters into sewers.
Contact competent authorities when a situation cannot be controlled rapidly and efficiently.
In the case of spillage into water, stop dispersion of the product with adequate barrier.

Methods for cleaning up

Collect contaminated products on the surface concerned, transfer to closed drums before sending in a specialized incineration treatment center.
Wash the contaminated surface with water and collect washing waters for treatment.
Cover the contaminated zone using absorbent materials such as sand or sepiolite.
See section 8 for personal protection and section 13 for disposal considerations.

Particular points

/  

7 - HANDLING AND STORAGE

Handling

Do not eat, drink or smoke when using.
Wear appropriate protective clothes, adequate gloves (nitril), glasses or mask.
Avoid all contact of skin, eyes or clothes with new or old product.
Respect good hygienic body conditions and cleanliness of the working area.
Wash hands abundantly after handling.
Do not wash working clothes with household linen.

Storage requirements

Store in a well closed container, in a fresh and well ventilated place.
To prevent fires and explosions: rags soaked with product, paper, or materials used to absorb spillage may cause fire. Avoid accumulation of these rags. Eliminate them safely immediately after using.
Store under cover, in an appropriate room, away from heat and sources of fire, at temperature <35°C.
Keep away from food, drink and animal feeding stuffs.
Do not store in room at temperature below –5°C.
8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

General measures
When using refer in priority to information written on the label.

Exposure limits
Not defined

Control of professional exposure

Respiratory protection
Preferably wear a mask covering all face with filter appropriate to organic vapor, powder or aerosol. A.P. Type filters.

Hand protection
Wear impermeable gloves, resistant to organic solvents and to chemical products.

Eyes protection
Preferably wear a mask, a face screen or protective glasses.

Skin protection
Wear appropriate protective clothes, covering all parts of the body.

Control of environment exposure
Respect European and National Regulations in term of environment.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Pale brown liquid.

Odour
Odour of aromatic solvent

pH
5 - 6

Boiling point / range
NA

Flash point
> 40 ° C

Flammability
Flammable.

Explosives properties
Risks of explosion almost none in the recommended conditions of storage see point 7. Real risk in case of fire or accumulation of the emanations

Combustives properties
N.A.

Vapour pressure
N.A.

Relative density
1.08

Solubility

- Water
Miscible with water in all proportions. Gives stable emulsion

- Organic solvents
Miscible with almost all organic solvents.

Hydrosolubility
N.A.

n-octanol/water coefficient
N.A.

Viscosity
N.A.

Vapour density
N.A.

Evaporation rate
N.A.

Other information
/
10 - STABILITY AND REACTIVITY

Conditions to avoid: Avoid storage at temperature > 35°C in a confined place.

Materials to avoid: Avoid contact with strong oxidant and strong reducing agent.

Hazardous decomposition products: See point 5.

11 - TOXICOLOGICAL INFORMATION

Acute toxicity (PYRICAL 480 EC)
- by ingestion (rat): LD₅₀ = 291.5 mg/kg
- by skin contact (rat): LD₅₀ = 2383 mg/kg
- by inhalation (rat): LC₅₀ (4 h) = 2.41 mg/l of air
- Skin irritation (rabbit): Mildly irritant.
- Eye irritation (rabbit): Moderately irritant.
- Skin sensitization (guinea-pig): Not skin sensitizer.

Subchronic toxicity (Chlorpyrifos): NOEL (90 days, rat) = 1 mg/kg p.c./j

Chronic toxicity (Chlorpyrifos)
- Carcinogenicity: No carcinogenic effect
- Teratology: Increase of foetotoxicity.
- Reproduction (development and fertility): Decrease in body weight of pups at dose toxic for the parents.
- Mutagenicity effects: No genotoxic potential (in vivo and in vitro)

Other: /

12 – ECOLOGICAL INFORMATION

Ecotoxicity (Chlorpyrifos)
- Toxicity for aquatic organism (acute and chronic): LC₅₀ (96h) bluegill sunfish = 20.002-0.010 mg/L
- Toxicity for birds: LD₅₀ Coturnix japonica = 13.3 mg/kg p.c.
- Toxicity for bees: LD₅₀ oral = 360 ng/bee
- Toxicity for soil micro-organisms and macro-organisms: LC₅₀ (Eisenia fetida) = 210 mg/kg of soil.

* paragraph modified at last update
**Mobility**

\[ K_{oc} = 1250 – 12600. \]

**Persistance and degradability**

\[ DT_{50} \text{ (lab.)} = 10-120 \text{ days.} \]

**Potential of bioaccumulation**

\[ BCF = 1374 \]

**Results of PBT evaluation**

/  

**Other harmful effects**

/  

**13 - DISPOSAL CONSIDERATIONS:**

**Product/packaging**

Disposal of important amounts must be made by duly authorized specialists.  
Incineration should be made in authorized and specialized plant.  
Eliminate the product and its packaging with care and in a responsible way.  
Do not throw near ponds, rivers, ditches or into sewers.  
Wash contaminated surfaces with water and collect washing waters for treatment.  
Make sure that local Regulations are respected.  
For more information, contact your usual salesman or the World-wide Bank to 1-202-458-2841.  

**Washing products**

Do not throw into sewer. Do not contaminate natural waters.  
Clean up application materials on the treated area and eliminate waters by spraying on one area.  

**14 - TRANSPORT INFORMATION**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>RID/ADR (Terrestrial)</th>
<th>IMDG (Maritime)</th>
<th>OACI/IATA (Aerial)</th>
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<td>O.N.U code</td>
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<tr>
<td>Marine pollutant (Y/N)</td>
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<td>Y</td>
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<tr>
<td>Wording</td>
<td>Organophosphorus pesticide, liquid, toxic, flammable (chlorpyrifos)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* paragraph modified at last update
15 – REGULATORY INFORMATION

Labelling according to 67/548/CE, 2003/82/CE and 99/45/CE modified Directives:

Xn: Harmful
N: Dangerous for the environment

Labelling according to WHO guidelines

Class II : Moderately hazardous.

Risk phrase(s)
R10 : Flammable
R20/22 : Harmful by inhalation and if swallowed.
R36/37 : Irritating to eyes and respiratory system.
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 : Harmful: may cause lung damage if swallowed.

Safety phrase(s)
S1/2 : Keep locked up and out of reach of children.
S3/9/49 : Keep only in the original container in a cool, well-ventilated place.
S13 : Keep away from food, drink and animal feedingstuffs.
S20/21 : When using do not eat, drink or smoke.
S23 : Do not breathe vapour
S24/25 : Avoid contact with skin and eyes.
S29 : Do not empty into drains.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
S51 : Use only in well-ventilated areas.
S60 : This material and its container must be disposed of as hazardous waste.
S62 : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

Other prescriptions

To avoid risks to man and the environment, comply with the instructions for use. (Directive 1999/45/EC, Article 10, n° 12)

Storage classification (ICPE) : Environmental code Book V title I
Storage – ICPE entry (France) : 1172

16 - OTHER INFORMATION

R phrases text of dangerous substances (written in chapter 3) :

R10 : Flammable.
R25 : Toxic if swallowed.
R37 : Irritating to respiratory system.
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 : Harmful: may cause lung damage if swallowed.
R66 : Repeated exposure may cause skin dryness or cracking.
R67 : Vapours may cause drowsiness and dizziness.

* paragraph modified at last update
This MSDS completes technical use sheets but does not replace them. Information herein is based on our present knowledge concerning the product, at the edition date. It is honestly given.
The attention of users is drawn to potential risks taken when the product is used for other uses than those for which it is made.
The user has to know and comply with all regulations concerning its activity.
It remains the user’s own responsibility to make sure that the information is appropriate and complete for his special use of this product.
The aim of all the regulations mentioned is to help the person concerned to comply with the rules which are his own responsibility. This listing cannot be considered as exhaustive. The person concerned has to make sure that he has no other obligations due to texts specific to particular applications.

* paragraph modified at last update