

# SAFETY DATA SHEET

## CHLORPYRIFOS 400 G/L EC



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### SECTION 1: Identification of the hazardous chemical and of the supplier

#### Product identifier

Product name : CHLORPYRIFOS 400 G/L EC

Other means of identification : Cyren 38 EC  
AQUIA  
CYFOS 400 G/L NON CROP

#### Recommended use of the chemical and restrictions on use

Recommended use : Can be used as insecticide only.

Restrictions on use : Use as recommended by the label.

#### Manufacturer or supplier's details

Principal Supplier : FMC Corporation  
2929 WALNUT ST  
PHILADELPHIA PA 19104  
USA  
(215) 299-6000  
SDS-Info@fmc.com

Local registrant : FMC Chemicals (Malaysia) Sdn Bhd  
Level 16, 1 Sentral, Jalan Stesen Sentral 5, Kuala Lumpur Sen-  
tral  
50470, Kuala Lumpur, Malaysia  
Phone No: +60320929423  
Fax No: +603-2092 9201

Emergency telephone : For leak, fire, spill or accident emergencies, call:  
CHEMTREC (Asia-Pacific Regional Number): +65 3163 8374

Medical emergency:  
All other countries: +1 651 / 632-6793 (Collect)  
1 703 / 741-5970 (CHEMTREC - International)

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### SECTION 2: Hazards identification

#### Classification of the hazardous chemical

Acute toxicity (Oral) : Category 3

Acute toxicity (Inhalation) : Category 4

Serious eye damage/eye irri- : Category 2  
tation

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Aspiration hazard : Category 1

Hazardous to the aquatic environment - acute hazard : Category 1

Hazardous to the aquatic environment - chronic hazard : Category 1

### Label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H301 Toxic if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**  
P261 Avoid breathing mist or vapors.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear eye protection/ face protection.

**Response:**  
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.  
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P331 Do NOT induce vomiting.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P391 Collect spillage.

**Storage:**  
P405 Store locked up.

**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

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### Other hazards which do not result in classification

None known.

### SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
chlorpyrifos (ISO)	2921-88-2	>= 30 -< 60
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	>= 30 -< 60
calcium dodecylbenzenesulphonate	26264-06-2	>= 1 -< 2.5

### SECTION 4: First aid measures

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Toxic if swallowed.  
May be fatal if swallowed and enters airways.  
Causes serious eye irritation.  
Harmful if inhaled.
- Notes to physician : Chlorpyrifos is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression.  
The product contains petroleum distillates which may pose an aspiration pneumonia hazard.

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Treat symptomatically.

### SECTION 5: Firefighting measures

#### Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Foam  
Water spray

Unsuitable extinguishing media : High volume water jet

#### Physicochemical hazards arising from the chemical

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Thermal decomposition can lead to release of toxic and irritating vapors.  
Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
phosphorus oxides  
Sulfur oxides  
Chlorine compounds

#### Special protective equipment and precautions for fire-fighters

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.

Hazchem Code : 2X

### SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, ver-

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miculite) and place in container for disposal according to local / national regulations (see section 13).  
Keep in suitable, closed containers for disposal.

### SECTION 7: Handling and storage

#### Handling

##### Precautions for safe handling

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapors/dust.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Dispose of rinse water in accordance with local and national regulations.

#### Storage

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

Conditions for safe storage : Prevent unauthorized access.  
No smoking.  
Keep in a well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

### SECTION 8: Exposure controls and personal protection

#### Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	TWA	200 mg/m <sup>3</sup> (total hydrocarbon vapor)	ACGIH
chlorpyrifos (ISO)	2921-88-2	TWA	0.2 mg/m <sup>3</sup>	MY PEL
Further information: Skin				
		TWA (Inhalable fraction)	0.1 mg/m <sup>3</sup>	ACGIH

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		and vapor)		
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### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
chlorpyrifos (ISO)	2921-88-2	Acetylcho-linesterase activity	In red blood cells	End of shift	70 % of an individual's baseline	ACGIH BEI
		Butyrylcho-linesterase activity	In serum or plasma	End of shift	60 % of an individual's baseline	ACGIH BEI

### Individual protection measures, such as personal protective equipment

- Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.
- Skin protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hand protection  
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
- Hygiene measures : Avoid contact with skin, eyes and clothing.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.

### SECTION 9: Physical and chemical properties

- Physical state : liquid
- Form : liquid
- Color : yellowish-brown
- Odor : aromatic, hydrocarbon-like
- pH : 5 (25 °C)

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Concentration: 10 g/l  
(as an emulsion)

Melting point/freezing point : < 0 °C

Boiling point/boiling range : Decomposition: Decomposes below the boiling point.

Flash point : 70 °C

Method: Pensky-Martens closed cup - PMCC

Self-ignition : not determined

Density : 1.052 g/cm<sup>3</sup> (20 °C)

Explosive properties : Not explosive

Oxidizing properties : The product is not oxidizing.

### SECTION 10: Stability and reactivity

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Decomposes at elevated temperatures.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.  
Vapors may form explosive mixture with air.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Strong oxidizing agents  
Strong acids and strong bases

Hazardous decomposition products : Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides  
Sulfur oxides  
Chlorine compounds  
phosphorus oxides

### SECTION 11: Toxicological information

Information on likely routes of exposure : None known.

#### Acute toxicity

Toxic if swallowed.  
Harmful if inhaled.

#### Product:

Acute oral toxicity : LD50 (Rat, male): 200 - 300 mg/kg

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Acute inhalation toxicity : LC50 (Rat): 2 - 3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg

### **Components:**

#### **chlorpyrifos (ISO):**

Acute oral toxicity : LD50 (Rat, female): 350 mg/kg

LD50 (Rat, male): 276 mg/kg  
Method: FIFRA 81.01

Acute inhalation toxicity : LC50 (Rat): > 0.2 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Highest attainable concentration.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: FIFRA 81.02

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.688 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

#### **calcium dodecylbenzenesulphonate:**

Acute oral toxicity : LD50 (Rat, male and female): 1,300 mg/kg  
Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: Not classified

Acute dermal toxicity : LD50 (Rat, male and female): > 2000 milligram per kilogram  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Based on data from similar materials



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### **Skin corrosion/irritation**

Not classified based on available information.

#### **Product:**

Result : Mild skin irritation

Remarks : May cause skin irritation and/or dermatitis.

#### **Components:**

##### **chlorpyrifos (ISO):**

Method : FIFRA 81.05

Result : slight irritation

Remarks : Based on available data, the classification criteria are not met.

##### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Species : Rabbit

Assessment : Repeated exposure may cause skin dryness or cracking.

Result : No skin irritation

Remarks : Minimal effects that do not meet the threshold for classification.

Based on data from similar materials

##### **calcium dodecylbenzenesulphonate:**

Species : Rabbit

Method : OECD Test Guideline 404

Result : Skin irritation

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

#### **Product:**

Result : Moderate eye irritation

Remarks : May cause irreversible eye damage.

#### **Components:**

##### **chlorpyrifos (ISO):**

Result : slight irritation

Method : FIFRA 81.04

Remarks : Based on available data, the classification criteria are not met.

##### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Species : Rabbit

Assessment : No eye irritation

Remarks : Minimal effects that do not meet the threshold for classification.

Based on data from similar materials

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### calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### Respiratory sensitization

Not classified based on available information.

#### Product:

Species	:	Guinea pig
Result	:	Not a skin sensitizer.

#### Components:

#### chlorpyrifos (ISO):

Method	:	FIFRA 81.06
Result	:	Not a skin sensitizer.

#### Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Test Type	:	Maximization Test
Species	:	Guinea pig
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

### calcium dodecylbenzenesulphonate:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

### Germ cell mutagenicity

Not classified based on available information.

#### Product:

Germ cell mutagenicity - Assessment	:	Contains no ingredient listed as a mutagen
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#### Components:

#### chlorpyrifos (ISO):

Germ cell mutagenicity -	:	No genotoxic potential.
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### Assessment

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Genotoxicity in vitro	: Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	: Test Type: Bone marrow chromosome aberration. Species: Rat Application Route: inhalation (vapor) Result: negative

#### **calcium dodecylbenzenesulphonate:**

Genotoxicity in vitro	: Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	: Test Type: chromosome aberration assay Species: Rat (male and female) Application Route: Oral Exposure time: 90 d Result: negative Remarks: Based on data from similar materials
Germ cell mutagenicity - Assessment	: Weight of evidence does not support classification as a germ cell mutagen.

### **Carcinogenicity**

Not classified based on available information.

#### **Product:**

Carcinogenicity - Assessment	: Contains no ingredient listed as a carcinogen
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#### **Components:**

##### **chlorpyrifos (ISO):**

Carcinogenicity - Assessment	: Animal testing did not show any carcinogenic effects.
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#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Species	: Rat, male and female
Application Route	: inhalation (vapor)
Exposure time	: 12 month(s)
NOAEC	: 1.8 mg/l
Result	: negative
Remarks	: Based on data from similar materials
Carcinogenicity - Assessment	: Not classifiable as a human carcinogen.

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### calcium dodecylbenzenesulphonate:

Species	: Rat, male and female
Application Route	: Oral
Exposure time	: 720 d
NOAEL	: 250 mg/kg body weight
Result	: negative
Remarks	: Based on data from similar materials

Carcinogenicity - Assessment	: Weight of evidence does not support classification as a carcinogen
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### Reproductive toxicity

Not classified based on available information.

#### Product:

Reproductive toxicity - Assessment	: Contains no ingredient listed as toxic to reproduction
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#### Components:

### chlorpyrifos (ISO):

Effects on fetal development	: Target Organs: Central nervous system Result: positive
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Reproductive toxicity - Assessment	: Animal testing did not show any effects on fertility. Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
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### calcium dodecylbenzenesulphonate:

Effects on fertility	: Test Type: Fertility/early embryonic development Species: Rat, male and female Application Route: Ingestion General Toxicity Parent: NOAEL: 400 mg/kg body weight Method: OECD Test Guideline 422 Result: negative
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Effects on fetal development	: Test Type: reproductive and developmental toxicity study Species: Rat Application Route: Ingestion General Toxicity Maternal: NOAEL: 300 mg/kg body weight Developmental Toxicity: NOAEL: 600 mg/kg body weight Method: OECD Test Guideline 422 Result: negative
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Reproductive toxicity - Assessment	: Weight of evidence does not support classification for reproductive toxicity
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### STOT-single exposure

Not classified based on available information.

#### Product:

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Remarks : No significant adverse effects were reported

### Components:

#### **chlorpyrifos (ISO):**

Assessment : No significant health effects observed in animals at concentrations of 20 mg/l/4h or less

#### **STOT-repeated exposure**

Not classified based on available information.

### Components:

#### **chlorpyrifos (ISO):**

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

#### **Repeated dose toxicity**

### Components:

#### **chlorpyrifos (ISO):**

Species	: Rat
LOAEL	: 1 mg/kg bw/day
Application Route	: Ingestion
Exposure time	: 90-days
Symptoms	: cholinesterase inhibition

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Species	: Rat, male and female
NOAEC	: 0.9 - 1.8 mg/l
Application Route	: inhalation (vapor)
Exposure time	: 12 months

#### **calcium dodecylbenzenesulphonate:**

Species	: Rat, male and female
NOAEL	: 85 mg/kg
LOAEL	: 145 mg/kg
Application Route	: Oral
Exposure time	: 9 Months
Remarks	: Based on data from similar materials

Species	: Rat, male
LOAEL	: 286 mg/kg
Application Route	: Skin contact
Exposure time	: 15 Days
Remarks	: Based on data from similar materials

Species	: Rat, male and female
NOAEL	: 100 mg/kg bw/day
LOAEL	: 200 mg/kg bw/day
Application Route	: Oral - gavage

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Exposure time : 28 - 54 days  
Method : OECD Test Guideline 422  
Remarks : Based on data from similar materials

### Aspiration toxicity

May be fatal if swallowed and enters airways.

### Product:

May be fatal if swallowed and enters airways.

### Components:

#### chlorpyrifos (ISO):

The substance does not have properties associated with aspiration hazard potential.

#### Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

May be fatal if swallowed and enters airways.

### Experience with human exposure

### Components:

#### Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Skin contact : Symptoms: Repeated exposure may cause skin dryness or cracking.

### Further information

### Product:

Remarks : Symptoms of cholinesterase inhibition: nausea, headache, vomiting, cramps, weakness, blurred vision, pin-point pupils, tightness in chest, laboured breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma.

### Components:

#### chlorpyrifos (ISO):

Remarks : Chlorpyrifos is a dangerous poison (cholinesterase inhibitor). It rapidly enters the body on contact with all skin surfaces and eyes.

Remarks : Repeated exposures to cholinesterase inhibitors such as chlorpyrifos may, without warning, cause increased susceptibility to doses of any cholinesterase inhibitor.

#### Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Remarks : Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated

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skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

### SECTION 12: Ecological information

#### Ecotoxicity

##### Product:

- |   |   |   |
|---|---|---|
| Toxicity to fish                                    | : | LC50 ( <i>Salmo gairdneri</i> ): 0.048 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials                             |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 ( <i>Daphnia magna</i> (Water flea)): 0.0026 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials                  |
| Toxicity to algae/aquatic plants                    | : | IC50 ( <i>Scenedesmus capricornutum</i> (fresh water algae)): 0.14 mg/l<br>Exposure time: 72 h<br>Remarks: Based on data from similar materials |
| Toxicity to soil dwelling organisms                 | : | LC50 ( <i>Eisenia fetida</i> (earthworms)): 360 mg/kg<br>Exposure time: 14 d<br>Remarks: Based on data from similar materials                   |
| Toxicity to terrestrial organisms                   | : | LD50 ( <i>Colinus virginianus</i> (Bobwhite quail)): 83 mg/kg<br>Remarks: Based on data from similar materials                                  |

##### Components:

##### **chlorpyrifos (ISO):**

- |  |   |  |
|--|---|--|
| Toxicity to fish   | : | LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 0.686 mg/l<br>Exposure time: 96 h  |
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50 ( <i>Daphnia magna</i> (Water flea)): 0.0017 mg/l<br>Exposure time: 48 h          |
| Toxicity to algae/aquatic plants                                       | : | IC50 ( <i>Scenedesmus subspicatus</i> ): 0.48 mg/l<br>Exposure time: 96 h              |
| M-Factor (Acute aquatic toxicity)                                      | : | 100  |
| Toxicity to fish (Chronic toxicity)                                    | : | NOEC ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 0.0018 mg/l<br>Exposure time: 21 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC ( <i>Daphnia magna</i> (Water flea)): 0.000056 mg/l<br>Exposure time: 21 d        |

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M-Factor (Chronic aquatic toxicity) : 1,000

Toxicity to soil dwelling organisms : LD50 (*Eisenia fetida* (earthworms)): ca. 3300 mg/kg dry weight (d.w.)

Toxicity to terrestrial organisms : LD50 (*Apis mellifera* (bees)): 0.36 µg/bee  
End point: Acute oral toxicity

LD50 (*Apis mellifera* (bees)): 0.070 µg/bee  
End point: Acute contact toxicity

LD50 (*Colinus virginianus* (Bobwhite quail)): 13.3 mg/kg

LD50 (*Anas platyrhynchos* (Mallard duck)): 75.6 mg/kg

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Toxicity to fish : LL50 (*Oncorhynchus mykiss* (rainbow trout)): 2 - 5 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (*Daphnia magna* (Water flea)): 1.4 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (*Pseudokirchneriella subcapitata* (green algae)): 1 - 3 mg/l  
Exposure time: 24 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EL50 (*Daphnia magna* (Water flea)): 0.89 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : LL50 (*Tetrahymena pyriformis*): 677.9 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition

### **calcium dodecylbenzenesulphonate:**

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): 10 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

LC50 (*Pimephales promelas* (fathead minnow)): 4.6 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 3.5 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic : NOEC (*Pseudokirchneriella subcapitata* (green algae)): 7.9



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plants		mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials  EC50 (Pseudokirchneriella subcapitata (green algae)): 65.4 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 1.65 mg/l Exposure time: 21 d Remarks: Based on data from similar materials  NOEC (Daphnia magna (Water flea)): 1.18 mg/l Exposure time: 21 d Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): 500 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 1,000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): 1,356 mg/kg Exposure time: 14 d Method: OECD Test Guideline 223

### Persistence and degradability

#### Components:

##### **chlorpyrifos (ISO):**

Biodegradability : Result: Not readily biodegradable.

##### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 58.6 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F  
Remarks: Based on data from similar materials

##### **calcium dodecylbenzenesulphonate:**

Biodegradability : Result: Readily biodegradable.  
Method: OECD Test Guideline 301E

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**Bioaccumulative potential****Components:****chlorpyrifos (ISO):**

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)  
Bioconcentration factor (BCF): 1,375  
Remarks: The product may be accumulated in organisms.  
See section 9 for octanol-water partition coefficient.

Partition coefficient: n-octanol/water : log Pow: 4.7

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Bioaccumulation : Remarks: The product/substance has a potential to bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.72  
Method: QSAR

**calcium dodecylbenzenesulphonate:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 70.79  
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4.77 (25 °C)

**Mobility in soil****Components:****chlorpyrifos (ISO):**

Distribution among environmental compartments : Koc: 5509 ml/g, log Koc: 3.74  
Kd: 126.6 ml/g  
Remarks: Low mobility in soil.

Stability in soil :

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Distribution among environmental compartments : Remarks: Expected to partition to sediment and wastewater solids. Moderately volatile.

**Other adverse effects****Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

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### SECTION 13: Disposal information

#### Disposal methods

- Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

### SECTION 14: Transport information

#### International Regulations

##### UNRTDG

- UN number : UN 3018  
Proper shipping name : ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  
(Chlorpyrifos, Aromatic hydrocarbons)  
Class : 6.1  
Packing group : III  
Labels : 6.1

##### IATA-DGR

- UN/ID No. : UN 3018  
Proper shipping name : Organophosphorus pesticide, liquid, toxic  
(Chlorpyrifos, Aromatic hydrocarbons)  
Class : 6.1  
Packing group : III  
Labels : Toxic  
Packing instruction (cargo aircraft) : 663  
Packing instruction (passenger aircraft) : 655  
Environmentally hazardous : yes

##### IMDG-Code

- UN number : UN 3018  
Proper shipping name : ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC  
(Chlorpyrifos, Aromatic hydrocarbons)  
Class : 6.1  
Packing group : III  
Labels : 6.1  
EmS Code : F-A, S-A  
Marine pollutant : yes

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

- Hazchem Code : 2X

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### 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.

## SECTION 15: Regulatory information

### Safety, health, and environmental regulations specific for the hazardous chemical

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

### The ingredients of this product are reported in the following inventories:

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: All components of this product are on the Canadian DSL
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: On the inventory, or in compliance with the inventory

## SECTION 16: Other information

Revision Date	: 24.01.2024
Date format	: dd.mm.yyyy

### Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
MY PEL	: Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

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ACGIH / TWA : 8-hour, time-weighted average  
MY PEL / TWA : Eight-hour time-weighted average airborne concentration

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

### Disclaimer

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