



انجلاو جلوبال جلف ليمتد ANGLO GULF LIMITED

MATERIAL SAFETY DATA SHEET

CHLOMIGHT 48 EC

1. PRODUCT IDENTIFICATION:

Trade Name	: CHLOMIGHT 48EC
Product Name	: Chlorpyrifos 48EC
Manufacturer	: Anglo Gulf Limited
Address	: P.O.Box 16887 Jebel Ali, Dubai, UAE
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Fax	: +971 4 883 5853
E-mail	: agadxbme@emirates.net.ae
Website	: www.anglogulf.ae

2. COMPOSITION:

Component	CAS number	% (w/w)
Chlorpyrifos	002921-88-2	44.9
Other ingredients:		55.1
Including:		
Solvent naphtha-range aromatic solvent	064742-95-6	
Trimethylbenzene	000095-63-6	
Cumene	000098-82-8	
Ethyl toluene	025550-14-5	
Proprietary emulsifiers not available		
Components of solvent naphtha-range aromatic solvent		

3. HAZARD IDENTIFICATION:

Emergency Overview: This product is a red liquid with a solvent-type odor. May cause eye irritation or corneal injury. Prolonged exposure may cause skin irritation. Chlorpyrifos is extremely toxic to fish and other aquatic organisms.

Potential Health Effects:

Eyes: Contact may cause moderate eye irritation and/or corneal injury. Vapors may irritate eyes.

Skin Contact: Prolonged exposure may cause moderate skin irritation.

Skin Absorption: A single prolonged exposure is not likely to result in this product being absorbed through the skin in harmful amounts.

Ingestion: Small amounts ingested incidental to normal handling are not likely to cause injury; however swallowing larger amounts may cause injury, even death. If liquid enters the lungs, it may cause lung damage or death due to chemical pneumonia.

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Inhalation: Excessive exposure may produce organophosphate-type cholinesterase inhibition. Excessive vapor concentrations are attainable and could be hazardous on single exposure. Excessive exposure to solvent may cause respiratory irritation and central nervous system depression. Signs and symptoms of central nervous system depression are in order of increasing exposure, headache, dizziness, drowsiness, and in coordination.

4. FIRST AID MEASURES:

Eyes: Flush eyes with a continuous gentle stream of water for 15 minutes. Get medical attention.

Skin: Immediately wash thoroughly with soap and water. Remove contaminated clothing.

Ingestion: Do not induce vomiting. Get medical attention at once.

Inhalation: Remove to fresh air if effects appear. Get medical attention if effects persist.

Note to Physician: Because rapid absorption may occur through the lungs ifpirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs unless absolutely necessary. Employ supportive care. Treatment should be based on judgment of the physician in response to the reactions of the patient.

5. FIRE-FIGHTING MEASURES:

Flash Point: 41 deg C (TCC)

Flammable Limits: For Solvent Neptha-range solvent: LFL: 1% UFL: 6%

Auto-Ignition Temperature: 465 deg C (for Solvent Naphtha-range solvent)

Extinguishing Media: Foam is preferred (AFFF at 3% or 6%). Alternates may be CO₂ or dry chemical. Avoid the use of water because uncontrolled use can spread possible pesticide and solvent contamination.

Sensitivity to Mechanical Impact/Static Discharge: Not available

Unusual Fire and Explosion Hazards: Toxic irritating gases may be formed under fire conditions. Chlorpyrifos undergoes rapid decomposition at temperatures greater than 130 deg. C. Violent ruptures of containers may occur at temperatures generated during a fire. Contain fire-fighting water for future disposal.

Fire-Fighting Equipment: Wear positive-pressure self-contained breathing apparatus and full turnout gear.

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6. ACCIDENTAL RELEASE MEASURES:

Soak up spills with absorbent material. Prohibit the use of hot or sparking equipment in the immediate area. Do not allow spilled material to contaminate water supplies. For large spills, dike and barricade the affected area, eliminate ignition sources, and contact Anglo Gulf Limited. at +971 4 883 5039.

7. HANDLING AND STORAGE:

Handling

Keep Chlorpyrifos 48 EC out of reach of children or animals. Do not use near heat or open flame. Do not swallow. Avoid breathing mist or vapors. Avoid contact with eyes, skin and clothing. Keep away from heat and open flames. Handle Chlorpyrifos 48 EC in ventilated areas only. Keep containers closed when not in use. Users should wash hands before eating, drinking, using tobacco, chewing gum, or using the toilet.

Storage

Store in original container in a dry storage area. Do not store at temperatures greater than 34 deg C for extended periods of time. Storage at temperatures less than -6 deg C may result in the formation of crystals. If product crystallizes, store at temperatures in the range of 10 to 20 deg C and agitate the containers to re-dissolve crystals. Store away from sources of heat or open flame. Do not ship or store this product with foodstuffs, feed, drugs or clothing.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION:

Exposure Limits:

Chlorpyrifos: ACGIH TLV and OSHA PEL are 0.2 mg/m³, skin.

Solvent Naptha-Range Solvent: None established. Supplier recommends a guideline of 50 ppm for the total product, which is a mixture of petroleum hydrocarbons

Trimethylbenzene: ACGIH TLV and OSHA PEL are 25 ppm.

N-Propylbenzene: Not available

Solvent Naptha: ACGIH TLV and OSHA PEL are 100 ppm TWA, 150 ppm STEL. ACGIH Classification is A4.

Cumene: (isopropyl benzene): ACGIH TLV and OSHA PEL are 50 ppm skin.

Ethyltoluene: 10 ppm.

Proprietary Emulsifiers: not available

Engineering Controls: Use only with adequate ventilation. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

Breathing: Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure, self-contained

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breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved positive-pressure supplied-air respirator.

Protective Clothing: For brief contact while handling the packaged material, no precautions other than clean body-covering clothing are required. When exposure to the concentrate is likely, wear protective clothing and chemical-resistant gloves. Field applicators and loaders must wear clean body-covering clothing such as coveralls or a long-sleeved shirt and long pants, chemical-resistant gloves, shoes and socks. In addition, persons making and/or transferring field dilutions of this product should wear an impervious apron. Workers should remove personal protective equipment immediately after handling Chlorpyrifos 48 EC. Wash the outside of gloves before removing them. As soon as possible after the job is done, wash thoroughly and change into clean clothing. Remove contaminated clothing at once if splashed. Then wash thoroughly and put on clean clothing. Discard clothing and leather items (such as watch bands, belts and shoes) that have been drenched with Chlorpyrifos 48 EC.

Re-Entry Interval: Persons re-entering a treated field before the spray has had time to dry on the crop should wear impervious boots, gloves and a slicker or rain suit over clean body-covering clothing. Once the spray has dried on the crop, the use of clean body-covering clothing, boots, socks and impervious gloves is suggested for those re-entering the treated area within the first 24 hours after treatment.

Eyes: Use chemical worker's goggles. If vapors cause eye discomfort, use a full-face respirator.

Other Protection: None stated.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Boiling Point	: N.A
Vapor Pressure	: <10 mm Hg at 25 deg C
Volatility	: Not available
PH	: 5 to 7 (5% solution)
Appearance	: Yellow amber liquid
Odor	: Solvent-type odor
Coefficient Of Water/Oil Distribution	: Not available
Specific Gravity	: 1.079 (+/- 0.05) at 20°C
Evaporation Rate	: Not available
Solubility In Water	: Emulsifiable with water
Freezing Point	: Not available
Odor Threshold	: Not available
MELTING POINT	: Not applicable

10. STABILITY AND REACTIVITY:

STABILITY: Avoid heating Chlorpyrifos 48 EC to temperatures greater than 50 deg C. Chlorpyrifos undergoes exothermic reaction at approximately 130 deg C, which can lead to higher temperatures and

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violent decomposition if heat generated is not removed. Chlorpyrifos 48 EC contains a petroleum derivative solvent - it will burn.

INCOMPATIBILITY: None known

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, ethyl sulfide, diethyl sulfide and nitrogen oxides may be created if chlorpyrifos is burned.

Hazardous Polymerization: Does not occur.

11. TOXICOLOGICAL INFORMATION:

Skin Absorption: LD₅₀ for Chlorpyrifos 48 EC (male) (rat) is >5000 mg/kg.

Ingestion: LD50 for Chlorpyrifos 48 EC (rat) (male) is 776 mg/kg and (rat) (female) 300 mg/kg.

Inhalation: LC50 for Chlorpyrifos 48 EC (rat) is 2.7 mg/l for 4 hours.

Sensitization: A test in guinea pigs indicated that this product might have weak skin sensitization potential. However, experience in the manufacture and use of this product has not provided evidence for skin sensitizing properties. The product did not sensitize human subjects when tested at an end-use dilution.

Chronic Effects: Excessive exposure may produce organophosphate-type cholinesterase inhibition. Signs and symptoms of excessive exposure to chlorpyrifos may be dizziness, headache, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, and/or convulsions. Chlorpyrifos produced mild adrenal effects when fed to rats, but only at doses that greatly exceeded any exposure that would be received during use of this product. The solvent has been reported to cause liver, kidney, and blood effects at high levels of exposure. Solvent Naptha is reported to cause hearing loss in laboratory animals upon inhalation of high concentrations; such effects have not been reported in humans. For cumene, in animals, effects have been reported on the following organ: eye (cataract).

Cancer: Chlorpyrifos did not cause cancer in long-term animal studies. Solvent Naptha was not found to be carcinogenic in a National Toxicology Program bioassay in rats and mice.

Birth Defects: Chlorpyrifos did not cause birth defects in laboratory animals. The solvent was toxic to the fetus in laboratory animal tests, but only at doses that were toxic to the mothers. Very high concentrations of solvent (producing severe toxicity to adult animals) induced an increase in cleft palate in mice, which is a common developmental abnormality in mice and is associated with stress to the maternal animals. No malformations were induced at exposures less than those causing severe toxicity to the adult animals. This product contains low levels of Solvent Naptha. Exaggerated doses of Solvent Naptha given orally to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice. Inhalation exposure of pregnant animals to Solvent Naptha resulted in toxicity to the fetus but did not cause any birth defects.



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Reproductive Effects: Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals. In a three-generation reproduction study with the Solvent Naptha-range solvent in this formulation, the only effects observed were at exposures that produced severe toxicity to the parent animals.

Mutagenicity: Results of in vitro (“test tube”) and animal mutagenicity tests on the aromatic solvent have been negative. Based on a majority of negative data and some equivocal or marginally positive results, chlorpyrifos is considered to have minimal mutagenic potential.

12. ECOLOGICAL INFORMATION:

Chlorpyrifos is toxic to bees. Chlorpyrifos is extremely toxic to fish and other aquatic organisms. Chlorpyrifos is highly toxic to birds on a chronic dietary basis, and moderately toxic to birds on an acute basis.

Degradation and Metabolism:

In Soil: Dissipation rates of chlorpyrifos from soil are variable and are dependent on formulation, soil type and condition, and environmental variables. The half-life of Chlorpyrifos on soil surface is typically a few days to a couple of weeks, and dissipation occurs through photo-degradation, volatility, and hydrolytic degradation. In sub-surface soil, half-lives range from 30 to 60 days. Degradation occurs as chlorpyrifos is converted to 3,5,6-trichloro-2-pyridinol, which is ultimately degraded to soil-bound residues and carbon dioxide.

In Water: The photolysis half-life of chlorpyrifos in water is three to four weeks.

In Plants: Chlorpyrifos is non-systemic in plants, and is not absorbed from the soil through the roots. Residues taken up by plant tissues are metabolized to 3,5,6- trichloro-2-pyridinol, which is conjugated and sequestered.

In Animals: In rats, dogs and other mammals, following oral administration of chlorpyrifos, rapid metabolism occurs, with the principal metabolites being 3,5,6- trichloro-2-pyridinol and mono ethyl chlorpyrifos. Excretion is primarily in the urine.

13. DISPOSAL CONSIDERATIONS:

Dispose in secure landfills or by registered use, in compliance with all applicable federal, provincial and municipal laws and regulations. If these wastes cannot be disposed of according to label instructions, contact the Federal or Provincial Departments of Environment for guidance.

14. TRANSPORT INFORMATION:

UN number : 2903

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Proper shipping name	: Pesticide, Liquid, Toxic, Flammable
Class	: 6.1
Subsidiary Risk	: N.A
Packing Group	: III
Marine Pollutant (P, PP, No)	: P

15. REGULATORY INFORMATION

National Fire Code Classification: Class II

NFPA RATINGS:

Health: 2

Flammability: 2

Reactivity: 1

Hazard symbol(s) : Xn, N

HARMFUL (Xn) DANGEROUS FOR THE ENVIRONMENT (N)

Risk phrases :

R10: Flammable.

R20/22: Harmful by inhalation and if swallowed.

R36/38: Irritating to eyes and skin.

R43: May cause sensitization by skin contact.

R65: Harmful: may cause lung damage if swallowed.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases :

S02: Keep out of the reach of children.

S13: Keep away from food, drink and animal feed in stuffs.

S20/21: When using do not eat, drink or smoke.

S23: Do not breathe gas/fumes/vapour/spray.

S24/25: Avoid contact with skin and eyes.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

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S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Contains : R10:

Flammable

R22: Harmful if swallowed

R24/25: Toxic in contact with skin and if swallowed

R36/38: Irritating to eyes and skin

R41: Risk of serious damage to eyes

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

R67: Vapours may cause drowsiness and dizziness

16. OTHER INFORMATION:

NOTICE: The information contained in this Material Safety Data Sheet ("MSDS") is current as of the effective date shown in Section 1 of this MSDS and may be subject to amendment by Anglo Gulf Limited. At any time ANGLO GULF LIMITED accepts no liability whatsoever which results in any way from the use of MSDS that are not published by ANGLO GULF LIMITED, or have been amended without ANGLO-GULF LIMITED express written authorization. Users of this MSDS must satisfy themselves that they have the most recent and Authorized Version of this MSDS and shall bear all responsibility and liability with respect there to. Any conflict or inconsistencies as to the contents of this MSDS shall be resolved in favor of ANGLO-GULF LIMITED by the most recent version of the MSDS published by ANGLO GULF LIMITED.

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of the information contained herein, and assume no
responsibility regarding the suitability of this
Information for the user's intended purposes or for the
Consequences of its use. Each user should make a
Chlorpyrifos as to the suitability of the information for
their particular purpose(s). A request has been made to the
Manufacturer to approve the contents of this material
Safety data sheet. Upon receipt of any changes a new MSDS
will be made available.

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