

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
CHEMTREC 1-800-424-9300

Section 1—Chemical Product and Company Identification

Product Name:	AgriSolutions™ Yuma® 4E	EPA Reg. No.: 62719-220-1381
Common Name:	Chlorpyrifos: O,O-diethyl-O -(3,5,6-trichloro-2-pyridinyl)	
Chemical Description:	Organophosphate insecticide	
Manufacturer's Name: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	Medical Emergency Telephone Number: 1-877-424-7452 MSDS Revision Date: 12/22/2010 Supersedes document dated 09/18/07.	

Section 2—Hazards Identification

Emergency Overview: Red liquid with solvent-type odor. Cholinesterase inhibitor. Toxic to aquatic organisms, birds, and fish. Store at temperatures below 122°F (50°C).

CAUTION: Keep out of reach of children.

Route(s) of Entry: Eyes, Skin, Ingestion, Inhalation

Health Hazards (Acute and Chronic):

Eyes: May cause moderate eye irritation. May cause moderate corneal injury. Vapors may cause eye irritation experienced as mild discomfort and redness.

Skin: Prolonged contact may cause moderate skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. This product may have weak skin sensitization potential.

Ingestion: Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury, even death.

Inhalation: Vapor concentrations are attainable which could be hazardous on single exposure. Excessive exposure may produce organophosphate-type cholinesterase inhibition. Excessive exposure to solvent may cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness, and drowsiness, progressing to incoordination and unconsciousness.

Medical Conditions Generally Aggravated by Exposure:
Pre-existing respiratory conditions may be aggravated by exposure to mists.

Section 3—Composition Information on Ingredients

Ingredient	% WT	CAS reg. #
Chlorpyrifos	44.9%	2921-88-2
1,2,4-Trimethylbenzene	15.8%	95-63-6
Xylene	1.5%	1330-20-7
Cumene	0.9%	98-82-8

NFPA HAZARD RATING:

0	Least		
1	Slight	2	Health
2	Moderate	2	Flammability
3	High	1	Reactivity
4	Severe		

*Ingredients not specifically listed are non-hazardous and are considered to be confidential business information.

Section 4—First Aid Measures

Eyes: Flush with clean water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes. Lift eyelids to facilitate irrigation. Seek medical attention if eye irritation persists.

Skin: Remove contaminated clothing and wash before re-using. Flush skin with water, and then wash with soap and water. Seek medical attention if skin becomes irritated.

Ingestion: Seek medical attention or call a poison control center immediately. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

Inhalation: Remove person to fresh air. If person is not breathing call an emergency responder or ambulance, and then assist breathing as needed. Seek medical attention if irritation persists.

Note to Physician: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury. 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. Maintain adequate ventilation and oxygenation of the patient. Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5—Fire and Explosion Hazard Data

Extinguishing Media: Water fog or fine spray, carbon dioxide, dry chemical or foam. Alcohol resistant foams (ATC type) are preferred if available. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream.

Special Fire Fighting Procedures: Wear a positive pressured self-contained breathing apparatus and full bunker gear. Smoke and fumes from fire may contain hazardous components. Eliminate ignition sources.

Hazardous Combustion Products: May include but are not limited to sulfur oxides, phosphorous compounds, nitrogen oxides, hydrogen chloride, carbon monoxide, and/or carbon dioxide.

Unusual Fire and Explosion Hazards: Dense smoke is produced when product burns. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Vapors are heavier than air and may travel a long distance and accumulate in low-lying areas. Ignition and/or flashback may occur. Closed containers may explode from vapor expansion in high heat. Contain run-off by diking to prevent contamination of water supplies.

Section 6—Accidental Release Measures

Small Spills: Absorb spills with an absorbent material. Thoroughly wash body areas that come into contact with this product. Spills should be cleaned up immediately to prevent spreading.

Large Spills: Absorb spills with an absorbent material. Thoroughly wash body areas that come into contact with this product. Spills should be cleaned up immediately to prevent spreading. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion.

Containment: Vapor explosion hazard. Do not release into sewers or waterways. Dike spills to prevent contamination to water supplies. Contain spills and absorb liquids by covering with clay or other absorbent material. Vacuum, scoop, or sweep up waste and place in a container for disposal.

Section 7—Precautions for Safe Handling and Use

Precautions to Be Taken in Handling and Storage: Store in cool, dry areas away from children, feed and food products and sources of heat. Store at temperatures below 122°F (50°C). Immediately clean up spills that occur during handling or storage. Keep containers closed when not in use. Use of non-sparking or explosion proof equipment may be necessary depending upon the type of operation. Minimize sources of ignition such as static buildup, heat, spark or flame.

Other Precautions: Consult Local, State, and Federal regulations pertaining to storage and disposal.

Section 8—Control Measures/Personal Protection

Exposure Guidelines: Chlorpyrifos: ACGIH TLV is 0.1 mg/M³. 1,2,4-Trimethylbenzene: ACGIH TLV is 25 ppm. Cumene (isopropyl benzene): ACGIH TLV and OSHA PEL are 50 ppm. Xylene: ACGIH TLV is 100 ppm TWA, 150 ppm STEL, A4. OSHA PEL is 100 ppm TWA.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a properly FIT TESTED MSHA/NIOSH-approved respirator (organic vapor cartridge with a particulate pre-filter). In confined or poorly ventilated areas, use an approved positive-pressure supplied-air respirator.

Ventilation: **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred. Use only with adequate ventilation.

Note to End Users: Refer to the product label for complete Personal Protective Equipment.

Protective Gloves: Wear chemically protective gloves.

Eye Protection: Wear protective eyeglasses or chemical safety goggles. Contact lenses are not eye protective devices. If exposure causes eye discomfort, use a full-face respirator.

Other Protective Clothing or Equipment: Wear chemically protective boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

Work/Hygienic Practices: Never eat, drink, nor smoke in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9—Physical/Chemical Characteristics

Physical State:	Liquid	Specific Gravity (H₂O=1):	1.079
Vapor Pressure (mm Hg):	<10 mm Hg @ 25°C	Freezing Point:	Not Determined
Vapor Density (Air=1):	Not Determined	Boiling Point:	290°F (143°C) (solvent)
Solubility in Water (wt %):	Emulsifiable	pH:	Not Determined
Appearance and odor:	Red Liquid, Solvent-Type Odor	Flash Point:	106 °F (41 °C)
Lower Flammability Limit:	1%	Upper Flammability Limit:	6% (Xylene range aromatic solvent)

Section 10—Reactivity Data

Stability: Product stable at room temperature in closed containers under normal storage and handling conditions.

Chemical Incompatibilities: Avoid contact with oxidizing materials and bases.

Conditions to Avoid: Avoid temperatures >122°F (50°C)

Hazardous Decomposition Products: Hydrogen chloride, organic sulfides, sulfur dioxide and other chemicals may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well.

Hazardous Polymerization: Not known to occur.

Section 11—Toxicological Information

Eye Effects:	May cause moderate eye irritation. May cause moderate corneal injury
Skin Effects:	LD50 > 5,000 mg/kg (similar material). A test in guinea pigs indicated that this product may have weak skin sensitization potential. However, experience in the manufacture and use of this product has not provided evidence for skin sensitizing properties.
Acute Oral Effects:	LD50 = 776 mg/kg (male rats), 300 mg/kg (female rats); similar material. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.
Acute Inhalation Effects:	LC50 = 2.7 mg/L (4 hours); similar material. Excessive exposure may produce organophosphate-type cholinesterase inhibition. Vapor concentrations are attainable which could be hazardous on single exposure.
Chronic Effects:	Excessive exposure may produce organophosphate-type cholinesterase inhibition. Signs and symptoms of excessive exposure to chlorpyrifos may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. Chlorpyrifos, in animals, effects have been reported on the following organs: adrenal gland. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. Solvent has been reported to cause liver, kidney, and blood effects at high exposure levels. Xylene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations; such effects have not been reported in humans. For cumene, in animals, effects have been reported on the following organ: eye (cataract).
Mutagenicity:	Results of in-vitro and animal genetic toxicity studies 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.
Teratogenicity:	Chlorpyrifos did not cause birth defects in laboratory animal. Solvent was toxic to the fetus in laboratory animal tests, but only at doses that were toxic to the mothers. Exaggerated doses of xylene given orally to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice. In animal inhalation studies, xylene caused toxicity to the fetus but did not cause birth defects. No malformations were induced at exposures less than those causing severe toxicity to the adult animals.
Reproduction Effects:	Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals. For the solvent, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Carcinogenicity:	NTP: Not Available IARC: Not available OSHA: Not Available

Section 12—Ecological Information

Movement & Partitioning: Based largely or completely on information for chlorpyrifos and components of the solvent. Bioconcentration potential is moderate (BCF is between 100 and 3000 or Log Pow between 3 and 5).

Degradation & Persistence: Based largely or completely on information for chlorpyrifos. The photolysis half-life in water is 3-4 weeks. Tropospheric half-life is estimated to be 1.4 hours. Degradation is expected in the soil environment within days to weeks. Under aerobic soil conditions the half-life is generally 30-60 days. Based largely or completely on information for components of the solvent. Biodegradation under aerobic static laboratory conditions is high (BOD 20 or BOD28/ThOD is >40%).

Ecotoxicology: Based largely or completely on information for chlorpyrifos. Material is very highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ <0.1 mg/L in most sensitive species tested). Material is highly toxic to birds on a dietary basis (LC₅₀ between 50 and 500 ppm). Material is moderately toxic to birds on an acute basis (LD₅₀ is between 51 and 500 mg/kg). Based largely or completely on information for the solvent. Material is moderately toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 1 and 10 mg/L in most sensitive species). Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5,000 ppm). Material is practically non-toxic to birds on an acute basis (LD₅₀ is >2000 mg/kg).

Section 13—Disposal Considerations

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.

Container: Triple rinse (or equivalent) the empty containers. Then offer for recycling or reconditioning.

RCRA characteristics: D001-Due to flash point

Section 14—Transport Information

For all package sizes:

UN3017, Organophosphorous pesticide, liquid, toxic, flammable (Chlorpyrifos, aromatic naphtha) 6.1(3), PG III, RQ (Chlorpyrifos)

Section 15—Regulatory Information

TSCA Inventory: All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

SARA Title III, Section 302: None

SARA Title III, Section 311/312:	Immediate: Yes	Delayed: Yes
Sudden Release of Pressure: No	Fire: Yes	Reactive: No

SARA Title III, Section 313: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Super Fund Amendments and Reauthorization Act of 1989 and 40 CFR Part 372:

1,2,4-Trimethylbenzene (CAS # 95-63-6) 15.8%; Xylene (CAS # 1330-20-7) 1.5%; Cumene (CAS # 98-82-8) 0.9%

CERCLA: This product contains the following substance (s) listed as "Hazardous Substances" under CERCLA, which may require reporting of releases:

Chlorpyrifos (CAS # 2921-88-2) has an RQ of 1 lb (reached with approximately 1 quart of product)

Xylene (CAS # 1330-20-7) has an RQ of 100 lbs (reached with approximately 740 gallons of product)

Cumene (CAS # 98-82-8) has an RQ of 5000 lbs (not reached with any practical quantity of product)

PROPOSITION 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

Section 16—Other

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of Winfield Solutions' knowledge. Winfield Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.