

### SECTION 1 - PRODUCT AND MANUFACTURER INFORMATION

#### TRADE NAMES AND SYNONYMS

Reldan 4E Insecticide

#### CHEMICAL NAMES AND SYNONYMS

Chlorpyrifos-methyl

#### CHEMICAL FAMILY

Mixture

#### FORMULA

Mixture

#### PRODUCT CODE

7501-41

#### MANUFACTURER'S INFORMATION

Gustafson LLC  
1400 Preston Road, Suite 400  
Plano, TX 75093  
(972) 985-8877 (8:00am-5:00pm Central Time)  
(972) 964-6544 (FAX)  
[www.gustafson.com](http://www.gustafson.com)

#### EMERGENCY PHONE NUMBERS

CHEMTREC: (800) 424-9300 (Toll free)  
(703) 527-3887 (US & International)

#### ADDITIONAL EMERGENCY PHONE NUMBERS

Gustafson: (972) 771-2741 [After Hours]  
Gustafson: (972) 542-1375 [After Hours]

#### PREPARED BY

Environmental, Health & Safety

Revised Date: 03/05 (Supersedes: 02/03)

**NOTE TO END-USERS:** This MSDS is being provided to all interested persons in accordance with federal and state right-to-know laws. Precautionary Statements, First Aid, and Directions for Use of this product by end-users are contained on the product label and must be followed at all times.

### SECTION 2 - COMPOSITION AND INGREDIENT INFORMATION

CHEMICAL NAME (INGREDIENTS)	CAS NUMBER	HAZARD	% BY WEIGHT
O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate (Chlorpyrifos-methyl)	5598-13-0	Mod-toxic	43.2
Xylene range aromatic solvent	64742-95-6	Combustible	48.2
*Proprietary emulsifiers	*	Irritant	1-10

\*Trade secret information available as provided in 29 CFR 1910.1200 (i)

For EXPOSURE GUIDELINES, see page 3, Section 8 of this MSDS.

### SECTION 3 - HAZARDS IDENTIFICATION

#### EFFECTS OF OVEREXPOSURE

#### ACUTE (SHORT TERM EXPOSURE):

May cause moderate irritation with corneal injury; effects may be slow to heal. Vapors may irritate eyes. A single exposure is not likely to result in the material being absorbed through the skin in harmful amounts. Small amounts swallowed are not likely to cause injury, however, swallowing large amounts may result in injury. If inhaled, may cause respiratory irritation, lung damage, or even death due to chemical pneumonia (if liquid enters the lung). Signs and symptoms of central nervous system depression in order of increasing exposure to the Solvent are: headache, dizziness, drowsiness, and incoordination.

## SECTION 3 - HAZARDS IDENTIFICATION - Continued

### CHRONIC (LONG TERM EXPOSURE):

Prolonged or repeated exposure may cause skin irritation. May cause allergic reaction in susceptible persons. Chlorpyrifos-methyl may cause headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, and convulsions. The Solvent has been reported to cause liver, kidney, and blood effects at high exposure levels. The Xylene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations, but have not been reported in humans. High doses of Chlorpyrifos-methyl and Xylene fed to pregnant mice resulted in an increase in cleft palate (a common developmental abnormality in mice). No abnormalities have been observed in other species of lab animals under similar test conditions. Results in mutagenic tests have been negative. Inhalation of Xylene by pregnant animals resulted in toxicity to the fetus, but did not cause any birth defects.

### MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:

PRIMARY ROUTE OF ENTRY:  INHALATION  INGESTION  ABSORPTION

## SECTION 4 - FIRST AID INFORMATION

Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes then continue rinsing eye. Call a Poison Control Center or doctor for treatment advice.

**IF ON SKIN:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for treatment advice.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance then give artificial respiration, preferably mouth-to-mouth if possible. Call a Poison Control Center or doctor for further treatment advice.

**IF SWALLOWED:** Call a Poison Control Center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

### NOTE TO PHYSICIAN (ANTIDOTE):

Chlorpyrifos-methyl is a cholinesterase inhibitor. The decision of whether to induce vomiting or not should be made by the attending physician. If lavage is performed, endotracheal and/or esophageal control is suggested. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Suggest plasma and RBC cholinesterase tests which may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferred antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient. Contains petroleum distillate – vomiting may cause aspiration pneumonia.

## SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT	FLAMMABLE LIMITS	LOWER EXPLOSIVE LIMIT (LEL)	UPPER EXPLOSIVE LIMIT (UEL)
104°F (TCC)	N/E	1.1 @ 75°C	6.0 @ 150°C (values for xylene aromatic solvent)

### EXTINGUISHING MEDIA:

FOAM  CO<sub>2</sub>  DRY CHEMICAL  WATER SPRAY  OTHER (SPECIFY):

### SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing and NIOSH approved self-contained breathing apparatus if involved in a fire. Contain water run-off.

### UNUSUAL FIRE AND EXPLOSION HAZARDS:

Toxic and irritating gases can be formed. Rapid decomposition occurs above 160-200°C. Avoid heating above 50°C. Undergoes exothermic decomposition which can lead to higher temperatures and violent decomposition if heat developed is not removed. Keep away from possible ignition sources.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear appropriate safety equipment. Absorb on suitable dry absorbent and shovel or sweep-up and place into approved DOT container and seal. Scrub contaminated area with detergent and handle as above. Repeat as necessary. Flush area with water while observing proper environmental considerations. Remove contaminated clothing immediately, wash skin with soap and water, and launder clothing before reuse. Contaminated leather items, such as shoes, belts, and watchbands should be removed and destroyed.

### REPORTABLE QUANTITY (RQ) UNDER CERCLA:

N/A (for all non-bulk containers). [Call Gustafson LLC EHS Dept. for assistance.]

## SECTION 7 - STORAGE AND HANDLING INFORMATION

### STORAGE TEMPERATURES:

MAX 120° F MIN 20° F  INDOOR  OUTDOOR  REFRIGERATED

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Do not contaminate water, food, or feed by storage or disposal. Store in a cool, dry location. Do not store in direct sunlight or temperatures above 120°F. Approximate Freeze Point is 10-15°F.

### OTHER PRECAUTIONS

Corrosive - causes eye and skin damage or irritation. Do not get in eyes, on skin, or on clothing. Do not breathe vapors and spray mist. Keep container closed. Wash hands, arms, and face thoroughly with soap and water after handling and before eating or smoking. Routinely shower or bathe after work and wash all clothing with soap and hot water before reusing. Keep away from food, feedstuffs, and water supplies. Keep out of reach of children.

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Local exhaust or general ventilation to maintain exposure below PEL.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**EYE/FACE PROTECTION:** Use chemical goggles. If vapor exposure causes discomfort, use a NIOSH approved full-face respirator.

**HAND/SKIN PROTECTION:** Rubber gloves (PVC, Viton, or other impervious material). Immediately remove contaminated clothing, wash skin area with soap & water and launder clothing before reuse. Contaminated leather items should be destroyed.

**RESPIRATORY PROTECTION:** NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P, or HE prefilter.

**WORK PRACTICES:** Protective clothing that minimizes all skin contact.

**NOTE TO END-USERS:** *The employee protection recommendations on this MSDS may differ from those on the product label. For normal use of this product, always refer to the personal protective equipment requirements on the product label.*

## EXPOSURE GUIDELINES

CHEMICAL NAME	CAS NUMBER	OSHA Permissible Exposure Limit (PEL)	ACGIH Threshold Limit Value (TLV)
O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate	5598-13-0	0.2 mg/m <sup>3</sup> skin	0.2 mg/m <sup>3</sup> skin
Xylene range aromatic solvent:	64742-95-6	100 ppm	100 ppm
- Pseudocumene 6.3%	95-63-6	N/E	25 ppm
- 1,3,5-Trimethylbenzene 2.5%	108-67-8	N/E	25 ppm
- m-xylene 2.2%	108-38-3	100 ppm	100 ppm
- o-xylene 2.2%	95-47-6	100 ppm	100 ppm
- n-propylbenzene 1.4%	103-65-1	N/E	N/E
*Proprietary emulsifiers	*	N/E	N/E

\*Trade secret information available as provided in 29 CFR 1910.1200(i)

VALUES ARE 8-HR. TIME-WEIGHTED-AVERAGES UNLESS OTHERWISE SPECIFIED

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Liquid	<b>pH (AS IS):</b>	N/E
<b>BOILING POINT (°F):</b>	290	<b>SOLUBILITY (WATER):</b>	Miscible
<b>BULK DENSITY:</b>	9.26 lbs./gal.	<b>SPECIFIC GRAVITY:</b>	1.11
<b>COLOR:</b>	Yellow	<b>VAPOR DENSITY (Air = 1):</b>	N/E
<b>EVAP. RATE (BuAc=01):</b>	N/E	<b>VAPOR PRESSURE (mmHg):</b>	50 at 40°C
<b>FREEZING POINT (°F):</b>	10-15°F	<b>VISCOSITY:</b>	N/E
<b>ODOR:</b>	Mercaptan-like	<b>% VOLATILE BY WEIGHT:</b>	50

## SECTION 10 - STABILITY AND REACTIVITY INFORMATION

<b>CONDITIONS TO AVOID:</b>	Sustained temperatures above 120°F.
<b>INCOMPATIBILITY (MATERIALS TO AVOID):</b>	Strong bases and oxidizing agents.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Hydrochloric acid, methyl-sulfide, dimethyl sulfides, and nitrogen oxides.
<b>STABILITY:</b>	<input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE
<b>HAZARDOUS POLYMERIZATION:</b>	<input type="checkbox"/> WILL OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR

## SECTION 11 - TOXICITY INFORMATION

<b>ORAL LD<sub>50</sub></b> Rats = 1,500 - 1,800 mg/kg	<b>DERMAL LD<sub>50</sub></b> Rabbit >5,000 mg/kg	<b>INHALATION LC<sub>50</sub></b> Rat = 4.8 mg/L for 4 hrs. (male)
---	--	---

**EFFECTS TO EYES:** May cause irritation with corneal injury.

**EFFECTS TO SKIN:** May cause irritation with repeated exposure.

### CARCINOGENICITY REFERENCE SOURCES:

<b>I.A.R.C.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>N.T.P.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>O.S.H.A.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--	--

## SECTION 12 - ECOLOGICAL INFORMATION

Toxic to fish, birds, and other wildlife. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not discharge directly or indirectly into surface waters. Do not contaminate water by cleaning of equipment or disposal of wastes.

## SECTION 13 - DISPOSAL CONSIDERATIONS

### RCRA – FEDERAL HAZARDOUS WASTE INFORMATION:

m-xylene (CAS# 108-38-3) - U239 (and D001)\*

\*See 40 CFR Part 261 and contact your local regulatory agency for additional information and requirements.

### PESTICIDE DISPOSAL:

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

### CONTAINER DISPOSAL:

Contact Gustafson or your chemical supplier for container return instructions. If container is not returned in accordance with instructions, triple rinse (or equivalent). Then offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill or by incineration; or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## SECTION 14 - TRANSPORT INFORMATION

**REGULATED BY:**  Domestic Road/Rail (DOT)  
 Export Water (IMO)  
 Air (ICAO/IATA)  
 Not regulated as a hazardous material by any mode of transportation.

### DOMESTIC ROAD/RAIL (DOT)

**For Package Sizes:** Not regulated in containers less than 119 gallons.\*  
*\*See 49 CFR 173.150 (f)(1) and (2) or contact Gustafson EHS for additional information..*

**Proper Shipping Name:** N/A (not regulated).

**ERG Number:** 128

**Marine Pollutant?**  Yes  No **Chemical (s):** N/A

**EXPORT WATER (IMO)** *Contact Gustafson LLC Environmental, Health & Safety for additional information.*

**AIR (ICAO/IATA)** *Contact Gustafson LLC Environmental, Health & Safety for additional information.*

### FREIGHT TARIFF DESCRIPTION

**Rate As:** Insecticide or Fungicide , N.O.I., Liquid, Other Than Poison

## SECTION 15 - REGULATORY INFORMATION

**SARA HAZARD CATEGORY** This product has been reviewed according to the EPA Hazard Categories promulgated under Section 311 and 312 of the Superfund Amendments and Reauthorization Act Of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

**CERCLA/SARA:** Immediate (acute), delayed (chronic), fire  
**TPQ:** N/A  
**RQ:** NA (for all non-bulk containers). *[Call Gustafson EHS Dept. for assistance.]*

**SARA 313 INFORMATION** This product contains the following substances subject to the reporting requirements of SARA Title III, Section 313 and 40 CFR Part 372:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>CONCENTRATION</u>
Chlorpyrifos-methyl	5598-13-0	43.2%
m-xylene*	108-38-3*	5% (max.)*
o-xylene*	95-47-6*	5% (max.)*
Pseudocumene*	95-63-6*	10% (max.)*

\* Component of Xylene range aromatic solvent (CAS# 64742-95-6)

### STATES RIGHT-TO-KNOW LISTS

<b>CHEMICAL &amp; CAS #</b>	<b>CA</b> (Prop. 65)	<b>DE</b> (Air Qual. Mgmt.)	<b>FL</b> (Toxic Subs.)	<b>MA</b> (Haz. Subs.)	<b>MI</b> (Critical Materials)	<b>MN</b> (Haz. Subs.)	<b>NJ</b> (RTK Haz. Subs.)	<b>NY</b> (Haz. Subs.)	<b>PA</b> (Haz. Subs.)	<b>WA</b> (PEL for Air)
Chlorpyrifos-methyl (CAS# 5598-13-0)		X					X			
m-xylene* (CAS# 108-38-3)			X	X			X	X	X	
n-propylbenzene* (CAS# 103-65-1)			X	X					X	
o-xylene* (CAS# 95-47-6)		X	X	X			X	X	X	
Pseudocumene* (CAS# 95-63-6)		X		X			X		X	
1,3,5-trimethylbenzene* (CAS# 108-67-8)				X						

**SECTION 15 - REGULATORY INFORMATION - Continued**

**STATES RIGHT-TO-KNOW LISTS - Continued**

CHEMICAL & CAS #	CA (Prop. 65)	DE (Air Qual. Mgmt.)	FL (Toxic Subs.)	MA (Haz. Subs.)	MI (Critical Materials)	MN (Haz. Subs.)	NJ (RTK Haz. Subs.)	NY (Haz. Subs.)	PA (Haz. Subs.)	WA (PEL for Air)
*Emulsifier		X		X				X	X	

\* Component of Xylene range aromatic solvent (CAS# 64742-95-6)

**THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS ON THE CLEAN AIR ACT (CAA) LIST OF HAZARDOUS AIR POLLUTANTS (HAP's):**

N/A

**THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS ON RCRA P OR U LISTS OF FEDERAL HAZARDOUS WASTE:**

m-xylene (CAS# 108-38-3) - U239 (and D001)\*

\* See 40 CFR Part 261 and contact your local regulatory agency for additional information and requirements.

**SECTION 16 - OTHER INFORMATION**

HMIS RATINGS		NFPA RATING	
HEALTH.....	3	HEALTH .....	3
FLAMMABILITY .....	2	FLAMMABILITY.....	2
REACTIVITY.....	1	REACTIVITY .....	1
PERSONAL PROTECTION.....	G	SPECIFIC HAZARD .....	N/A

**ABBREVIATION KEY**

N/A = Not Applicable  
N/D = Not Determined  
N/E = Not Established

C = Ceiling Limit  
rf = Respirable Fraction  
td = Total Dust

STEL = Short Term Exposure Limit  
SKIN = Skin Notation

**REFERENCES**

**THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED, OR IMPLIED, EXCEPT THAT IT IS ACCURATE TO THE BEST KNOWLEDGE OF GUSTAFSON LLC. THE DATA ON THIS SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. GUSTAFSON LLC ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THESE DATA.**