



United Phosphorus, Inc.

<b>NFPA</b>	<b>PPE</b>	

Issued Date 19-Jun-2007

Revision Date 23-Aug-2013

Revision Number: 6

**1. PRODUCT AND COMPANY IDENTIFICATION**

**UPI**  
 630 Freedom Business Center  
 Suite 402  
 King of Prussia, PA 19406

**Emergency Telephone Number**  
 Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
 Medical: Rocky Mountain Poison Control Center  
 (866) 673-6671 (24hrs)

<u>Company Information</u>	<u>Contact Information</u>	<u>Phone Number</u>	<u>Available Hrs</u>
UPI	Customer Service R&D Technical Service	1-800-438-6071 610-223-2180	8:00 am to 5:00 pm EST 8:00 am - 5:00 pm (EST)

**Product Name** Surflan AS Specialty  
**EPA Reg #** 70506-44  
**Recommended Use** Herbicide  
**Product Code** 12U-125

**2. HAZARDS IDENTIFICATION**

<b>Emergency Overview</b>		
May cause eye and skin irritation Prolonged skin contact may cause local redness. May cause an allergic reaction in sensitive individuals May cause irritation to the respiratory tract.		
<b>CAUTION</b>		
<b>Appearance</b> Opaque, Orange.	<b>Physical State</b> Liquid.	<b>Odor</b> Slight. Aromatic.

**Potential Health Effects**

- Inhalation
- Skin contact
- Repeated or long term exposure may cause adverse effects on the liver or thyroid
- Propylene glycol symptoms may include central nervous system depression, headache, dizziness, drowsiness and loss of coordination.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Ingredients Name

Chemical Name	CAS-No	Weight %	OSHA PEL
Oryzalin	19044-88-3	40.4	N/A
Glycerin	56-81-5	<30	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated) TWA: 5 mg/m <sup>3</sup> mist, respirable fraction
Propylene Glycol	57-55-6	<40	N/A

### 4. FIRST AID MEASURES

#### Eye Contact

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.  
Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.  
Call a poison control center or doctor for treatment advice.

#### Skin Contact

Take off contaminated clothing  
Wash off immediately with plenty of water for at least 15 minutes  
If skin irritation persists, call a physician

#### Inhalation

If breathing is irregular or stopped, administer artificial respiration  
May cause allergic respiratory reaction  
Call a poison control center or doctor for further treatment advice.

#### Ingestion

Call a physician or poison control center immediately  
Never give anything by mouth to an unconscious person  
Do not induce vomiting unless told to do so by a poison control center or doctor

#### Notes to Physician

No information available

### 5. FIRE-FIGHTING MEASURES

#### Flammable Explosive Properties

##### Flash Point

>93 C > 200 F

##### Autoignition Temperature

Not applicable

##### Flammability Limits in Air

Not available

##### Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

**Fire/Explosion Hazard**

This material will become a fire hazard only when a sufficient amount of water has evaporated. At that point, the material will exhibit the flammability characteristics of propylene glycol and oryzalin. The explosive potential of oryzalin as an airborne dust is rated severe. The minimum ignition temperature for a dust cloud is 714 F (379 C).

**Hazardous Combustion Products**

Oxides of nitrogen, Can emit toxic fumes under fire conditions.

**NFPA**

**Health 1**

**Flammability 1**

**Instability 0**

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions**

Avoid contact with the skin and the eyes. Use personal protective equipment.

**Environmental Precautions**

Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

**Methods for Clean-up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

**7. HANDLING AND STORAGE**

**Handling**

Keep out of reach of children. Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Wear personal protective equipment.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

<b>Chemical Name</b>	Glycerin
<b>ACGIH TLV</b>	TWA: 10 mg/m <sup>3</sup> mist
<b>OSHA PEL</b>	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated) TWA: 5 mg/m <sup>3</sup> mist, respirable fraction

### Engineering Controls

Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems. PESTICIDE APPLICATORS & WORKERS. THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

### Personal Protective Equipment

#### Eye/face Protection

Where there is potential for eye contact have eye flushing equipment available. Use eye protection to avoid eye contact.

#### Skin Protection

Long sleeved clothing. Long pants. Chemical resistant gloves. Socks and footwear.

#### Respiratory Protection

Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

### General Hygiene Considerations

Do not eat, drink or smoke when using this product. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Opaque Orange	<b>Odor</b>	Slight Aromatic
<b>Physical State</b>	Liquid	<b>pH</b>	approx 5.9
<b>Boiling Point/Range</b>	Not available	<b>Melting Point/Range</b>	Not available
<b>Specific Gravity</b>	1.138 to 1.239 @ 25 C	<b>Solubility</b>	Miscible
<b>Evaporation Rate</b>	Not available	<b>Vapor pressure</b>	Not available
<b>Vapor Density</b>	Not available	<b>VOC Content</b>	Not available
<b>Viscosity</b>	Not available	<b>Molecular Weight</b>	no data available
<b>Bulk Density</b>	no data available	<b>Percent Solids</b>	Not available
<b>Percent Volatiles</b>	Not available		

## 10. STABILITY AND REACTIVITY

### Stability

Stable under recommended storage conditions If water mixture evaporates the resultant mixture should be handled with care as the explosive potential of oryzalin as an airborne dust is rated severe.

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<b>Conditions to Avoid</b>	Avoid dust formation
<b>Incompatible Materials</b>	No materials to be especially mentioned
<b>Hazardous Decomposition Products</b>	Toxic gases and fumes may be formed if product is involved in fire. Oxides of nitrogen
<b>Possibility of Hazardous Polymerization</b>	Hazardous polymerisation does not occur

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

**Component Information**

Oryzalin -

In animals has been shown to cause liver, kidney, bladder, spleen, and/or blood effects. Repeated excessive exposure to crystalline silica may affect lung function and cause silicosis, a progressive and disabling disease of the lungs. Some evidence suggests that kidney effects may also result from excessive exposure. Propylene glycol: Single exposure studies indicate that this material is practically non-toxic if swallowed (rat LD50 21,000 mg/kg) or absorbed through skin (rabbit LD50 20,800 mg/kg) and slightly irritating to rabbit eyes and skin.

This material is widely used in antifreeze, hydraulic fluids, pharmaceutical solvents, food and cosmetics. Workplace experience has shown this material to have low acute and systemic toxicity. Human patch tests indicate that repeated contact causes mild irritation. Although there have been some reports of skin sensitization, studies with large groups of humans and use in topical medical applications suggest that these are likely irritant rather than sensitization responses.

Repeated administration in the diet or through drinking water to rats and dogs showed essentially no adverse effects other than slight liver toxicity. Similar studies in cats showed increase in Heinz body formation in the red blood cells without anemia. Long-term oral studies in rats, dogs, and cats have shown no evidence of carcinogenic or target organ effects other than increased red blood cell turnover. Long-term inhalation exposure in monkeys showed no adverse effects. Developmental toxicity studies in mice, rats, rabbits and hamsters showed no increased birth defects or other adverse effects on the fetus. Mice and cats had no adverse effects on reproductive ability or development and survival of offspring. No genetic changes were observed in tests using bacteria, animal cells, or animals. Glycerin:

No skin allergy was observed in guinea pigs or humans following repeated exposure. Oral administration in clinical use has caused nausea and vomiting. Repeated or long-term oral exposure produced no adverse effects in rats. No adverse effects on fertility or birth defects were observed in rats or their offspring following oral exposure before and during pregnancy. Generally, no genetic changes were observed in tests using bacteria or animal cells.

Single exposure studies indicate that this material is practically non-toxic if swallowed (rat LD50 12,600- 27,200 mg/kg) or absorbed through skin (rabbit LD50 >10,000 mg/kg), no more than slightly toxic if inhaled (rat 1 hr LC50 >0.57 mg/l), and slightly irritating to rabbit eyes and skin.

**Chronic Toxicity**

**Carcinogenicity**

Thyroid follicular cell tumors observed in rats were considered a secondary response caused by mechanisms not relevant to humans. Benign skin and adnexal tumors observed in rats may also have been secondary to thyroid effects. In vitro and animal mutagenicity studies on oryzalin and propylene glycol were negative.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Oryzalin -

Bioconcentration potential is low (BCF <100 or low Pow <3)

Degradation is expected in the soil environment within days to weeks.

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in most sensitive species).

Material is slightly toxic to birds on an acute basis (LD50 is between 501 and 2000 mg/kg).

Acute oral LD50 in bobwhite (*Colinus virginianus*) is 1046 mg/kg.

Acute oral LD50 in honeybee (*Apis mellifera*) is >100 ug.

## 13. DISPOSAL CONSIDERATIONS

### **Waste Disposal Method**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or 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. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. Do not apply directly to wetlands or water.

### **Contaminated Packaging**

Non refillable container. Do not reuse this container. Clean container promptly after emptying. [For containers smaller than 5 gallons] Triple rinse as follows: Empty the contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 3/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. [For containers larger than 5 gallons] Triple rinse or pressure rinse as follows:  
Triple rinse: Empty the remaining contents into application equipment or a mix tank. Fill container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand container on its end and tip back and forth several times. Empty rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.  
Pressure rinse: Empty remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after flow begins to drip.  
The offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

## 14. TRANSPORT INFORMATION

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**DOT** When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated. When shipped in bulk, by vessel, or internationally use the IMDG shipping description:  
**Proper Shipping Name** Environmentally hazardous substance, liquid, n.o.s (Oryzalin)  
**Hazard Class** 9  
**UN-No** UN3082  
**Packing Group** PG III  
**Marine pollutant** Y.

**ICAO**  
**UN-No** UN3082  
**Proper Shipping Name** Environmentally hazardous substance, liquid, n.o.s (Oryzalin)  
**Hazard Class** 9  
**Packing Group** PG III  
**Description** Marine pollutant

**IATA**  
**UN-No** UN3082  
**Proper Shipping Name** Environmentally hazardous substances, liquid, n.o.s. (Oryzalin)  
**Hazard Class** 9  
**Packing Group** PG III  
**ERG Code** 9L  
**Description** Marine pollutant

**IMDG/IMO**  
**Proper Shipping Name** Environmentally hazardous substances, liquid, n.o.s. (Oryzalin)  
**Hazard Class** 9  
**UN-No** UN3082  
**Packing Group** PG III  
**Marine pollutant** yes

**15. REGULATORY INFORMATION**

**International Inventories**

Chemical Name	TSCA	DSL	NDSL	EINECS/ ELINCS	ENCS	CHINA	KECL	AICS
Oryzalin				X			97-3-168	X
Glycerin	Present	X		X	(7)-338 (2)-242	X	KE-29297	X
Propylene Glycol	Present	X		X	(2)-234	X	KE-29267	X

**USA**

**Federal Regulations**

**SARA 313**  
 Y

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values
Oryzalin	19044-88-3	40.4	1.0

**SARA 311/312 Hazardous Categorization**  
**Chronic Health Hazard** No

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Acute Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Glycerin	56-81-5	<30		Group II		
Propylene Glycol	57-55-6	<40		Group I		

CERCLA

RCRA

**Pesticide Information**

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Oryzalin 19044-88-3 ( 40.4 )			X	
Glycerin 56-81-5 ( <30 )			X	
Propylene Glycol 57-55-6 ( <40 )			X	

**State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	Category	California Prop. 65	Non-additive, corrosive chemical type
Oryzalin	19044-88-3	Carcinogen	Carcinogen	

**State Right-to-Know**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Oryzalin		X			
Glycerin	X	X	X		
Propylene Glycol		X	X		

**International Regulations**

**Mexico - Grade** Not available

Component	Category	Carcinogen Status	Exposure Limits
Oryzalin 19044-88-3 ( 40.4 )	Carcinogen		

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Glycerin 56-81-5 ( <30 )			Mexico: TWA 10 mg/m <sup>3</sup>
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**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**  
Not determined

**16. OTHER INFORMATION**

**Revision Date** 23-Aug-2013

**Revision Summary**  
Recurrent confirmation/update of data

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**End of MSDS**