



Material Safety Data Sheet

United Phosphorus, Inc.

NFPA	PPE		

Issued Date 05-Apr-2007

Revision Date 19-Nov-2009

Revision Number: 3

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)

Company Information

UPI

Contact Information

Customer Service
R&D Technical Service

Phone Number

1-800-438-6071
610-878-6100

Available Hrs

8:00 am to 5:00 pm EST
8:00 am - 5:00 pm (EST)

Product Name

EPA Reg

Recommended Use

Product Code

Surflan WDG Herbicide
70506-50
herbicide
12U-123

2. HAZARDS IDENTIFICATION

Emergency Overview

Airborne dust explosive potential rated as severe. Avoid creating dusty conditions and ensure that all handling of this product is performed with attention to avoiding creating dust.

Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.

Product dust may be irritating to eyes, skin and respiratory system

WARNING!

Appearance Orange.

Physical State Free flowing microgranules.

Odor Odorless.

Potential Health Effects

- Inhalation
- Skin contact

Eyes
Skin
Inhalation

Can cause slight to moderate irritation to the eyes..

May cause skin irritation.

May cause irritation of respiratory tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients Name

Chemical Name	CAS-No	Weight %	OSHA PEL
Kaolin	1332-58-7	15	5 mg/m ³ Respirable fraction. 10 mg/m ³ Total dust.
Oryzalin	19044-88-3	85	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.
Rinse skin immediately with plenty of water for 15-20 minutes.
Call poison control center or doctor for treatment advice.

Inhalation

Move person to fresh air.
If person is not breathing, call 911 or an ambulance, then give artificial respiration.
Call a poison control center or doctor for further treatment advice.

Ingestion

Call a physician or Poison Control Center immediately
Have person sip a glass of water if able to swallow
Do not induce vomiting unless told to do so by a poison control center or doctor
Never give anything by mouth to an unconscious person

Notes to Physician

No information available

5. FIRE-FIGHTING MEASURES

Flammable Explosive Properties

Flash Point Not applicable
Autoignition Temperature 190°C / 374°F

Flammability Limits in Air
Lower 0.04 oz/cu. ft
Explosion limits

Extnguishing Media

Water, Carbon dioxide (CO2) Dry chemical.

Fire/Explosion Hazard

Dust clouds generated during handling and/or storage can form explosive mixtures with air. Dust may form explosive mixture in air. Dust explosion characteristics vary with the particle size, particle shape, moisture content, contaminants, and other variables. This product is a granule. The explosive potential as an airborne dust is rated severe. The maximum ignition temperature for a dust cloud is 714 F (379 C). A dust layer of this product has a minimum ignition temperature of 374 F (190 C). Surflan should not be used in any process involving milling operations until specific safety instructions are identified and reviewed.

Hazardous Combustion Products

Oxides of nitrogen.

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. Avoid dust formation. Remove all sources of ignition.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with an absorbant such as clay, sand or soil. . 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

Avoid dust formation. Use non-sparking tools . Reduce dust spreading with water spray, collect rinsate..

7. HANDLING AND STORAGE

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Handling

Avoid dust formation. Use explosion proof equipment. Keep container tightly closed. Flush container clean before discarding. Do not reuse container as it may retain hazardous product residue. Prevent dust accumulation. Avoid spray drift. Do not apply when weather conditions may cause drift. Do not allow this product to drift to non-target areas. Do not apply aerially when wind speed is greater than 10 mph or during periods of temperature inversions. . Avoid contact with skin, eyes and clothing. Fine dust dispersed in air may ignite. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Remove all sources of ignition. In case of insufficient ventilation, wear suitable respiratory equipment. Remove and wash contaminated clothing before re-use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Protect from sunlight and store in well-ventilated place. Store in a dry place and/or in closed container. Static electricity may accumulate when transferring material. All containers must be bonded and grounded during filling and emptying operations.. Ensure that all storage and handling equipment is properly rated, grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate and create fire hazard. All storage containers must be bonded and grounded during filling and emptying operations. .

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
Kaolin	2 mg/m ³ Respirable fraction.	5 mg/m ³ Respirable fraction. 10 mg/m ³ Total dust.

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. .

Personal Protective Equipment

Eye/face Protection

Goggles.

Skin Protection

Protective gloves.

Respiratory Protection

Avoid breathing dust. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipmentfor given application. Observe respirator use limitations specified by NIOSH or the manufacturer. .

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

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Appearance	Orange	Odor	Odorless
Physical State	Free flowing microgranules	pH	(50/50 aqueous)6.3
Boiling Point/Range	Not available	Melting Point/Range	Not available
Specific Gravity	Not available	Solubility	Not available
Evaporation Rate	Not available	Vapor Pressure	Not available
Vapor Density	Not available	VOC Content	Not available
Viscosity	Not available	Molecular Weight	No data available
Bulk Density	No data available	Percent Solids	Not available
Percent Volatiles	Not available		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions This product is a granule. The explosive potential of Surflan as an airborne dust is rated as severe. The minimum ignition temperature for a dust cloud is 714 F (379 C). A dust layer of Surflan has a minimum ignition temperature of 374 F (190 C). Surflan should not be used in any process involving milling operations without complete understanding and precautionary methods in place with regard to dust formation and dust explosion potential.
Conditions to Avoid	Avoid dust formation. Extremes of temperature and direct sunlight.
Incompatible Materials	No materials to be especially mentioned
Hazardous Decomposition Products	Noxious fumes. Nitrogen oxides (NOx).
Possibility of Hazardous Polymerization	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information	<p>Surflan</p> <p>EYE: May cause moderate eye irritation with slight corneal injury.</p> <p>SKIN: Prolonged or repeated skin exposure not likely to cause significant irritation. Did not produce allergic skin reaction in guinea pigs. LD50 skin absorption for rabbits is >5,000 mg/kg.</p> <p>INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is >5000 mg/kg.</p> <p>INHALATION: Dust may cause irritation to the upper respiratory tract (nose and throat) The LC50 for rats is >4.1 mg/L for 4 hours.</p>
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Component Information	<p>Oryzalin -</p> <p>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.</p>
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Chronic Toxicity

Carcinogenicity

This product contains crystalline silica which has been shown to cause cancer in laboratory animals and humans. Crystalline silica is listed by IARC and NTP. Thyroid follicular cell tumors observed in rats were considered a secondary response cause by mechanisms not relevant to humans. Benign skin and adexnal tumors observed in rats may also have been secondary to thyroid effects..

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

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.. 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. .

Contaminated Packaging

Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

DOT

When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated.

When shipped in bulk use IMDG shipping description

ICAO

Not regulated

IATA

UN-No	3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s. (Oryzalin)
Hazard Class	9
Packing Group	PG III
ERG Code	9L

IMDG/IMO

Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s. (Oryzalin)
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14. TRANSPORT INFORMATION

Hazard Class	9
UN-No	UN 3077
Packing Group	PG III
Marine Pollutant	Yes

15. REGULATORY INFORMATION**International Inventories**

Kaolin

DSL	Listed
EINECS/ELINCS	Listed
ENCS	Listed
CHINA	Listed
KECL	Listed

Oryzalin

EINECS/ELINCS	Listed
KECL	Listed

USA**Federal Regulations****SARA 313**

Y

Chemical Name	CAS-No	Weight %
Oryzalin	19044-88-3	85

SARA 311/312 Hazardous Categorization

Chronic Health Hazard	No
Acute Health Hazard	Yes
Fire Hazard	Yes
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 does not contain any HAPs.

CERCLA**RCRA****Pesticide Information****State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	Category	California Prop. 65
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12U-123 - Surflan WDG Herbicide

Chemical Name	CAS-No	Category	California Prop. 65
Oryzalin	19044-88-3		Listed. Listed: September 12, 2008 Carcinogenic.

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Kaolin	Listed.		Listed.	Listed.	Listed.

International Regulations

Mexico - Grade Not available

Chemical Name	Category	Carcinogen Status	Exposure Limits
Kaolin			10 mg/m ³

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

19-Nov-2009

Revision Summary

Update section 14 Update section 15

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End of MSDS