



United Phosphorus, Inc.

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| NFPA | PPE |
| | |

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Revision Number: 2

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 UP-Star Gold Insecticide
EPA Reg # 70506-24
Recommended Use Insecticide
Product Code 12U-134

2. HAZARDS IDENTIFICATION

| | | |
|---|-------------------------------|---------------------|
| Emergency Overview | | |
| Highly toxic to fish and aquatic organisms. Keep out of drains and water courses May cause reversible skin reaction. | | |
| CAUTION | | |
| Appearance off-white. | Physical State Liquid. | Odor Slight. |

Potential Health Effects

Eyes May cause slight irritation.
Skin Skin contact may produce skin sensations such as numbing, burning, or tingling. These sensations are reversible within 12 - 24 hours of onset.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients Name

| Chemical Name | CAS-No | Weight % | OSHA PEL |
|-----------------------|------------|----------|--|
| Glycerin | 56-81-5 | <1 | TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction |
| Bifenithrin technical | 82657-04-3 | 7.9 | 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 If skin irritation persists, call a physician |
| Inhalation | If breathing is irregular or stopped, administer artificial respiration May cause allergic respiratory reaction Call a physician or poison control center immediately |
| Ingestion | Call a physician or poison control center immediately May produce an allergic reaction 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 | This product contains a pyrethroid. Treatment is symptomatic and supportive. |

5. FIRE-FIGHTING MEASURES

Flammable Explosive Properties

Flash Point

> 100C / >212 F

Autoignition Temperature

Not available

Flammability Limits in Air

Not available

Exntinguishing Media

Foam, Carbon dioxide (CO₂) Dry chemical.

Fire/Explosion Hazard

May support combustion at elevated temperatures.

Hazardous Combustion Products

Carbon dioxide (CO₂), Carbon monoxide, chlorine, Hydrogen chloride, hydrogen fluoride.

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. Remove all sources of ignition.

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. Keep away from heat, sparks and open flame. - No smoking.

Storage

Keep container tightly closed in a dry and well-ventilated place. Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

| | |
|----------------------|---|
| Chemical Name | Glycerin |
| ACGIH TLV | TWA: 10 mg/m ³ mist |
| OSHA PEL | TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ 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.

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

Protective gloves. Lightweight protective clothing.

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 and face before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|----------------------------|---------------|----------------------------|----------------------|
| Appearance | off-white | Odor | Slight |
| Physical State | Liquid | pH | approx 6 |
| Boiling Point/Range | Not available | Melting Point/Range | Not available |
| Specific Gravity | 1.039 g/ml | Solubility | Dispersible in water |
| 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 | 8.66 lb/gal | Percent Solids | Not available |
| Percent Volatiles | Not available | | |

10. STABILITY AND REACTIVITY

Stability

Stable under recommended storage conditions

Conditions to Avoid

Heat, flames and sparks

Incompatible Materials

No materials to be especially mentioned

Hazardous Decomposition Products Carbon monoxide Carbon dioxide (CO₂) chlorine
Hydrogen chloride Hydrogen fluoride

Possibility of Hazardous Polymerization Hazardous polymerisation does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information UP-Star Gold-
Acute oral LD50 - 632 mg/kg (rat)
Acute dermal LD50 - > 2,000 mg/kg (rabbit)
Acute Inhalation LC50 - 11.58 mg/L/1 hr (rat)

Component Information Bifenthrin products may produce skin sensations such as rashes, numbing, burning, or tingling, which are reversible and usually subside in 12 hours.

Chronic Toxicity

Carcinogenicity BIFEN
In studies with laboratory animals, Bifenthrin technical did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure of laboratory animals to Bifenthrin technical. In lifetime feeding studies conducted with rodents a slight increase in the incidence of urinary bladder tumors at the highest dose in male mice was considered to be an equivocal response, not evidence of a clear compound-related effect. The overall absence of genotoxicity has been demonstrated in mutagenicity tests with Bifenthrin. Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings and liver and kidney damage. There is no sufficient evidence to suggest that aromatic hydrocarbons are reproductive toxicants, mutagens or developmental toxicants. Bifenthrin technical- In studies with laboratory animals, bifenthrin did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure of laboratory animals with Bifenthrin. In lifetime feeding studies conducted with rodents, a slight increase in the incidence of urinary bladder tumors at the highest dose in male mice was considered to be an equivocal response, not evidence of a clear compound-related effect. The overall absence of genotoxicity has been demonstrated in mutagenicity tests with bifenthrin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Bifenthrin has moderate stability in the soil under aerobic conditions with a half-life ranging from 65 to 125 days depending on soil type. It is stable at a wide range of pH values. Bifenthrin has a high Log P (>6.0), a high affinity for organic matter, and is not mobile in soil which indicate little potential for movement into ground water. There is potential for bifenthrin to bioconcentrate (BCF = 11,750). Bifenthrin is highly toxic to fish and aquatic arthropods and LC50 values range from 0.0038 to 17.8 ug/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on mollusks at its limit of water solubility. Bifenthrin is only slightly toxic to both water fowl and upland game birds (LD50 values range from 1,800 mg/kg to >2,150 mg/kg).

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.

Contaminated Packaging Empty containers may contain hazardous residues. Containers should be handled as instructed by following all container disposal directions.

14. TRANSPORT INFORMATION

DOT Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

| Chemical Name | TSCA | DSL | NDSL | EINECS/ ELINCS | ENCS | CHINA | KECL | AICS |
|----------------------|---------|-----|------|-------------------|--------------------|-------|----------|------|
| Glycerin | Present | X | | X | (7)-338 (2)-242 | X | KE-29297 | X |
| Bifenthrin technical | | | | | (4)-1701 | X | KE-05935 | |

USA

Federal Regulations

SARA 313
Y

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values |
|----------------------|------------|----------|-----------------------------|
| Bifenthrin technical | 82657-04-3 | 7.9 | 1.0 |

SARA 311/312 Hazardous Categorization

Chronic Health Hazard No
 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 |
|---------------|--------|----------|-----------|---------------|-------------------------|-------------------------|
| | | | | | | |

12U-134
UP-Star Gold Insecticide

| | | | | | | |
|----------|---------|----|--|----------|--|--|
| Glycerin | 56-81-5 | <1 | | Group II | | |
|----------|---------|----|--|----------|--|--|

CERCLA

RCRA

Pesticide Information

| Component | FIFRA - Restricted Use | FIFRA - Pesticide Product Other Ingredients | FIFRA - Listing of Pesticide Chemicals | California Pesticides - Restricted Materials |
|--|------------------------|---|--|--|
| Glycerin 56-81-5 (<1) | | | X | |
| Bifenthrin technical 82657-04-3 (7.9) | | | X | |

State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

| Chemical Name | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|----------------------|---------------|------------|--------------|----------|--------------|
| Glycerin | X | X | X | | |
| Bifenthrin technical | | X | | | |

International Regulations

Mexico - Grade

Mexico - Grade

| Component | Category | Carcinogen Status | Exposure Limits |
|--------------------------|----------|-------------------|----------------------------------|
| Glycerin 56-81-5 (<1) | | | Mexico: TWA 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

27-Aug-2013

Revision Summary

Recurrent confirmation/update of data

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End of MSDS