



# Material Safety Data Sheet

## United Phosphorus, Inc.

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

Issued Date 08-Jan-2008

Revision Date 23-Dec-2010

Revision Number: 4

### 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**

Stam M-4

**EPA Reg #**

70506-164

**Recommended Use**

herbicide

**Product Code**

12U-174A

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

Irritating to respiratory system  
 May cause eye and skin irritation  
 Causes substantial eye irritation which will cause discomfort and is expected to be temporary.  
 Prolonged skin contact may cause local redness. May cause an allergic reaction in sensitive individuals.  
 Repeated or prolonged exposure may produce effects in the liver or kidney.

#### WARNING!

**Appearance** Brown, Black.

**Physical State** Liquid.

**Odor** Sweet.

#### Potential Health Effects

**Eyes**  
**Skin**

Moderately irritating to the eyes.  
 Prolonged or repeated contact may cause irritation, redness and rash.. Excessive or prolonged exposure to skin can cause defatting and drying of the skin leading to irritation and dermatitis..

**Inhalation**

Overexposure may cause irritation to the respiratory tract, drowsiness, slurred speech, headache, nausea, and unconsciousness..

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Ingredients Name

Chemical Name	CAS-No	Weight %	OSHA PEL
Propanil	709-98-8	44.8	N/A
Isophorone	78-59-1	30-31	23 mg/m <sup>3</sup> 4 ppm
Methyl isobutyl ketone	108-10-1	10-12	205 mg/m <sup>3</sup> 50 ppm

## 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**

Repeated or prolonged use by any route may cause cyanosis. Symptoms include blue lips and fingernail beds. Due to the presence of isophorone in this product, in cases of severe or excessive inhalation observation for 72 hours due to possibility of pulmonary edema.

**5. FIRE-FIGHTING MEASURES**

**Flammable Explosive Properties**

**Flash Point** 43°C / 110°F  
**Method** Seta closed cup  
**Autoignition Temperature** For Methyl isobutyl ketone 357°C / 675°F

**Flammability Limits in Air** Not available  
**Values listed for Isophorone and MIBK**  
**Upper** 7.5% MIBK  
**Lower** 0.8% Isophorone

**Extnguishing Media** Carbon dioxide (CO2), Dry chemical, Water spray, Foam.

**Fire/Explosion Hazard** Toxic vapors may be released in the event of fire.

**Hazardous Combustion Products** Hydrogen chloride, chlorine gas.

**NFPA** **Health** 2 **Flammability** 2 **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. Remove all sources of ignition. Use spark resistant tools. Remove and wash contaminated clothing before re-use. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.

**Storage** Keep out of the reach of children. Do not store in buildings where humans or domestic animals reside.. Maintain storage temperature above 32 F.. Maximum storage temperature is 120 F.. Keep containers tightly closed in a cool, well-ventilated place. Static electricity may accumulate when transferring material. All containers must be bonded and grounded during filling and emptying operations..

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
Isophorone		23 mg/m <sup>3</sup> 4 ppm
Methyl isobutyl ketone	50 ppm	205 mg/m <sup>3</sup> 50 ppm

### 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

Wear protective gloves/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. 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

<b>Appearance</b>	Brown Black	<b>Odor</b>	Sweet
<b>Physical State</b>	Liquid	<b>pH</b>	No data available
<b>Boiling Point/Range</b>	Not available	<b>Melting Point/Range</b>	Not available
<b>Specific Gravity</b>	1.075	<b>Solubility</b>	Dispersible in water
<b>Evaporation Rate</b>	Not available	<b>Vapor Pressure</b>	5.3 mmHg @ 20 C/68 F
<b>Vapor Density</b>	9.3	<b>VOC Content</b>	Not available
<b>Viscosity</b>	approx 50 cps	<b>Molecular Weight</b>	No data available
<b>Bulk Density</b>	No data available	<b>Percent Solids</b>	Not available
<b>Percent Volatiles</b>	41-47%		

## 10. STABILITY AND REACTIVITY

### Stability

Stable under recommended storage conditions

### Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition.

### Incompatible Materials

Strong oxidizing agents.

**Hazardous Decomposition Products**

Hydrogen chloride.

**Possibility of Hazardous Polymerization**

Hazardous polymerisation does not occur

**11. TOXICOLOGICAL INFORMATION****Acute Toxicity****Product Information****Stam: (Information listed below are for a compositionally similar material):****Oral LD50 (rat): >500 mg/kg****Dermal LD50 (rat): > 2,000 mg/kg****Inhalation LC50 (rat): > 2.8 mg/L for 4 hr****Eye irritation (rabbit): substantial irritation****Skin irritation (rabbit): Moderate irritation****Chronic Toxicity****Carcinogenicity**

Stam 4 - Studies conducted with technical material have noted the following effects: Liver effects (centrilobular enlargement), blood effects (methemoglobineamia, decreased hemoglobin and hemolytic anemia) and cyanosis are observed at 25 mg/kg/day or above. Overall NOEL in mice = 30 ppm (5 mg/kg/day)

Ames mutagenicity: Negative

DNA damage: Negative

Mammalian cell gene-mutation assay in Chinese hamster ovary cells: Negative

In vivo cytogenic assay (mouse): Negative .

Chemical Name	ACGIH	IARC	NTP	OSHA
Isophorone	A3			

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Stam 4: Values represented relate to the technical material:

Daphnia magna, 48 hr EC50 = 0.14 mg/L

Bluegill sunfish (Lepomis macrochirus), 96 hr LC50 = 5.4 mg/L

Rainbow trout (Salmo gairdneri), 96 hr LC50 = 2.3 mg/L

Estuarine and marine organism, 48-96 hr EC50 = 0.4 - 5.8 mg/L

Aquatic plant EC50 = 0.02 - 0.12 mg/L

Bobwhite quail, Oral LD50 = 196 mg/kg

Bobwhite quail, 8 day dietary LC50 = 2861 ppm

Mallard duck, 8 day dietary LC50 = 5627 ppm.

**13. DISPOSAL CONSIDERATIONS****Waste Disposal Method**

Dispose of in accordance with all applicable federal, state, and local laws and regulations. . 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**

Non refillable container. Do not reuse this container. . Clean container promptly after emptying. . Triple rinse or pressure rinse promptly after emptying. . Triple rinse as follows: Empty the 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 the flow begins to drip.

Then offer for recycling if available 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. .

Pressure rinse as follows: Empty the 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 cotnainer, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. .

**14. TRANSPORT INFORMATION**

**DOT**

When shipped domestically IN NON-BULK packages by highway this material is classed as a combustibile liquid and as such is not subject to the DOT regulations per 49 CFR 173.150(f) (2)

**ICAO**

<b>UN-No</b>	UN 1993
<b>Proper Shipping Name</b>	Flammable liquid, n.o.s (Methyl isobutyl ketone)
<b>Hazard Class</b>	3
<b>Packing Group</b>	PG III

**IATA**

<b>UN-No</b>	UN1993
<b>Proper Shipping Name</b>	Flammable liquid, n.o.s (Methyl isobutyl ketone)
<b>Hazard Class</b>	3
<b>Packing Group</b>	PG III
<b>ERG Code</b>	3L

**IMDG/IMO**

<b>Proper Shipping Name</b>	Flammable liquid, n.o.s (Methyl isobutyl ketone)
<b>Hazard Class</b>	3
<b>UN-No</b>	UN1993
<b>Packing Group</b>	PG III
<b>EmS No.</b>	F-E, S-E

**15. REGULATORY INFORMATION**

**International Inventories**

Propanil	
<b>EINECS/ELINCS</b>	Listed
<b>ENCS</b>	Listed
<b>CHINA</b>	Listed

Propanil

KECL Listed

Isophorone

DSL Listed

EINECS/ELINCS Listed

ENCS Listed

CHINA Listed

KECL Listed

Methyl isobutyl ketone

DSL Listed

EINECS/ELINCS Listed

ENCS Listed

CHINA Listed

KECL Listed

USA

Federal Regulations

**SARA 313**

Y

Chemical Name	CAS-No	Weight %
Propanil	709-98-8	44.8
Methyl isobutyl ketone	108-10-1	10-12

**SARA 311/312 Hazardous Categorization**

Chronic Health Hazard Yes

Acute Health Hazard Yes

Fire Hazard No

Sudden Release of Pressure Hazard No

Reactive Hazard No

**Clean Water Act**

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Isophorone		Listed.		

**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
Isophorone	78-59-1	30-31	Listed.	Listed.		
Methyl isobutyl ketone	108-10-1	10-12	Listed.	Listed.		

**CERCLA**

Chemical Name	RQ
Isophorone	Listed.
Methyl isobutyl ketone	Listed.

**RCRA**

Chemical Name	RCRA - D Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes

Methyl isobutyl ketone	D001	U161
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**Pesticide Information****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
Propanil				Listed.	
Isophorone	Listed.	Substance no. 1066 Listed.	Listed.	Listed.	Listed.
Methyl isobutyl ketone	Listed.	Substance no. 1268 Listed. Substance no. 2422 Listed. Substance no. 2423 Listed. Substance no. 2425 Listed. Substance no. 2426 Listed. Substance no. 2427 Listed. Substance no. 2428 Listed. Substance no. 2429 Listed. Substance no. 2430 Listed. Substance no. 1268 Special hazard.	Listed.	Listed.	Listed.

**International Regulations****Mexico - Grade**

Mexico - Grade

Chemical Name	Category	Carcinogen Status	Exposure Limits
Isophorone		A3	
Methyl isobutyl ketone			205 mg/m <sup>3</sup>

**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

Chemical Name	NPRI
Methyl isobutyl ketone	X

16. OTHER INFORMATION

**Revision Date** 23-Dec-2010

**Revision Summary**

Update section 13 Update section 8 Update section 2

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**End of MSDS**