



Material Safety Data Sheet

United Phosphorus, Inc.

NFPA	PPE	

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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)

UPI Company Information

Contact Information

Phone Number

Available Hrs

UPI	Customer Service R&D Technical Service	1-800-438-6071 610-878-6100	8:00 am to 5:00 pm EST 8:00 am - 5:00 pm (EST)
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Product Name	TriCor DF
EPA Reg #	70506-103
Recommended Use	herbicide
Product Code	12U-144

2. HAZARDS IDENTIFICATION

Emergency Overview

May cause eye and skin irritation
May cause irritation to the respiratory tract.

CAUTION

Appearance Light, Tan.

Physical State Granular.

Odor Sweet. Musty.

Potential Health Effects

Eyes
Skin

May cause slight irritation.
May cause mild skin irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients Name

Chemical Name	CAS-No	Weight %	OSHA PEL
Silicon dioxide	112926-00-8	1	6 mg/m ³
Metribuzin technical	21087-64-9	75	5 mg/m ³

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 physician or Poison Control Centre immediately

Ingestion

Call a physician or Poison Control Center immediately
Have person sip a glass of water if able to swallow
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
Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Explosive Properties**Flash Point**

Not applicable

Autoignition Temperature

Not available

Flammability Limits in Air

Not available

Extinguishing Media

Dry chemical, Water.

Fire/Explosion Hazard

Dust clouds generated during handling and/or storage can form explosive mixtures with air. Dust explosion characteristics vary with the particle size, particle shape, moisture content, contaminants, and other variables.

Hazardous Combustion Products

Dust clouds generated during handling and/or storage can form explosive mixtures with air. Dust explosion characteristics vary with the particle size, particle shape, moisture content, contaminants, and other variables.

As with any dry material, pouring this material or allowing it to free fall or be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or any flammable materials which may come into contact with the material or its container. Check that all equipment is properly grounded and installed to satisfy electrical classification requirements. , Carbon dioxide (CO₂), Sulfur oxides, Methyl mercaptan, Amines.

NFPA**Health 1****Flammability 0 1****Instability -****6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Avoid contact with the skin and the eyes.

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

Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE**Handling**

Keep out of reach of children. Ensure adequate ventilation. Fine dust dispersed in air may ignite.

Storage

Store in cool/well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL
Silicon dioxide		6 mg/m ³

Chemical Name	ACGIH TLV	OSHA PEL
Metribuzin technical	5 mg/m ³	5 mg/m ³

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**

Eye contact should be avoided through the use of chemical safety glasses, goggles, or a faceshield selected in regard to exposure potential..

Skin Protection

Wear protective gloves/clothing. 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. 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	Light Tan	Odor	Sweet Musty
Physical State	Granular	pH	8.9
Boiling Point/Range	Not available	Melting Point/Range	Not available
Specific Gravity	Not available	Solubility	1100 ppm @ 20 C (metribuzin)
Evaporation Rate	Not available	Vapor Pressure	1.2 X 10 ⁻⁷ mmHg @ 20 C
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 normal conditions

Conditions to Avoid

Sustained temperatures above 100 F.

Incompatible Materials

ketones. aldehydes.

Hazardous Decomposition Products

Carbon dioxide (CO₂). Oxides of sulfur. Amines. Methyl mercaptans.

Possibility of Hazardous Polymerization

None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

TriCor DF-

Acute oral LD50 rat = 2379 mg/kg (male) 2794 mg/kg (female)

Acute dermal LD50 rabbit = >5,000 mg/kg

Eye - rabbit = Minimal irritation to the conjunctiva was observed with all irritation resolving within 4 days.

Skin effects- rabbit = Not a dermal irritant

Metribuzin -

In a three week dermal toxicity study, rabbits were treated with metribuzin at doses of 40, 200, and 1000 mg/kg for 6 hr/dy, 5 dys/wk. The high dose evidence of increased cholesterol levels and liver enzyme function was noted. Thyroxine levels were increased at doses of 200 mg/kg and above. All of these effects were slight and reversible. The NOEL was 40 mg/kg. In subacute inhalation studies, rats were exposed to aerosol concentrations of metribuzin ranging from 31 to 745 mg/cubic meter for 6 hr/dy, 5 dys/wk, for 3 weeks. Effects observed included behavioral changes, decreased body weight gains, liver enzyme induction and organ weight effects. The NOEC was 31 mg/cubic meter.

Oral LD50 (rat) = 2,194 mg/kg

Dermal LD50 (rat) = >5,000 mg/kg

Inhalation LC50 (4 hr rat) = 0.709 mg/L

Chronic Toxicity

Carcinogenicity

Chronic toxicity.

Metribuzin - Dogs were administered metribuzin for 2 years at dietary concentrations of 25, 100 and 1500 ppm. Effects observed at high concentration included decreases in body weight and food consumption, anemia, liver effects, kidney effects, testicular effects and mortality. The NOEL was 100 ppm.

In 2 year dietary studies with rats, concentrations ranging from 25 to 900 ppm were administered. At concentrations of 300 ppm and greater, effects observed included decreased body weight gains, increased thyroid weights and changes in thyroid hormones. At 900 ppm, there was an increased incidence of follicular hyperplasia seen in the thyroid. The systemic NOEL was 30 ppm. .

Carcinogenicity .

Metribuzin carcinogenicity - Metribuzin was investigated for carcinogenicity in chronic feeding studies using rats and mice at maximum levels of 900 and 3200 ppm, respectively. There was no evidence of carcinogenic potential observed in either species.

Mutagenicity - Metribuzin is not genotoxic

Developmental toxicity - In rat teratology studies, metribuzin was administered orally during gestation at doses of 25, 70, or 200 mg/kg. Maternal toxic effects were observed at all doses. At 200 mg/kg fetotoxic effects observed included reduced median placental weights, reduced median fetal weights, and increased incidence of delayed ossification.

Teratogenic effects were not observed at any of the doses tested.

The NOEL's for maternal and developmental toxicity were less than 25 and 70 mg/kg, respectively. When rabbits were administered metribuzin by oral gavage during gestation at doses of 10, 30, or 85 mg/kg, there was no evidence of any developmental effects. The NOEL's for maternal and developmental toxicity were 30 and 85 mg/kg respectively.

Reproduction - In a rat reproduction study, metribuzin was administered for 2 generations at dietary concentrations of 30, 150 or 750 ppm. Offspring at the high dose exhibited reduced body weight gains starting at day 14 lactation, an age correlating with the consumption of treated diets. The NOEL's for materials and reproductive toxicity were 30 and 750 ppm, respectively. .

12. ECOLOGICAL INFORMATION

Ecotoxicity

Metribuzin - can travel (seep or leach) through soil and can contaminate ground water which may be used as drinking water. .

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

Non refillable container. Do not reuse this container. . (For plastic containers). Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a 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. The 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. .

(For paper bags) . Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. .

14. TRANSPORT INFORMATION

DOT Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Silicon dioxide

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

Metribuzin technical

EINECS/ELINCS	Listed
CHINA	Listed
KECL	Listed

USA**Federal Regulations**

SARA 313

Y

Chemical Name	CAS-No	Weight %
Metribuzin technical	21087-64-9	75

SARA 311/312 Hazardous Categorization

Chronic Health Hazard	No
Acute Health Hazard	Yes
Fire Hazard	No

Sudden Release of Pressure Hazard
Reactive Hazard

No
No

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

This product does not contain any HAPs.

CERCLARCRAPesticide InformationState 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
Silicon dioxide	Listed.	Substance no. 1655 Listed.	Listed.		
Metribuzin technical	Listed.	Substance no. 1302 Listed.	Listed.	Listed.	Listed.

International Regulations**Mexico - Grade**

Mexico - Grade

Chemical Name	Category	Carcinogen Status	Exposure Limits
Silicon dioxide			10 mg/m ³ Inhalable particulate. 3 mg/m ³ Respirable dust.

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**

04-Jan-2011

Revision Summary

Update section 13 Update section 8

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End of MSDS