



Safety Data Sheet

United Phosphorus, Inc.

Preparation Date 12-Jun-2017

Revision date 09-Nov-2017

Revision Number: 3

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Description: STartUPTEBUZ

Other means of identification

Item#: RD-20170612B

Recommended use of the chemical and restrictions on use

Recommended use - R&D material to be handled by technically qualified individuals only.

Uses advised against Non R&D activites

Details of the Supplier of the Safety Data Sheet

Supplier Address

United Phosphorus Inc.
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number

Company Phone Number 1-800-438-6071
Emergency telephone number Chemtec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Skin sensitization	Category 1
Reproductive Toxicity	Category 2

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard Statements

Harmful in contact with skin
May cause an allergic skin reaction
Suspected of damaging fertility or the unborn child



Appearance liquid	Physical state suspension	Odor No information available
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Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood
 Wear cold insulating gloves/face shield/eye protection
 Do not get in eyes, on skin, or on clothing
 Contaminated work clothing should not be allowed out of the workplace
 Wear protective gloves

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 Call a POISON CENTER or doctor if you feel unwell
 Wash contaminated clothing before reuse
 If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION**

- Toxic to aquatic life with long lasting effects

3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %	Trade secret
Tebuconazole	107534-96-3	38.7	
1,2-Benzisothiazolin-3-one	2634-33-5	0.15	

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a poison control center or doctor for treatment advice.
Skin contact	Rinse skin immediately with plenty of water for 15-20 minutes. Call a 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, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
Protection of First-aiders	Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

Carbon dioxide (CO2).

Use: Dry chemical. Water spray. alcohol-resistant foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Keep product and empty container away from heat and sources of ignition. Risk of ignition.

Hazardous combustion products Carbon monoxide. Oxides of nitrogen.

Explosion data

Protective equipment and precautions for firefighters

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges.

Environmental Precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

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

Precautions for safe handling

Handling

Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Keep out of reach of children. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage

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

incompatible materials

Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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

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

Skin protection
Respiratory protection

flushing equipment available. Safety glasses with side-shields.
 Wear protective gloves/clothing. Socks and footwear.
 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

Information on basic physical and chemical properties

Physical state	suspension		
Appearance	liquid	Odor	No information available
color	Off-white		
Property	<u>VALUES</u>	<u>Remarks/ • Method</u>	
pH	7.25	Approximately	
Melting point/freezing point	No information available		
Boiling Point/Range	No information available		
Flash Point	No information available		
Evaporation Rate	No information available		
Flammability (solid, gas)	No information available		
Flammability limit in air			
Upper Flammability Limit	No information available		
Lower Flammability Limit	No information available		
vapor pressure	No information available		
Vapor Density	No information available		
Specific gravity	1.100 g/mL		
Water solubility	No information available		
Solubility in Other Solvents	No information available		
Partition coefficient: n-octanol/water	No information available		
Autoignition temperature	No information available		
Decomposition temperature	No information available		
Viscosity, kinematic	No information available		
Dynamic viscosity	300-450 cps		
Explosive properties	No information available		
Oxidizing properties	No information available		

OTHER INFORMATION

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
density	No information available
Bulk density	No information available

10. Stability and Reactivity

Reactivity

no data available

Chemical stability

Stable under normal conditions. Hazardous polymerisation does not occur.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerisation does not occur.

Conditions to avoid

Heating in air.

incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx).

11. Toxicological Information

Information on Likely Routes of Exposure

Inhalation

Harmful by inhalation.

Eye contact

May cause slight irritation.

Skin contact

May cause irritation. May be absorbed through the skin in harmful amounts.

Ingestion

HARMFUL IF SWALLOWED.

Component Information

Information based on available tox data on similar formulations:

Tebuconazole 3.6 :Acute oral LD50 (rat) = >5,000 mg/kgAcute dermal LD50 (rat) = >2,000 mg/kgAcute inhalation LC50 = >2.66 mg/L air (maximum achievable breathing zone concentration) 4 hr No deathsEye irritation (rabbit): Minimal irritation to the conjunctiva was observed with all irritation resolving within 72 hoursSkin irritation (rabbit): Slight dermal irritantSensitization (guinea pig): Not a dermal sensitizer

Information on Toxicological Effects

Symptoms

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization

No information available.

Mutagenic effects

No information available.

Carcinogenicity

Tebuconazole (active ingredient):

Subchronic toxicity=

In dermal studies with rabbits the NOEL was 1000 mg/kg.

A three-week inhalation study with rats the NOEL was 10.6 mg/m³.

Chronic toxicity=

In chronic dog studies, tebuconazole was administered for 52 weeks at dietary concentrations of 40, 100, 150, 200, or 1000 ppm.

Due to lack of significant effects, the high dose was increased to 2,000 ppm at 40 weeks for the remainder of the study. At the high dose, effects relating to liver, spleen, ocular and adrenal were observed. The overall NOEL from these studies was 100 ppm based on adrenal effects. In a 2-year study, tebuconazole was administered to rats at dietary concentrations of 100, 300 or 1,000 ppm. There was a reduction in body weight gains and an increased incidence of liver and spleen effects at the high dose. The NOEL was 300 ppm.

Carcinogenicity:

There was no indication of a carcinogenic effect in rats or mice when tested at dose levels up to and including the maximum tolerated dose (MTD) for each species. An increased incidence of heptaocellular neoplasms occurred in mice at dose level approximately three

fold greater than the MTD.

Mutagenicity:

In vitro and in vivo mutagenicity studies conducted on tebuconazole have been negative.

Developmental toxicity:

In mice treated at dose levels ranging from 1-1,000 mg/kg, the NOELs for maternal and developmental toxicity were 3 and 10 mg/kg respectively. In rats treated at dose levels of 30, 60, or 120 mg/kg, the NOELs for maternal and developmental toxicity were 30 and 60 mg/kg respectively. For rabbits, the NOELs for maternal and developmental toxicity were less than 10 and 30 mg/kg respectively.

In dermal teratology studies on rats and mice, tebuconazole was administered during gestation at dose levels of 100, 300 or 1,000 mg/kg. In rats, there was no indication of maternal and developmental toxicity were 100 and 300 mg/kg respectively.

Reproduction:

In a reproduction study in rats, smaller litter sizes and decreased pup weight gain was observed in conjunction with maternal toxicity at the high concentration. The maternal and reproductive NOEL was 300 ppm.

Neurotoxicity:

In an acute neurotoxicity screening study, tebuconazole was administered to rats as a single oral dose at doses of 100, 500 or 1000 mg/kg for males and 100, 250, or 500 mg/kg for females. Treatment related clinical signs of toxicity and transient neurobehavioral effects were evident in both sexes. There were no treatment related microscopic lesions within the skeletal muscle or neural tissues. Based on these results the NOEL for neuropathology was 1000 mg/kg for males and 500 mg/kg for females, the highest dose tested. The overall NOEL was less than 100 mg/kg for both sexes. In a 13 week neurotoxicity screening study in rats, body weight and food consumption was reduced at the high dose, functional observational battery (FOB) and automated measures of motor and locomotor activity were not affected by treatment, there were no treatment related microscopic lesions in neural tissues or skeletal muscle in any of the treated animals, and there was no evidence of neurotoxicity at any dietary concentration. The NOEL for overall toxicity was 400 ppm. In one generation developmental neurotoxicity study, tebuconazole was administered to rats during gestation and postnatal development. Maternal toxicity observed included decreased body weight and feed consumption, mortality, prolonged gestation, and alopecia. Effects observed in the offspring included mortality, developmental delay, and decrease in number of liveborn, viability index, body weight gain, absolute brain weight and cerebellar thickness. Tebuconazole did not cause any specific neurobehavioral effects in the offspring. The NOEL for both maternal and F1 offspring toxicity was 300 ppm.

Reproductive effects

STOT - Single Exposure

STOT - Repeated Exposure

Chronic toxicity

Aspiration hazard

Not Available.

No information available.

No information available.

Avoid repeated exposure.

No information available.

Numerical Measures of Toxicity - No information available

LD50 Oral > 5000 mg/kg

LD50 Dermal > 2000 mg/kg

12. Ecological Information

ecotoxicity

Tebuconazole

FISH

LC50 96 hr Bluegill sunfish = 5.7 mg/L

LC50 96 hr Trout 4.4 mg/L

BIRD

Acute oral LD50 Bobwhite quail = 1998 mg/kg
 Acute oral LD50 Japanese quail = 2912-4438 mg/kg
 Moderately toxic to fish and aquatic organisms.
 Half life 2-3 months in natural water. Strongly bound to soil and has low mobility.

Persistence/Degradability

No information available.

Bioaccumulation/ Accumulation

Bioaccumulative potential.

Chemical name	Log Pow
1,2-Benzisothiazolin-3-one 2634-33-5	1.3

Other Adverse Effects

No information available

13. Disposal Considerations

Waste Treatment Methods**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

Refer to product label.

14. Transport Information

DOT

NOT REGULATED

TDG

NOT REGULATED

IATA

NOT REGULATED

IMDG/IMO

NOT REGULATED

15. Regulatory Information

International Inventories

USINV	Not present
DSL/NDSL	Not present
EINECS/ ELINCS	Not Present
ENCS	Not Present
China	Not Present
KECL	Not Present

PICCS Not Present
 AICS Not Present
 TSCA Not Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous

Categorization

Acute health hazard	yes
Chronic health hazard	yes
Fire hazard	yes
Sudden release of pressure hazard	No
Reactive Hazard	yes

CERCLA

Not applicable

CERCLA

SARA Product RQ 0

RCRA

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Tebuconazole 107534-96-3 (38.7)			X	

State Regulations

Not applicable

State Right-to-Know

Not applicable

International regulations

U.S. EPA Label information

EPA Pesticide registration number Not applied

16. Other Information

NFPA HEALTH 1 flammability 0 Instability 0 Physical hazard -

Preparation Date 12-Jun-2017

Revision date 09-Nov-2017

Revision Summary

Correct spelling error(s)

Disclaimer

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End of MSDS