Parasol WG Fungicide
Safety Data Sheet

Issue Date: 2017-12-21 Supersedes Date: 2017-05-17 {Reserved}

1. Identification

Product Name: **Parasol WG Fungicide**
PCP Registration No.: **29063**
Refer to the approved product label for handling and use instructions.
Product Type: **Fungicide/Bactericide**

Supplier: Nufarm Agriculture Inc.
Suite 350, 2618 Hopewell Place NE
Calgary, Alberta, T1Y 7J7, Canada
1-800-868-5444

Telephone Numbers: 24 Hour Emergency Response Number, Chemtrec, 1-800-424-9300.
For medical emergencies, ProPharma Group, 1-877-325-1840.
For product and use information, Nufarm Agriculture Inc., 1-800-868-5444.

2. Hazard Identification

Classified according to UN GHS Version 5.

Physical Hazards:
None
Health Hazards:

Serious eye damage	Category 1
Skin irritation	Category 2
Acute toxicity (Inhalation)	Category 3
Acute toxicity (Oral)	Category 4

Environmental Hazards:

Hazardous to aquatic environment, acute	Category 1

Signal Word:
DANGER
Hazard Statements:
Causes serious eye damage. Causes skin irritation. Toxic if inhaled. Harmful if swallowed. Very toxic to aquatic life.

Precautionary Statements:
Causes serious eye damage. Causes skin irritation. May cause irritation of nose and throat.
Toxic if inhaled. Avoid breathing dust. Use only outdoors or in a well-ventilated area.
Harmful if swallowed. Do not eat, drink or smoke when using this product.
Wear goggles or face shield when handling. Avoid contact with skin, eyes and clothing. After use, wash hands and other exposed skin.
Wear a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. Remove and wash contaminated clothing before reuse.
This product contains an active ingredient which is toxic to aquatic organisms.

3. Composition / Information on Ingredients

Hazardous Components	CAS No.	Wt. %
Copper hydroxide	20427-59-2	75-79
Chemical Synonyms: Copper (II) hydroxide; Cupric hydroxide; $Cu(OH)_2$		
Crystalline silica, quartz	14808-60-7	<0.1
Chemical Synonyms: Silicone dioxide; SiO_2; CAS No. 7631-86-9		

Other ingredients are considered non-hazardous.

Content as Expressed on Product Label
Elemental copper, present as copper hydroxide … 50%

4. First Aid Measures

If swallowed, call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.
If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.
If in eyes, hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.
If inhaled, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

5. Fire-fighting Measures

Extinguishing Media: Product does not burn. Use extinguishing media appropriate to

surrounding fire conditions.
Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires. Minimize and contain water runoff.
Flash Point:..... Non-flammable
Conditions of Flammability: ..... None
Hazardous Decomposition Products: ... Copper hydroxide decomposes to CuO and H_2O above 140C.
National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 **Flammability: 1** **Reactivity: 0**
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental Release Measures

Use safety equipment and procedures appropriate to the size of the spill. Keep unnecessary people away. Avoid runoff to natural waters, irrigation ditches, water supplies and sewers. Sweep or scoop up spill and contain all affected material in a closed, labeled container for proper disposal. Isolate from other waste materials.
Hard surfaces can be washed with detergent and water only when collecting all cleaning solution for proper disposal. Do not flush spill areas in a manner that causes runoff to other areas.
In water, if feasible, copper may be precipitated/ultrafiltered with caustics or other chemicals, and resulting sludge collected.

7. Handling and Storage

Handling: Avoid contact with skin, eyes and clothing. Wear goggles or face shield during mixing/loading. Wear a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. After use, wash hands and other exposed skin. Remove and wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Avoid breathing dust.
Storage: Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. May be stored at any temperature. Avoid excessive heat.

8. Exposure Controls / Personal Protection

Engineering Controls: Use only outdoors or in a well-ventilated area.
Personal Protective Equipment: Goggles or face shield, long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal.
Exposure Guidelines:

Component	TWA*	STEL**	Reference/Note
Copper hydroxide	1 mg/m^3 (as Cu, dust or mist)	NE	WorkSafeBC, 2015
Crystalline silica, quartz	0.025 mg/m^3	NE	WorkSafeBC, 2015

*Time-weighted Average, 8-hour unless otherwise noted.
**Short Term Exposure Limit
NE = Not Established
Refer to approved product label for additional exposure control guidance.

9. Physical and Chemical Properties

NOTE: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification. If no value is determined for the formulation, the value listed is the most relevant value of the predominant ingredient(s).

Appearance (physical state, colour, etc.) ..... blue granules
Odour ..... mild metallic
Odour threshold ..... not available
pH ..... 8.7-9.2 (1% w/w dispersion)
Melting point / Freezing point ..... decomposes without melting ($Cu(OH)_2$)
Initial boiling point and boiling range ..... not applicable
Flash point ..... not applicable, non-flammable
Evaporation rate ..... not applicable
Flammability (solids, gases) ..... not applicable
Upper / Lower flammability or explosive limits ... not applicable
Vapour pressure ..... negligible
Vapour density ..... not available
Relative density ..... ~0.8 g/cm^3 (tap method)
Solubility(ies) ..... dispersible in water, $Cu(OH)_2$ sparingly soluble
Partition coefficient: n-octanol/water ..... not applicable
Autoignition temperature ..... not available
Decomposition temperature 140C
Viscosity ..... not applicable

10. Stability and Reactivity

Reactivity: Not reactive.
Chemical Stability: Stable under normal handling and storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Excessive heat. Do not store near heat or flame.
Incompatible Materials: Acids and sulphur.
Hazardous Decomposition Products: Copper hydroxide decomposes to CuO and H_2O above 140C.

11. Toxicological Information

Likely routes of exposure: Inhalation, ingestion, skin and eye contact.
Eye contact: Causes severe eye irritation / corrosion. Causes redness and tearing.
Skin contact: Causes skin irritation.

Ingestion: Harmful if swallowed.
Inhalation: Toxic if inhaled. May cause irritation of the mucous membranes.
Medical Conditions Aggravated by Exposure: Skin exposure may aggravate preexisting skin conditions. Inhalation of mist may aggravate preexisting respiratory conditions.
Toxicological Data:
Data are from laboratory studies conducted on similar product.

Acute oral LD_{50} (mg/kg) ..... 1098 mg/kg (Rat, female)
Acute dermal LD_{50} (mg/kg) ..... >5000 (Rat, male & female)
Acute inhalation LC_{50} (mg/l) ..... 0.53-1.97 (Rat, male & female, 4-hour, nose-only exposure)
Skin corrosion/irritation ..... Moderately irritating to the skin (Rabbit)
Serious eye damage/irritation ..... Severely irritating to the eye (Rabbit)
Respiratory or skin sensitization ... Not considered as a contact dermal sensitizer (Guinea pig)
Germ cell mutagenicity ..... The overall results of genotoxicity studies performed with various copper compounds, *in vitro* and *in vivo*, were equivocal, and mutagenic effects from inhalation exposure cannot be excluded.
Carcinogenicity ..... Copper hydroxide is not considered as carcinogenic. This product may contain a small amount of crystalline silica (quartz) as a naturally-occurring contaminant. Inhalation of crystalline silica may cause pulmonary fibrosis (silicosis). The International Agency for Research on Cancer (IARC) has concluded there is limited evidence of the carcinogenicity of crystalline silica to humans (Group 1).
Reproductive toxicity ..... Copper hydroxide is not considered a reproductive toxin.

12. Ecological Information

Ecotoxicity:
Data are for copper hydroxide and elemental copper, from published and company sources.
Aquatic Invertebrate: 48-Hour EC_{50} (mg Cu/L) .... 0.0422 (*Daphnia*)
Fish: 96-Hour LC_{50} (mg Cu/L) ... 10 (Rainbow Trout)
Algae: EC_{50} (mg Cu/L) ..... 22.5 (exposure duration and species unspecified)
Birds: Oral LD_{50} (mg/kg) ..... 464 (Bobwhite Quail), 8-Day Dietary LC_{50} >5000 ppm (Mallard Duck, Bobwhite Quail)
Bees: Contact LD_{50} ..... 68.3 µg/bee

Persistence and Degradability: Copper is a chemical element and does not degrade.
Mobility in Soil: The degree of mobility of copper in the environment depends upon the pH of ambient soils and waters. The higher the acidity, the more soluble copper salts are and, hence, the more mobile.
Bioaccumulation Potential: Negligible.

13. Disposal Considerations

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Disposal should be made in accordance with federal, provincial and local regulations. Contact the manufacturer and the provincial regulatory agency in case of a

spill, and for clean up of spills.
Do not reuse container for any purpose. Make the empty container unsuitable for further use. Dispose of the container in accordance with provincial requirements.

14. Transport Information

Canadian TDG Description (Road & Rail):
UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (copper hydroxide), Class 9, PG III

Marine pollutant.

Section 1.45.1 of the TDG Regulations provides an exemption from documentation and safety marks only for this product and only when transported by a road or railway vehicle.

United States DOT Description:
< 882 pounds
Not Regulated
≥ 882 pounds
UN3077, Environmentally hazardous substance, solid, n.o.s., (Copper Hydroxide), 9, III, Marine Pollutant

15. Regulatory Information

Pest Control Products Act Registration Number: 29063

OPAC Schedule: …. 3

Read the approved label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control product label:

CAUTION POISON
WARNING EYE IRRITANT

WHMIS exempt.

16. Other Information

This Safety Data Sheet (SDS) is designed to comply with the Globally Harmonized System (GHS) of classification, and the *Hazardous Products Regulations*.

This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use. The product labeling provides that information specifically for product use as intended.

Company and published information is used in the development of this SDS. The information herein is presented in good faith and believed accurate at the date of publication. However, no warranty, expressed or implied, is given.

Revisions to the last issue: Addition of PMRA guidance info to Section 15.

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