



BORDEAUX WG

SAFETY DATA SHEET

Revised – June 2017

1. IDENTIFICATION

Product Name: Bordeaux WG
 Recommended Use: Fungicide

Supplier: Melpat International Pty Ltd
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2. HAZARD(S) IDENTIFICATION

According to Regulation (EC) No. 1272 / 2008:

Acute Toxicity (Oral) (category 4) : Harmful if swallowed

Skin Irritation (category 2) : Causes skin irritation

Eye Irritation (category 2A) : Causes serious eye irritation

Aquatic Acute (category 1) : Very toxic to aquatic life

Aquatic Chronic (category 1) : Very toxic to aquatic life with long lasting effects.

Label Element: Signal Word : POISON

Pictograms:



Hazard Statements : H302: Harmful if swallowed
 H315: Causes skin irritation
 H319: Causes serious eye irritation
 H410: Very toxic to aquatic life with long lasting effects

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance Name	: Bordeaux Mixture A mixture of calcium hydroxide and copper (II) sulphate
CAS Name	: bordeaux mixture
Molecular Formula	: $\text{Cu}_4 \text{Ca}_3\text{S}_4 \text{O}_{22} \text{H}_6$
Structural Formula	: $\text{CuSO}_4 \cdot 3\text{Cu}(\text{OH})_2 \cdot 3\text{CaSO}_4$
Concentration	: > 75 %
CAS No	: 8011-63-0
UN No	: 3077
Class	: 9
EC Number	: Not listed

4. FIRST AID MEASURES

If accidental contact with product occurs, proceed as follows:

Ingestion	: DO NOT give anything by mouth to an unconscious person. Promptly drink large quantities of water. DO NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Seek medical attention immediately.
Skin Contact	: Provide safety showers. Remove contaminated clothes and shoes. Wash with lukewarm water and soap to remove all evidence of the chemical (approximately 15 minutes). Give medical attention. Launder contaminated clothing before reuse.
Eye Contact	: Hold eyelids open and flush with lukewarm water for at least 20 minutes, until no evidence of the chemical remains. If wearing contact lenses, remove immediately. Seek medical attention immediately.
Inhalation	: Remove victim to fresh air. If breathing is difficult, give oxygen. Give artificial respiration if necessary. Seek medical attention if symptoms persist.

Important Symptoms and Effects (both acute and delayed)

: Symptoms of systemic copper poisoning may include: Capillary damage; headache; weak pulse; cold sweat and kidney and liver damage; central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma.
Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper disposition in the corneas exemplified by humans with Wilson’s disease.

There have also been reports of copper poisoning leading to hemolytic anemia and accelerates arteriosclerosis.

5. FIRE FIGHTING MEASURES

General Hazard : Negligible fire and explosion hazard when exposed to heat or flame.

Extinguishing media : Use dry chemical powder, carbon dioxide, water spray. Use water jets with caution so as to avoid product runoff into drains and water ways.

Special hazards : Thermal decomposition products include highly toxic gases: copper oxides, sulphur oxides.

Personal protection equipment for fire fighting : Use adequate protective clothes (including gloves) and self-contained, positive pressure breathing apparatus, approved specifically for confined areas.

Additional Information : In case of fire, prevent by any means possible spillage from entering drains or water ways.

Hazardous Material Information

HEALTH	2	
FLAMMABILITY	0	
REACTIVITY	0	
PROTECTIVE EQUIPMENT	E	

Hazard Ratings:
 4 = severe 3 = serious
 2 = moderate 1 = slight
 0 = minimal E = Safety glasses, gloves, dust respirator

6. MEASURES TO CONTROL SPILLS AND LEAKS

Personal Precautions,
Protective Equipment and
Emergency Procedures

: For non-emergency personnel:
Use self-contained breathing apparatus and protective clothing and gloves to prevent contact with eyes and skin. Ensure area is well ventilated. Avoid making dust.

For emergency responders:
Use self-contained breathing apparatus and protective clothing and gloves to prevent contact with eyes and skin.

Environmental Precautions

: Pollution may occur by runoff from fire control or dilution water.
Avoid the material from entering drains or water ways.
Toxic to aquatic ecosystems.

Methods and Materials for
containment and cleaning up

: Spills on the Ground

- Small Spills
- Isolate area and prevent people from entering.
 - Avoid dust formation.
 - Mop and wipe away.
 - Place material in a clean, dry container and seal for subsequent disposal.
 - Properly dispose of material according to local regulations.

- Large Spills
- Isolate area and prevent people from entering.
 - Avoid making dust.
 - Scoop up the material.
 - Place material in a clean, dry containers and seal for subsequent disposal.
 - Properly dispose of material according to local regulations.

: Spills on the Water

- Isolate spill area.
- Recover the material as soon as possible – material is water dispersible.
- Deposit into a suitable container and dispose of according to local regulations.
- DO NOT drink the contaminate water. High concentrations of copper in water are toxic to aquatic ecosystems.

7. HANDLING & STORAGE

General Information

: Stove above 0°C and below 35°C.
Average shelf life under proper storage conditions is at least 2 years.

Precautions	: Avoid dust generation. Work in a well ventilated area. Provide suction extractors if dust is formed. Avoid eye and skin contact. Avoid breathing in dust. Use safety goggles, protective clothing, gloves and dust respirator (covering nose and mouth). Keep product sealed and dry. DO NOT eat, drink or smoke near the product. Remove contaminate clothing and protective equipment before entering eating areas. Wash hands thoroughly before eating or drinking.
Conditions for safe storage	: Do not store in metal containers. May be corrosive to metal after a long period of storage. Keep product sealed and dry. Do not store in an unlabeled container. Store in a cool, clean, dry and well ventilated area – out of direct sunlight. Protect from rain and excessive heat. Do not store near feed, food or within reach of children.
Incompatibilities	: Organophosphate compounds, carbamates, strong alkaline pesticides such as lime sulphur, fenvalerate, parathion, chlorpyrifos.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

CONTROL PARAMETERS	: Prevent accumulation of dust in the air. Control enclosed spaces with adequate ventilation. Prevent exceeding the: TLV (Threshold Limit Value): 1mg/m ₃ for copper dusts and mists as Cu; and PEL (Permissible Exposure Limit): 1mg/m ₃ for copper dusts and mists as Cu.
EXPOSURE CONTROLS:	
Appropriate Engineering Controls	: Use local ventilation if dust is a problem, to maintain air levels below the recommended exposure limit.
Personal Protective Equipment	: <u>Eye / Face Protection:</u> Wear splash-proof / dust resistant safety goggles. Use equipment for eye protection that is tested and approved under appropriate government standards. <u>Skin Protection:</u> Wear impervious clothing to prevent repeated or prolonged skin contact with this product.

Hand Protection:

Wear PVC gloves.
 Dispose of contaminated gloves after use.
 Avoid skin contact with this product.
 Wash and dry hands.

Respiratory Protection:

Wear approved dust and mist respirator.

Other Recommendations:

After handling this product, always wash hands before eating, drinking, smoking or using the toilet.
 Wash contaminated clothing and other protective equipment before storing and re-using.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance and colour	: blue green wettable granule
Odour	: odourless
Molecular weight	: 860.7
pH (water suspension 1%)	: 7.0 to 8.0
Melting point	: decomposes before melting above 220°C
Flammability	: not flammable not combustible
Water solubility	: product is insoluble in water product is dispersible in water
Solubility	: Soluble in ammonium hydroxide.
Insolubility:	: very low solubility in ketones, ethers, hydrocarbons, chlorinated hydrocarbons.
Auto ignition temperature	: Not applicable
Explosive properties	: not explosive

10. STABILITY & REACTIVITY

Reactivity	: Not considered reactive under normal temperatures and pressures.
Conditions to avoid	: Excessive heat, direct sunlight, high moisture / humid conditions, dust generation, incompatible materials / products. Acids and ammonia salts.

Possibility of hazardous reactions	: This product will not react or polymerise.
Incompatible Materials	: Organophosphate compounds, carbamates, strong alkaline pesticides as lime sulphur. Do not mix with fenvalerate, parathion, chlorpyrifos.
Hazardous Decomposition Products	: Decomposes, giving off highly toxic gases. Copper oxides. Sulphur oxides.

11. TOXICOLOGICAL INFORMATION

Permissible Exposure Limit (PEL):	1 mg/m ³ (TWA) for copper dusts and mists as Cu.
Threshold Limit Value (TLV):	1 mg/m ³ (TWA) for copper dusts and mists as Cu.

- ROUTES OF EXPOSURE:
- : Ingestion:
Harmful if swallowed.
Often has an irritating effect on the gastrointestinal tract. Symptoms are severe if copper is retained in the stomach (such as an unconscious victim). Some indications of poisoning that occur after product is swallowed include a metallic taste in the mouth, burning pain in the chest and abdomen, intense nausea, vomiting, diarrhoea, headache, sweating, shock, discontinued urination leading to yellowing of the skin. Injury may also occur to the brain, liver, kidneys and stomach and intestinal linings.
 - : Skin Contact:
Causes skin irritation.
Excessive exposure will cause skin irritation with pain, itching and redness. Severe over exposure will cause skin burns. Prolonged exposure may cause dermatitis.
 - : Eye Contact:
Causes serious eye irritation.
Exposure will cause redness and pain.
Prolonged exposure may cause conjunctivitis, turbidity, ulceration and corneal abnormalities.
 - : Inhalation:
Workers exposed to copper salts in dust form complained of a metallic taste in the mouth, irritation of nasal passages and oral mucous. Acute exposure may cause irritation of upper respiratory tract with symptoms of coughing, burns and/or breathing difficulty.

- CHRONIC TOXIC EFFECTS
- : Individuals with Wilson's Disease are unable to metabolise copper. Therefore the copper accumulates in various tissues. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in cornea as exemplified by humans with Wilson's Disease. It has also been reported that copper poisoning has led to hemolytic anemia and accelerates arteriosclerosis.

<u>ACUTE TOXICITY</u>	: Oral LD50 (rat)	: > 2000 mg/kg
	: Dermal LD50 (rat)	: > 2000 mg/kg
	: Inhalation LC50 (rat)	: > 5 mg/L (4h)
	: Skin irritation	: yes
	: Eye irritation	: yes - serious
	: Sensitisation	: none expected

12. ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

<u>ECO-TOXICITY:</u>	Fish (Onchorincus mykiss)	: LC50 (96h)	: 0.086 mg/L
	Freshwater invertebrate (Daphnia magna)	: LC50 (48h)	: 1.87 mg/L
	Algae (Selenastrum capricornutum)	: EC50 (72h)	: 0.041 mg/L
	Birds (young Mallard duck)	: Oral LD50	: > 2000 mg/kg
	Very Toxic		: to fish, algae, insects.
	Toxic		: to molluscs, crustaceans
	Harmful		: to terrestrial fauna, birds.
	Not toxic		: to bees

PHOTOTOXICITY : If applied at the recommended rates, the product is non-phototoxic.

BIO-ACCUMULATIVE POTENTIAL : Copper must be used in a manner that minimises accumulation of copper in the soil. Copper is stored primarily in the liver, brain, heart, kidneys and muscles. After ingestion, more than 99% of the copper is excreted.

MOBILITY IN SOIL : The degree of mobility of copper in the environment depends on the pH of ambient soils and waters. The higher the acidity, the more soluble copper salts are and, therefore more mobile. The distance that it can travel in the soil is limited by its strong absorption to many types of surfaces. Partitioning copper into air is negligible due to the low vapor pressure of copper salts.

ENVIRONMENTAL FATE : small amounts of copper are necessary for the life and health of plants, animals and humans.

: Animals
Excessive doses are excreted. Small amounts may be incorporated into natural proteins.

: Soil

Strongly absorbed by soil. Copper oxychloride is partly washed down to lower levels, partly bound by soil particles, and partly oxidatively transformed.

13. CONSIDERATIONS ON FINAL DISPOSAL

Product disposal

: Disposal of this product should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements. Generation of waste should be avoided or minimised where possible.

Avoid dispersal of spilled material.

Avoid contact with soil, waterways, drains and sewers. Disposal of copper waste into waterways is not allowed.

Avoid excessive heat and incompatible materials: strong oxidising agents, mercury containing compounds, thiram, DNOC, lime sulphur and dithiocarbamates.

Disposal of contaminated containers / packaging

: DO NOT dispose of undiluted chemicals on site. Puncture or and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

14. TRANSPORT INFORMATION

UN No

: UN3077

UN proper shipping name

: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (84% dicopper chloride trihydroxide), 9, UN3077, III. Marine Pollutant.

Class

: 9

Packaging Group

: III

Hazard No.

: 90

Transport Category

: 3

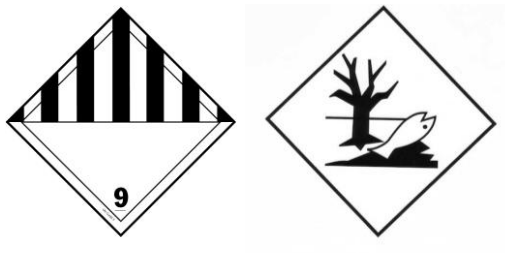
Tunnel restriction code

: E

Secondary risk

: Marine Pollutant

PLACARDS



15. REGULATORY INFORMATION

APVMA Approval No. : 62430/56128

Marking on Label : Poison
Keep out of reach of children
READ SAFETY DIRECTIONS BEFORE OPENING OR USING THIS
PRODUCT

16. OTHER INFORMATION

The information contained in this MSDS is provided in good faith and is believed to be correct at the date hereof. However, it is expected that individuals receiving the information will exercise their independent judgement in determining its appropriateness for a particular purpose. Melpat International Pty Ltd makes no representation as to the accuracy or comprehensiveness of the information. To the full extent allowed by law, Melpat International Pty Ltd excludes all liability whatsoever - whether with respect to negligence or otherwise, for any loss or damage arising from or connection with the supply or use of the information in this MSDS.

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