

MATERIAL SAFETY DATA SHEET

BIPRO ST

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Bipro ST
Product type: Combined anti-sapstain / mould and anti-borer treatment for freshly cut/sawn timber
Supplier: **TIMBERLIFE (PTY) LTD**
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Bipro ST is a concentrated, water-based mixture of fungicides/mouldicides and insecticides consisting of sodium borates, an organosulphur compound (TCMTB), tetrachlorophthalonitrile (chlorothalonil) and a synthetic pyrethroid (cypermethrin).

Chemical nature and use:

BIPRO ST is a water-dispersible liquid concentrate that contains four specifically blended fungicidal and insecticidal active ingredients to provide a wide-spectrum protection against sapstain fungi and mould growth as well as wood borer attack on green (wet) sawn and round timbers.

For maximum effect, **BIPRO ST** should be applied to all timber surfaces as soon as possible after processing and preferably within 12 hours after cutting, debarking and/or sawing.

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Pesticidal active ingredients:

Borax dehydrate equivalent (Sodium borate)	216,0 g a.i./ℓ (min)
2 – (thiocyanomethylthio) benzothiazole (Organosulphur compound)....	14,9 g a.i./ℓ (min)
Chlorothalonil (Tetrachlorophthalonitrile)	13,0 g a.i./ℓ (min)
Cypermethrin (Synthetic pyrethroid)	5,1 g a.i./ℓ (min)

3. HAZARD IDENTIFICATION

Most important hazards:

- Human health effects
 - Toxic if ingested
 - May cause moderate irritation to skin
 - May cause moderate to severe irritation and is harmful to eyes
 - Irritating and moderately toxic by inhalation.
- Environmental effects
 - Toxic to both plant and aquatic life. Highly toxic to bees.
- Physical hazards
 - Thermal decomposition results in release of toxic fumes.

4. FIRST-AID MEASURES

Ingestion:

Seek medical attention immediately. Do not induce vomiting. Drink lots of milk or water to dilute. If vomiting occurs, drink more water. Note: Do not give anything orally to an unconscious person.

Skin contact:

Immediately remove all contaminated clothing and wash with soap and water. If irritation develops and persists, seek medical attention.

Eye contact:

Immediately flush with fresh water for at least 15 minutes. Seek medical attention immediately. Continue flushing for another 15 minutes if medical attention does not arrive promptly.

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Inhalation:

Remove patient to fresh air. Administer oxygen if necessary. If patient stops breathing administer artificial respiration. Seek medical attention immediately.

Note to physician:

- (i) Administer gastric aspiration and lavage with water, or 5% sodium bicarbonate solution for cases of ingestive poisoning.
- (ii) Antihistamines or steroid creams are effective for treatment of irritation.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

In event of a fire, cool containers with water.
Use dry chemical powder, sand, foam or CO₂ to extinguish the fire.

Flammability:

The product is not flammable.

Specific hazards:

May release irritating and toxic gases when exposed to high temperatures. Product may decompose if heated above 60°C.

Protective clothing:

Self-contained breathing apparatus and full protective clothing such as PVC gloves, cotton or polyester overalls and safety glasses or goggles.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Wear gloves, safety glasses or splash-proof goggles and cotton or polyester overalls. In confined spaces wear respiratory equipment.

Environmental precautions:

Avoid contamination of rivers, dams or canals.
Prevent spillage from entering drains and ditches.

Methods for cleaning up:

Absorb or dike with inert material such as sand or diatomaceous earth. Then dispose of at a class 1 disposal site.

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7. HANDLING AND STORAGE

Handling:

Avoid contact with eyes and skin.

Avoid inhalation of spray and vapour.

Wear suitable gloves and overalls.

Wear eye face protection.

After contact with the skin and eyes, immediately wash with soap and water.

Do not eat, drink or smoke while using the product.

Do not discharge into rivers, dams and canals.

Storage:

Keep out of reach of children, uninformed persons, and animals.

Do not store near strong oxidising agents and alkalis. Keep containers closed.

Store in a cool, dry place away from food and foodstuffs.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit : TLV/TWA : 500 ppm (ACGIH) calculated.

Personal protective equipment:

Wear suitable protective clothing such as overalls, rubber gloves and safety goggles during handling and use of the product.

In confined spaces the use of approved respiratory equipment for protection from mists of pesticides is recommended.

Hygiene measures:

Wash hands with soap and water before eating, drinking or smoking.

Wash overalls and clothes regularly.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Liquid concentrate
Colour	:	Yellowish-white
Odour	:	Slightly irritating
pH	:	± 6
Temperature stability	:	Stable at temperatures of up to 60°C
Melting point	:	Start crystallizing at low temperatures
Decomposition temperature	:	Above 60°C
Flammability	:	Non flammable
Explosion properties	:	None
Flash point	:	Not applicable
Density @ 20°C	:	1,1 kg/l
Solubility	:	Dispersible in water

10. STABILITY AND REACTIVITY

Stability	:	Stable in neutral and acidic media
Conditions to avoid	:	Elevated temperatures
Materials to avoid	:	Strong oxidants and alkalis
Hazardous decomposition products	:	Toxic fumes of SO _x , CN ⁻ , Cl ⁻ and NO _x may be evolved on combination if heated above 60°C

11. TOXICOLOGICAL INFORMATION

The following information is based on the most toxic active ingredient. The actual formulation should therefore have lower overall toxicity levels.

Acute toxicity	:	<ul style="list-style-type: none">• Oral LD₅₀ (rat) - Over 1590 mg/kg• Dermal LD₅₀ (rabbit) - Over 2000 mg/kg• Inhalation LC₅₀ (rat) - Over 0,17 mg/kg/hour. Irritating to mucous membrane and respiratory tract.
Local effects	:	See Section 3, "Human health effects"
Chronic toxicity	:	No evidence of carcinogenic or mutagenic effects. May cause asthma (inhalation over a long period) or dermatitis (if absorbed by the skin over a long period).

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12. ECOLOGICAL INFORMATION

- Environmental effects** : See Section 3, "Environmental effects"
- Mobility** : No information available.
- Degradability** : Practically biodegradable but has a bactericidal effect.
- Bioaccumulation** : Due to biodegradation and recommended application rates, it is unlikely that bioaccumulation will attain levels of environmental significance.

The following information is based on the most toxic active ingredient. The actual formulation should therefore have lower overall ecotoxicity levels.

- Ecotoxicity** :
- Birds:**
Moderately toxic to birds (data for technical material)
Acute oral LD₅₀ : > 1310 mg/kg (mallard ducks)

 - Fish:**
Very toxic to fish
96-Hour LC₅₀ : 117 µg/l (rainbow trout)

 - Daphnia:**
Toxic to *Daphnia magna*
48-Hour LC₅₀ : 70 µg/l

 - Marine organisms:**
Toxic to marine organisms (data for technical material)
96-Hour LC₅₀ : 21 µg/l (Mysid shrimp)
 : 60 µg/l (Sleephead minnows)

 - Bees:**
Highly toxic to bees (data for cypermethrin)
LD₅₀ (oral) : 0,035 µg/bee
LD₅₀ (topical) : 0,020 µg/bee

13. DISPOSAL CONSIDERATIONS

- Product waste** : Dispose of in accordance with prevailing disposal regulations. Avoid contamination of soil and water by waste product. Whenever possible, any waste product should be recovered and re-used.
- Packaging material** : Do not re-use containers. Puncture all plastic containers and dispose of at an approved landfill site, or offer for recycling.

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14. TRANSPORT INFORMATION

UN Number	:	2903 (Cypermethrin)
	:	N/A (Borax decahydrate equivalent)
	:	2810 (2 – (thiocyanomethylthio) benzothiazole)
	:	2902 (Chlorothalonil/Tetrachlorophthalonitrile)
ADR / RID	:	6.1 Subsidiary Risk 8
IMDG / IMO	:	6.1 Subsidiary Risk 8
ICAO / IATA	:	6.1 Subsidiary Risk 8
Packaging Group	:	III
Road/Rail	:	Pesticide, liquid, toxic.
Air / IATA	:	Pesticide, liquid, toxic.
Sea	:	Pesticide, liquid, toxic. Marine pollutant.

15. REGULATORY INFORMATION

Danger Group	:	II
Indication of danger	:	Harmful, Irritant.
Risk phrase(s):		
R 20/22	:	Harmful by inhalation and if swallowed,
R 36/37/38	:	Irritating to eyes, respiratory system and skin.
R 41	:	Risk of serious damage to eyes.
R 43	:	May cause sensitisation by skin contact.
R 50	:	Toxic to aquatic organisms.
R57	:	Toxic to bees
Safety phrases:		
S 2	:	Keep out of reach of children.
S 23	:	Do not breathe vapour/spray.
S 24/25	:	Avoid contact with skin and eyes.
S 36/37/38	:	Wear suitable protective clothing, gloves and eye/face protection.

16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct.

It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product.

Compiled: September 2002