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MATERIAL SAFETY DATA SHEET

® DuPont Registered Trademark
N/R In Product Identification section means Not Regulated as a Dangerous Good and no UN number is allocated.

ISSUED DUPONT 26/7/2005

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PRODUCT: DUPONT™ KOCIDE® BLUE XTRA

Hazardous According to Criteria of NOHSC

PRODUCT IDENTIFICATION

UN No: 3077	D.G.Class: 9	Poisons: S6(Fed)
Hazchem: 2X	Sub. Risk:	Pack. Grp: III
Tradenames: DuPont™ Kocide® Blue Xtra	Manuf.:	ManCode:

Use:

A fine dry flowable fungicide for the control of various diseases of fruits and vegetables

Ingredients:	CAS No:	Proportion:
Copper Hydroxide*	20427-59-2	53.8% w/w
Inert ingredients		46.2 % w/w

Components not precisely identified are proprietary or not hazardous.
(*Metallic Copper Equivalent 35%)

Physical Description / Properties

Appearance :	Medium blue granule
Boiling Point / Melting Point :	Not determined
Vapour Pressure :	Not determined
Bulk Density :	1042 g/L
pH :	8.61
Melting Point :	Decomposes at >140°C
Flammability Limits :	No data
Solubility in Water :	2.9 mg/L (copper hydroxide)

HEALTH HAZARD INFORMATION

Acute Effects

Eye: Eye contact may cause substantial, but temporary eye injury.

Skin: Non-irritant. Excessive exposure, especially if prolonged, may produce skin irritation, itching and eczema and on rare occasions a sensitising reaction. Repeated exposure may cause allergic contact dermatitis.

Inhaled: Slightly toxic by inhalation. Excessive exposure may cause cough, mucous production, shortness of breath, reflecting metal fume fever. May cause irritation of the mucous membranes.

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**PRODUCT: DUPONT™ KOCIDE® BLUE XTRA****HEALTH HAZARD INFORMATION: (Continued)**

Swallowed: Slightly toxic by oral exposure. This material may produce toxicity if ingested in large quantities. Symptoms of over-exposure to copper salts may include nausea and vomiting, abdominal pain, and central nervous system depression, which if severe enough, may lead to death.

Chronic Effects

None established for formulated product.

Low chronic toxicity unless excessive exposure is encountered. Excessive exposure to copper by inhalation may result in irritation of the upper respiratory tract which, if severe, may lead to perforation of the nasal septum after long periods of exposure.

Based on animal data from Copper Hydroxide, the following chronic effects may occur in animals. Repeated ingestion of copper salts may result in anemia, liver, and kidney damage. Chronic inhalation exposure may cause a metallic taste in the mouth, irritation of the upper respiratory tract such as the nasal mucosa that may progress to perforation of the nasal septum. Chronic cough may also occur.

Other Health Effects

Copper-intolerant individuals should not be exposed to this material. No additional information is available on whether over-exposure to this material would aggravate other existing special medical conditions.

First Aid

Eye: Hold eye open and flush with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call the Poisons Information Centre (phone Australia 13 11 26) or doctor for treatment advice.

Skin: Remove contaminated clothing and shoes. Wash with plenty of soap and water for 15-20 minutes until no evidence of chemical remains.

Inhaled: Remove victim to fresh air. If person is not breathing, call 000 or an ambulance, and give artificial respiration, preferably mouth-to-mouth. Call a Poison Information Centre (phone Australia 13 11 26) or doctor for further treatment advice.

Swallowed: If poisoning occurs, contact a doctor or Poisons Information Centre (phone Australia 13 11 26). Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the Poison Information Centre or doctor. DO NOT give anything by mouth to an unconscious person.

Have the product container or label with you when calling a Poison Information Centre or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1800 674 415. See Label for Additional Precautions and Directions for Use.

Advice to Doctor:

Treat symptomatically. Acute oral over-exposure to copper hydroxide, a major component of this product, may cause hypotension, hemolysis, and rarely, methemoglobinemia. Severe intoxication is associated with serum copper levels greater than 500 mcg/dl. Copper hydroxide is an emetic, however, dilution with fluids, adsorption with activated charcoal, or lavage may be indicated. Chelation therapy with BAL or D-penicillamine has proved useful in cases of acute over-exposure.

Unless extensive vomiting has occurred, empty the stomach by gastric lavage with water, milk, sodium bicarbonate solution of a 0.1% solution of potassium ferrocyanide. (Gosselin, Clinical Toxicology of Commercial Products, 5th Ed.). Administration of gastric lavage should be performed by qualified medical personnel. Probable mucosal damage may contraindicate use of gastric lavage.

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**PRODUCT: DUPONT™ KOCIDE® BLUE XTRA****Toxicity Data:****Animal Data - DuPont™ Kocide® Blue Xtra**Oral LD₅₀: 1346 mg/kg in ratsDermal LD₅₀: > 5000 mg/kg in rabbits4-Hour Inhalation LC₅₀: 1311 mg/m³ in rats

Kocide® Blue Xtra caused substantial, but temporary eye injury. It was not a skin irritant or skin sensitizer in animals.

Kocide® Blue Xtra did not produce any adverse effects at 1000 mg/kg in a 28-day oral feeding study in rats.

No animal data are available to define the carcinogenic, mutagenic, developmental, or reproductive hazards of Kocide® Blue Xtra.

PRECAUTIONS FOR USE**Exposure Standards:**NOHSC exposure standard has been established for copper hydroxide. However, there is a general exposure standard for copper dusts and mists (as copper) TLV (TWA) 1 mg/m³.AEL * (DuPont) : 1.5 mg/m³, 8 & 12 Hr. TWA (approximately 1 mg/m³, as Cu)

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

Engineering Controls:

Thoroughly ventilate all transport vehicles prior to unloading. General air replacement or dilution ventilation is sufficient for material handling and storage.

Personal Protection:

Wear cotton overalls buttoned to the neck and wrist or equivalent clothing, waterproof gloves and shoes and socks, when using or applying product or spray. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Keep and wash personal protective equipment (PPE) separately from other laundry.

Flammability:

Non flammable.

Ecological Data:

This product is very toxic to fish and aquatic organisms. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container. The toxicity to birds is low.

Aquatic Toxicity:96 hour LC₅₀ - Rainbow trout: 7.99 mg/L.48 hour EC₅₀ - Daphnia magna: 1.61 mg/L.96 hour EC₅₀ - Freshwater algae: 0.0157 mg/L.**Avian Toxicity:**

Acute Oral LD50 - Quail. 722 mg/kg.

Acute Oral LD50 - Honeybee: 8.15 ug/bee.

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**PRODUCT: DUPONT™ KOCIDE® BLUE XTRA****SAFE HANDLING INFORMATION****Storage and Transport:**

Store product in the closed, original container in a cool, dry, well ventilated area out of direct sunlight. Keep from contact with fertilisers, fungicides and seeds.

ROAD TRANSPORT:

Considered non-hazardous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

SEA TRANSPORT:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S
UN 3077 Class 9 Packaging Group III HAZCHEM 2X

Spills and Disposal:

Thoroughly ventilate area, use self-contained breathing apparatus. Emergency response personnel should wear chemical resistant coveralls, waterproof gloves, waterproof boots and face-eye protection. If dust occurs, use goggles and NOHSC approved dust mask. Dike spill. Prevent material from entering sewers, waterways or low areas. Shovel or sweep up and place in suitable containers for later disposal.

Treatment, storage, transportation and disposal must be in accordance with applicable regulations. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not flush to surface water or sanitary sewer.

Fire/Explosion Hazard:

Negligible fire hazard when exposed to heat or flame. Use dry chemical, carbon dioxide, water spray, or foam. Wear protective clothing and self-contained breathing apparatus. Decomposes to CuO and H₂O above 60°C.

Reactivity Data:

Stable at normal temperatures and storage conditions. Decomposition will not occur.

REGULATORY INFORMATION**Package and Labelling:**

S5

Contains:

350 g/kg Copper present as cupric hydroxide

Risk Phrases:

R20 Harmful by inhalation.

R22 Harmful if swallowed.

R36 Irritating to eyes.

SOURCE INFORMATION**Technical Data:**

Source MSDS: US-M0000539, revised 26-May-2005

ADDITIONAL INFORMATION**Contact Points:**

For sales, technical, and product related enquiries contact DuPont's North Sydney office on (02) 9923 6111. Outside the Sydney metropolitan area 1800 252 997 is a toll free number to North Sydney Office. To assist communications, ask for the Customer Service, Technical, or Marketing personnel for the product family relative to the inquiry.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.