



Material Safety Data Sheet

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Infosafe No. 3NU3G Issue Date : June 2004 ISSUED by NUFARM

Product Name : **OPUS® 75 Fungicide**

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name OPUS® 75 Fungicide
Product Code 5181
Product Use For the control of leaf spot and leaf speckle in bananas as specified in the Directions for Use table.
Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia
Emergency Tel. 24hr 1800 033 498
Telephone/Telex Number Tel: (03) 9282-1000 Fax: (03) 9282-1001
Product Type Group C Fungicide
Other Information This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	Name	CAS	Proportion
	Epoxiconazole	106325-08-0	75 g/L
	Cyclohexanone	108-94-1	60 %
	Other Ingredients		30 %

3. HAZARDS IDENTIFICATION

Flammable.
Possible risk of irreversible effects.
May cause harm to the unborn child
Possible risk of impaired fertility.

Other Information Poisons Schedule 5

4. FIRST AID MEASURES

Inhalation Remove affected person to fresh air until recovered.
If symptoms develop or persist, seek medical advice.

Ingestion If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

Skin Wash affected areas thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.

Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
Seek medical advice if irritation develops or persists.

Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media Foam, carbon dioxide or dry chemical.

Hazardous Combustion Products If involved in a fire, it will emit oxides of carbon, oxides of nitrogen and possibly hydrogen chloride, hydrogen fluoride, phosgene or fluorinated hydrocarbons.

Protective Equipment Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.



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Other Information Hazchem code 3[Y] .

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).
Collect spilled material and waste in sealable open-top type containers for disposal.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8.

Environmental Precautions Prevent from entering drains, waterways or sewers.
Use earthen bunds or absorbent bunding to prevent spreading of spillage.

Clean-up Methods - Large Spillages If large liquid spills occur, attempt to recover as much spilt material from sumps and banded areas before absorbing remaining material into vermiculite or other absorbent.
Place damaged containers in recovery bins (if available) and return to manufacturer.

7. HANDLING AND STORAGE

Storage Store in the closed, original container in a cool, well ventilated area.
Do not store for prolonged periods in direct sunlight.
Store in an area suitable for flammables.

Other Information Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits NOHSC has set the following exposure standard for cyclohexanone : TLV (TWA) 100 mg/m³, STEL - .
'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Personal Protective Equipment When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.

Eng. Controls Use in a well ventilated area only.

Hygiene Measures After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.
After each day's use, wash contaminated clothing and safety equipment.

Requirements Concerning Special Training NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials. By 1st September, 2005 all users must have received such training.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear amber liquid

Odour Strong aromatic odour

Solubility in Water Forms an emulsion in water.

Vapour Pressure <0.01 mPa @ 20°C for exoxiconazole;
0.52 kPa @ 20°C for cylcohexanone.

Volatile Component 60% cyclohexanone

Partition co-efficient, n-octanol/water 3.33 @ 25°C for epoxiconazole

Flammability Flammable Liquid.

Ignition Temperature 420°C

Flammable Limits LEL 1.1% for cyclohexanone

Flammable Limits UEL 9.4% for cyclohexanone

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10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Hazardous Polymerization Hazardous polymerisation is not possible.

Hazardous Reaction Keep away from strong oxidising agents.

11. TOXICOLOGICAL INFORMATION

Toxicology Information No harmful effects are expected if the precautions on the label and this MSDS are followed.

Inhalation In confined spaces, some discomfort may occur due to the presence of some solvent vapour.
May cause irritation to the respiratory tract.
High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, can be anaesthetic and may have other central nervous system effects.

Ingestion If aspirated into the lung, e.g. from vomiting, the presence of cyclohexanone solvent may result in chemical pneumonitis or pulmonary oedema.
Possible symptoms of exposure include: symptoms of central nervous system depression as described under inhalation.

Skin Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.

Eye The concentrate may cause irritation of the eyes.

Reproductive Toxicity Regarded as causing developmental toxicity in humans based on strong presumption from studies on rats and rabbits.
Possible risk of impaired fertility based on small but significant effects on reproduction in a 2nd generation study of rats.

Carcinogenicity Worksafe Australia has classified epoxiconazole in the occupational environment as a Carcinogen Category 3 substance. This means the the substance is not classifiable as to carcinogenicity to humans.

Acute Toxicity - Oral LD50 (rat) 2000 - 3000 mg/kg for the formulated product

Acute Toxicity - Dermal LD50 (rat) >4000 mg/kg for the formulated product

Acute Toxicity - Inhalation LC50 (rat) (4hr) 2880 - 5700 mg/l for the formulated product

Eye Irritation Moderate eye irritant.

Skin Irritation Mild skin irritant.

Skin Sensitisation Product is not a skin sensitiser.

Other Information The Australian Acceptable Daily Intake (ADI) for epoxiconazole for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, August 2003).

12. ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment The product is a marine pollutant for sea transport.

Other Precautions Do not contaminate dams, waterways or sewers with this product.

Acute Toxicity - Fish Toxic to fish. LC50 (96hr) for bluegill sunfish is 0.52 mg/l.
The above data is for the formulated product.

Acute Toxicity - Algae EC50 (72hr) for selenastrum capricornutum is 6.3 µg/l.



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Acute Toxicity - Other The following data is for the active ingredient, epoxiconazole.

Organisms Birds: Not toxic to birds. LD50 for quail is >2000 mg/kg

Bees: Not toxic to bees. LD50 >100 µg/bee.

13. DISPOSAL CONSIDERATIONS

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemCollect).

Container Disposal Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.

Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and bury in an approved landfill or bury with at least 500 mm of soil cover away from pasture and crop areas, water supplies and houses.

Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

U.N. Number 1993

Proper Shipping Name FLAMMABLE LIQUIDS, N.O.S. - (contains Cyclohexanone)

DG Class 3

Hazchem Code 3[Y]

Packing Group III

Storage and Transport Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

EPG Number 3A1

IERG Number 14

UN Number (Sea Transport) 1993

IMO Class/Packing Group Class 3; Packing Group III

IMO Proper Shipping Name FLAMMABLE LIQUID, N.O.S. (contains Cyclohexanone)

15. REGULATORY INFORMATION

Risk Phrase R10 Flammable.
R40(3) Possible risk of irreversible effects.
R61(1) May cause harm to the unborn child
R62 Possible risk of impaired fertility.

Safety Phrase S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.

Poisons Schedule S5

Hazard Category Toxic



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Packaging & Labelling CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

® Registered trademark of BASF

Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498

Revisions Highlighted First Issue
...End Of MSDS...