1. Substance/preparation and company identification

BASF KUMULUS® DF WETTABLE SULPHUR FUNGICIDE SPRAY

Use: Fungicide for the control of certain fungal diseases and mites in grapevines and other crops.

Manufacturer / supplier:
BASF Australia Limited (ABN 62 008 437 867)
Level 12, 28 Freshwater Place
Southbank VIC 3006
AUSTRALIA
Telephone: +61-3-8855 6600
Telefax: +61-3-8855 6511

Emergency information (24 h):
Within Australia: 1800 803 440
Outside Australia: +61 3 8855 6666

2. Hazard Identification

NON-HAZARDOUS SUBSTANCE – NON-DANGEROUS GOODS.

The product is not classified as a hazardous chemical in accordance with GHS criteria.

Keep out of reach of children.
Keep away from food, drink and animal feeding stuffs.
When using, do not eat, drink or smoke.

3. Composition/Information on Ingredients

Chemical nature:
Fungicide containing sulphur (80%).

4. First-Aid Measures

General advice:
Remove contaminated clothing. If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

If inhaled:
Keep patient calm and move to fresh air.

On skin contact:
Wash thoroughly with soap and water.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.
On ingestion:
Rinse mouth and then drink plenty of water.

Note to physician:
Symptoms: No significant reaction of the human body to the product known.
Treatment: Symptomatic treatment (decontamination, vital functions). No known specific antidote.

5. Fire-Fighting Measures

Suitable extinguishing media:
Dry powder, foam, water spray.

Unsuitable extinguishing media for safety reasons:
Carbon dioxide (CO2).

Specific hazards:
Thermal decomposition or combustion may produce the following substances:
Carbon monoxide, carbon dioxide, sulphur oxides.

Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
In case of fire and/or explosion, do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated fire extinguishing water separately. Do not allow to reach sewerage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions:
Avoid dust formation. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions:
Do not discharge into drains/surface water/groundwater. Do not discharge into the subsoil/soil.

Methods for cleaning-up or taking-up:
Avoid raising dust. For small spills, contain with dust binding material and dispose in accordance with regulations. For large amounts, sweep/shovel up and collect in suitable containers, which can be labelled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

7. Handling and Storage

Handling
Read safety directions before opening and using. Ensure thorough ventilation of stores and work areas.
When using product, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. After each day’s use, wash gloves and contaminated clothing.

Protection against fire and explosion:
Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge. Sources of ignition should be kept well clear. Fire extinguishers should be kept handy.
8. Exposure Controls and Personal Protection

Exposure limit values
No occupational exposure limits known.

Personal protective equipment
Respiratory protection:
Not required.

Hand protection:
Elbow-length chemical resistant gloves.

Eye protection:
Safety glasses with side-shields if there is a risk of splashing.

Body protection:
Cotton overalls buttoned to the neck and wrist (or equivalent clothing).

General safety and hygiene measures:
May irritate the skin. Avoid contact with skin. Wearing of closed work clothing is recommended (e.g. cotton overalls). Store work clothing separately. Clothing must be laundered after each day's use. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form: low dusting fine granules
Colour: grey-brown
Odour: faint specific odour, sulphur-like
pH value: approx. 7 – 9 (1% solution, 20°C)
Boiling point: The product is a non-volatile solid
Melting range: approx. 112 – 116°C
Flash point: not applicable
Lower explosion limit: approx. 25 g/m³ (VDI 2263)
Upper explosion limit: not available
Flammability: not flammable
Fire promoting properties: not fire-propagating
Vapour pressure: not available
Density: approx. 1.88 g/cm³ (20°C)
Solubility in water: dispersible
Solubility: not available for other media
Partitioning coefficient n-octanol/water (log Pow): not applicable
Viscosity, dynamic not applicable
Explosive properties: not explosive
Thermal decomposition: 165°C, 50 kJ/kg (DSC (OECD 113))
Thermal decomposition: 265°C, 30 kJ/kg (DSC (OECD 113))

10. Stability and Reactivity

Conditions to avoid:
Keep away from heat. Protect against moisture. Protect from direct sunlight.

Thermal decomposition:
Decomposition will not occur if stored and handled correctly.

Substances to avoid:
Strong acids, strong bases, strong oxidising agents.

Hazardous reactions:
No hazardous reactions if stored and handled as prescribed/indicated.

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Acute toxicity

Assessment of acute toxicity:
Virtually non-toxic after a single ingestion. Virtually non-toxic by inhalation. Virtually non-toxic after a single skin contact.

LD50 rat (oral): > 2200 mg/kg (OECD Guideline 401)
No mortality was observed.

LC50 rat (by inhalation): > 5.4 mg/l/4 h (OECD Guideline 403)

LD50 rat (dermal): > 2000 mg/kg (OECD Guideline 402)
No mortality was observed.

Irritation

Assessment of irritating effects:
Not irritating to the skin. Not irritating to the eyes.

Primary skin irritation, rabbit: non-irritant (OECD Guideline 404)

Primary irritation of the mucous membrane, rabbit: non-irritant (OECD Guideline 405)

Sensitisation

Assessment of sensitisation:
There is no evidence of skin sensitising potential.

Guinea pig (Maximisation Test): Skin sensitising effects were not observed in animal studies. (OECD Guideline 406)
Repeated dose toxicity

Assessment of repeated dose toxicity:
No substance specific organ toxicity was observed after repeated administration to animals.
The product has not been tested. The statement has been derived from the properties of the individual components.

Genetic toxicity

Assessment of mutagenicity:
Mutagenicity tests revealed no genotoxic potential.
The product has not been tested. The statement has been derived from the properties of the individual components.

Carcinogenicity

Assessment of carcinogenicity:
The results of various animal studies gave no indication of a carcinogenic potential.
The product has not been tested. The statement has been derived from the properties of the individual components.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.
The product has not been tested. The statement has been derived from the properties of the individual components.

Developmental toxicity

Assessment of teratogenicity:
Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.
The product has not been tested. The statement has been derived from the properties of the individual components.

Other relevant toxicity information
Misuse can be harmful to health.

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:
LC50 (96 h): > 100 mg/l, Oncorhynchus mykiss

Aquatic invertebrates:
EC50 (48 h): > 1000 mg/l, Daphnia magna (OECD Guideline 202, Part 1, static)
Aquatic plants:
EC50 (72 h): 290 mg/l, Ankistrodesmus bibraianus (OECD Guideline 201)

Microorganisms/Effect on activated sludge:
EC50 (18 h): > 2000 mg/l, Pseudomonas putida (static)

**Mobility**

Assessment transport between environmental compartments:
Study scientifically not justified for sulphur.
The product has not been tested. The statement has been derived from the properties of the individual components.

**Persistence and degradability**

Assessment biodegradation and elimination (H2O):
Inorganic product which cannot be eliminated from water by biological purification processes.
The product has not been tested. The statement has been derived from the properties of the individual components.

**Bioaccumulation potential**

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected. The product will not be readily bioavailable due to its consistency and insolubility in water.
The product has not been tested. The statement has been derived from the properties of the individual components.

**Additional information**

Other ecotoxicological advice:
Do not discharge product into the environment without control.

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**13. Disposal Considerations**

Waste disposal of substance:
Do not dispose of undiluted chemicals on site. Dispose of in accordance with relevant local, state or territory government regulations.

Contaminated packaging:
Single rinse container before disposal. Add rinsings to spray tank. Puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the empty containers below 500 mm 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. Empty containers and product should NOT be burnt.

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**14. Transport Information**

Domestic transport (ADG):
Not classified as a dangerous good under transport regulations.
Sea transport (IMDG):
Not classified as a dangerous good under transport regulations.

Air transport (ICAO/IATA):
Not classified as a dangerous good under transport regulations.

15. Regulatory Information

Poisons Schedule: Not Scheduled

Registration status
APVMA Approval No: 30552/58045

16. Other Information

Vertical lines in the left hand margin indicate an amendment from the previous version.
The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product’s properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.