

DACONIL Weather Stick

Version 1.0 Revision Date: 13.02.2019 SDS Number: S190307053 This version replaces all previous versions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DACONIL Weather Stick
Design code : A12531B

Manufacturer or supplier's details

Company : Syngenta SA (Pty) Ltd
Address : P.O. Box 1044, No. 4 Krokodil drift Avenue
 Brits 0250
 South Africa
Telephone : +27 12 2502 120
Telefax : +27 12 2503 125
Telefax : +27 12 2503 125
Emergency telephone number : +27 83 1233 911

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

2. HAZARDS IDENTIFICATION**Most important hazards**

Warning
H302 + H332: Harmful if swallowed or if inhaled.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.
H351: Suspected of causing cancer.
H410: Very toxic to aquatic life with long lasting effects.

Other hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Components**

Chemical name	CAS-No.	Classification	Concentration (% w/w)
chlorothalonil (ISO)	1897-45-6	Acute Tox. 2; H330 Eye Dam. 1; H318 Skin Sens. 1; H317 Carc. 2; H351	>= 50 - < 70

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		STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	
1,2-benzisothiazol-3(2H)-one	2634-33-5	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400	$\geq 0,0025 - < 0,025$
Substances with a workplace exposure limit :			
propane-1,2-diol	57-55-6		$\geq 1 - < 10$
silicon dioxide, chemically prepared	112926-00-8		$\geq 1 - < 10$

For explanation of abbreviations see section 16.

4. FIRST AID MEASURES

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.
- Most important symptoms and effects, both acute and delayed : Nonspecific
No symptoms known or expected.
- Notes to physician : There is no specific antidote available.
Treat symptomatically.

5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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- Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.
- Specific extinguishing methods : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.
- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

7. HANDLING AND STORAGE

- Advice on safe handling : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.
- Conditions for safe storage : No special storage conditions required.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
chlorothalonil (ISO)	1897-45-6	TWA	0,1 mg/m ³	Syngenta
propane-1,2-diol	57-55-6	TWA OEL- RL (particulate)	10 mg/m ³	ZA OEL
Further information: Recommended Limit				
		TWA OEL- RL (Vapour + particulates)	150 ppm 470 mg/m ³	ZA OEL
Further information: Recommended Limit				
silicon dioxide, chemically prepared	112926-00-8	TWA OEL- RL (Respirable dust)	3 mg/m ³	ZA OEL
Further information: Recommended Limit				
		TWA OEL- RL (inhalable dust)	6 mg/m ³	ZA OEL
Further information: Recommended Limit				

Engineering measures : Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.

Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Suitable respiratory equipment:

Respirator with a half face mask

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Material : Nitrile rubber

Break through time : > 480 min

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- Glove thickness : 0,5 mm
- Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The breakthrough time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : No special protective equipment required.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Impervious clothing
- Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : suspension
- Colour : light grey
- Odour : No data available
- Odour Threshold : No data available
- pH : 7 - 8,5
Concentration: 100 %
- Melting point/range : -5 °C
- Boiling point/boiling range : 100 °C
- Flash point : No data available
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available

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Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Relative vapour density : No data available

Density : 1,333 g/cm³ (20 °C)

Solubility(ies)
Solubility in other solvents :
No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, dynamic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.

Conditions to avoid : No decomposition if used as directed.

Incompatible materials : None known.

Hazardous decomposition products : No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure :
Ingestion
Inhalation
Skin contact
Eye contact

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Acute toxicity**Product:**

- Acute oral toxicity : LD50 (Rat, female): 2.000 mg/kg
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat, female): 0,86 - 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation., The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.
Remarks: Based on data from similar materials
- LC50 (Rat, male and female): > 0,704 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Components:**chlorothalonil (ISO):**

- Acute oral toxicity : LD50 (Rat, male and female): > 5.000 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): 0,10 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

1,2-benzisothiazol-3(2H)-one:

- Acute oral toxicity : LD50 (Rat): 1.020 mg/kg

Skin corrosion/irritation**Product:**

- Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

Components:**chlorothalonil (ISO):**

- Species : Rabbit
Result : No skin irritation

1,2-benzisothiazol-3(2H)-one:

- Result : Irritating to skin.

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Serious eye damage/eye irritation**Product:**

Species : Rabbit
Result : No eye irritation

Components:**chlorothalonil (ISO):**

Species : Rabbit
Result : Risk of serious damage to eyes.

1,2-benzisothiazol-3(2H)-one:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation**Product:**

Test Type : Buehler Test
Species : Guinea pig
Result : May cause sensitisation by skin contact.
Remarks : Based on data from similar materials

Components:**chlorothalonil (ISO):**

Species : Guinea pig
Result : May cause sensitisation by skin contact.
Remarks : In very rare cases may cause an allergic response of the respiratory system.

1,2-benzisothiazol-3(2H)-one:

Result : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity**Components:****chlorothalonil (ISO):**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity**Components:****chlorothalonil (ISO):**

Carcinogenicity - Assessment : Chlorothalonil causes kidney tumours in rats and mice via a non-gentoxic mode of action secondary to target organ toxicity.

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,Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Components:

chlorothalonil (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT - single exposure

Components:

chlorothalonil (ISO):

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Repeated dose toxicity

Components:

chlorothalonil (ISO):

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,061 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,18 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Components:

chlorothalonil (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,039 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,07 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Navicula pelliculosa (Freshwater diatom)): 0,02 mg/l
Exposure time: 96 h

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NOEC (*Navicula pelliculosa* (Freshwater diatom)): 0,0035 mg/l
End point: Growth rate
Exposure time: 96 h

ErC50 (*Skeletonema costatum* (marine diatom)): 0,017 mg/l
Exposure time: 96 h

NOEC (*Skeletonema costatum* (marine diatom)): 0,012 mg/l
End point: Growth rate
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC (*Pimephales promelas* (fathead minnow)): 0,003 mg/l
Exposure time: 297 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): 0,035 mg/l
Exposure time: 21 d

NOEC (*Americamysis*): 0,00083 mg/l
Exposure time: 28 d

M-Factor (Chronic aquatic toxicity) : 100

1,2-benzisothiazol-3(2H)-one:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Persistence and degradability

Components:

chlorothalonil (ISO):

Stability in water : Degradation half life: < 5 d (20 °C)
Remarks: Product is not persistent.

Bioaccumulative potential

Components:

chlorothalonil (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 2,94 (25 °C)

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Mobility in soil**Components:****chlorothalonil (ISO):**

Distribution among environmental compartments : Remarks: Chlorothalonil has low to slight mobility in soil.

Stability in soil : Dissipation time: 7 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

Other adverse effects**Components:****chlorothalonil (ISO):**

Results of PBT and vPvB assessment : This substance is not considered to be very persistent and very bioaccumulating (vPvB). This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(CHLOROTHALONIL)

Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3082

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Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(CHLOROTHALONIL)

Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(CHLOROTHALONIL)

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

None known.

Hazardous components which must be listed on the label : chlorothalonil

16. OTHER INFORMATION**Full text of other abbreviations**

ZA OEL : South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits

ZA OEL / TWA OEL-RL : Long term occupational exposure limits - recommended limit

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -

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Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

ZA / EN