

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

SECTION 1. IDENTIFICATION

Product name : DACONIL ZN FLOWABLE FUNGICIDE
Design code : A7867G

Product Registration number : 100-1696

Manufacturer or supplier's details

Company name of supplier : Syngenta Crop Protection, LLC
Address : Post Office Box 18300
Greensboro NC 27419
United States of America (USA)

Telephone : 1 800 334 9481
Telefax : 1 336 632 2192

E-mail address : sds.requests@syngenta.com
Emergency telephone : 1 800 888 8372

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

Restrictions on use : General Use Pesticide

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Inhalation) : Category 4
Eye irritation : Category 2A
Skin sensitization : Category 1
Carcinogenicity : Category 2
Specific target organ toxicity : Category 3 (Respiratory system)
- single exposure

GHS label elements

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

Precautionary Statements

: **Prevention:**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing mist or vapors.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
chlorothalonil	1897-45-6	38.4911
zinc oxide	1314-13-2	>= 5 - < 10
propane-1,2-diol	57-55-6	>= 1 - < 5

Actual concentration is withheld as a trade secret

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

SECTION 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 | : | Take the victim into fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control center 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.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
Suspected of causing cancer. |
| Notes to physician | : | There is no specific antidote available.
Treat symptomatically. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | | |
|---------------------------------------|---|---|
| Suitable extinguishing media | : | Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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 fire fighting | : | As the product contains combustible organic ingredients, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health. |
| Hazardous combustion products | : | Carbon oxides
Nitrogen oxides (NOx)
Chlorine compounds |
| Further information | : | Do not allow run-off from fire fighting to enter drains or water |

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

courses.

Cool closed containers exposed to fire with water spray.

Special protective equipment : Wear full protective clothing and self-contained breathing apparatus for fire-fighters

SECTION 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.

SECTION 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
chlorothalonil	1897-45-6	TWA	0.1 mg/m3	Syngenta
zinc oxide	1314-13-2	TWA (Respirable particulate matter)	2 mg/m3	ACGIH
		STEL (Respirable particulate matter)	10 mg/m3	ACGIH

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version 2.0 Revision Date: 11/12/2024 SDS Number: S00038588881 Date of last issue: 07/05/2022
Date of first issue: 07/05/2022

		ter)		
		TWA (Dust)	5 mg/m3	NIOSH REL
		TWA (Fumes)	5 mg/m3	NIOSH REL
		ST (Fumes)	10 mg/m3	NIOSH REL
		C (Dust)	15 mg/m3	NIOSH REL
		TWA (Fumes)	5 mg/m3	OSHA Z-1
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Total dust)	10 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
		TWA (Fumes)	5 mg/m3	OSHA P0
		STEL (Fumes)	10 mg/m3	OSHA P0
propane-1,2-diol	57-55-6	TWA	10 mg/m3	US WEEL

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

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 : Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

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 from 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 : Tightly fitting safety goggles
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : suspension, viscous

Color : gray

Odor : weak, uncharacteristic

Odor Threshold : No data available

pH : 7.5 - 9.5

Melting point/freezing point : 23 °F / -5 °C

Initial boiling point and boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : No data available

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

Relative vapor density	:	No data available
Density	:	1.299 g/cm ³
Solubility(ies)		
Solubility in other solvents	:	dispersible Solvent: Water
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle characteristics		
Particle size	:	No data available

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Harmful if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat, male and female): 4,200 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 1.96 mg/l

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

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

Acute dermal toxicity : LD50 (Rat, male and female): > 20,000 mg/kg
Remarks: Based on data from similar materials

Components:

chlorothalonil:

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

propane-1,2-diol:

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg

Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rabbit): 317,042 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

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

Components:

chlorothalonil:

Species : Rabbit
Result : No skin irritation

propane-1,2-diol:

Result : No skin irritation

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Remarks	:	Based on data from similar materials

Components:

chlorothalonil:

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

propane-1,2-diol:

Result	:	No eye irritation
--------	---	-------------------

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Product:

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

Components:

chlorothalonil:

Species	:	Humans
Result	:	The product is a skin sensitizer, sub-category 1B.
Remarks	:	In very rare cases may cause an allergic response of the respiratory system.

propane-1,2-diol:

Result	:	Does not cause skin sensitization.
--------	---	------------------------------------

Germ cell mutagenicity

Not classified due to lack of data.

Components:

chlorothalonil:

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

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

propane-1,2-diol:

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

Carcinogenicity

Suspected of causing cancer.

Components:

chlorothalonil:

Carcinogenicity - Assessment : Chlorothalonil causes kidney tumors in rats and mice via a non-genotoxic mode of action secondary to target organ toxicity., Limited evidence of carcinogenicity in animal studies

propane-1,2-diol:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

IARC	Group 2B: Possibly carcinogenic to humans chlorothalonil	1897-45-6
-------------	---	-----------

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified due to lack of data.

Components:

chlorothalonil:

Reproductive toxicity - Assessment : No toxicity to reproduction

propane-1,2-diol:

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation
Animal testing did not show any effects on fetal development.

STOT-single exposure

May cause respiratory irritation.

Components:

chlorothalonil:

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

propane-1,2-diol:

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

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

STOT-repeated exposure

Not classified due to lack of data.

Components:

chlorothalonil:

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

propane-1,2-diol:

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

Aspiration toxicity

Not classified due to lack of data.

Components:

propane-1,2-diol:

No aspiration toxicity classification

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.195 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

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 0.53 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 0.04 mg/l
End point: **Growth rate**
Exposure time: **96 h**

Components:

chlorothalonil:

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)): 0.17 mg/l
Exposure time: 48 h

EC50 (Invertebrates): 0.074 mg/l

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.013 mg/l
Exposure time: 72 h

EC10 (Navicula pelliculosa (Freshwater diatom)): 0.006488 mg/l

End point: Growth rate
Exposure time: 72 h

ErC50 (Skeletonema costatum (marine diatom)): 0.015 mg/l
Exposure time: 72 h

EC10 (Skeletonema costatum (marine diatom)): 0.011166 mg/l

End point: Growth rate
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.0014 mg/l
Exposure time: 297 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 0.035 mg/l
Exposure time: 21 d

NOEC (Americamysis): 0.0004 mg/l
Exposure time: 28 d

zinc oxide:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

propane-1,2-diol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : (Ceriodaphnia dubia (water flea)): 18,340 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 19,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (Water flea)): 13,020 mg/l
Exposure time: 7 d
Test Type: semi-static test

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

Persistence and degradability

Components:

chlorothalonil:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 0.4 - 6 d (20 °C)
Remarks: Product is not persistent.

propane-1,2-diol:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

chlorothalonil:

Bioaccumulation : Bioconcentration factor (BCF): 340
Remarks: Does not bioaccumulate.

Mobility in soil

Components:

chlorothalonil:

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

Stability in soil : Dissipation time: 5 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

Other adverse effects

Components:

chlorothalonil:

Results of PBT and vPvB assessment : Substance is not very persistent and very bioaccumulative (vPvB). Substance is not persistent, bioaccumulative, and toxic (PBT).

SECTION 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.
This product will not be classified as a RCRA characteristic hazardous waste when discarded.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

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.

SECTION 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
Environmentally hazardous : yes
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA-DGR

UN/ID No. : UN 3082
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
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

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
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

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

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks : Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

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.

SECTION 15. REGULATORY INFORMATION

Warning

Harmful if absorbed through skin.

Harmful if inhaled.

Harmful if swallowed.

Causes moderate eye irritation.

Avoid contact with skin, eyes or clothing.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Wear long-sleeved shirt and long pants, socks and shoes and chemical resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber.

Remove and wash contaminated clothing before re-use.

Avoid breathing spray mist.

Avoid contact with skin or clothing.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Carcinogenicity
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

chlorothalonil	1897-45-6	>= 30 - < 50 %
----------------	-----------	----------------

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

zinc oxide 1314-13-2 $\geq 5 - < 10 \%$

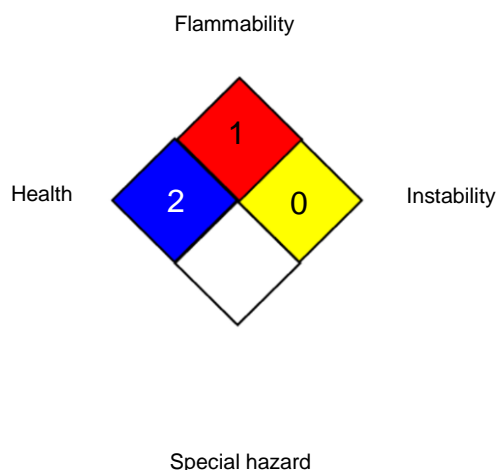
California Prop. 65

WARNING: This product can expose you to chemicals including chlorothalonil, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA P0	: USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Syngenta	: Syngenta Occupational Exposure Limits
US WEEL	: USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
NIOSH REL / C	: Ceiling value not be exceeded at any time.
OSHA P0 / TWA	: 8-hour time weighted average
OSHA P0 / STEL	: Short-term exposure limit
OSHA Z-1 / TWA	: 8-hour time weighted average
Syngenta / TWA	: Time weighted average
US WEEL / TWA	: 8-hr TWA

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



DACONIL ZN FLOWABLE FUNGICIDE

Version	Revision Date:	SDS Number:	Date of last issue: 07/05/2022
2.0	11/12/2024	S00038588881	Date of first issue: 07/05/2022

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; 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

Revision Date : 11/12/2024

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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.

US / Z8