



# DITERA® DF

Reg. No. /Nr. L8477 Act / Wet No. / Nr. 36 of / van 1947

<b>READ THE LABEL BEFORE USE AND READ ATTACHED PACKAGED LEAFLET BEFORE USE AND KEEP OUT OF REACH OF CHILDREN AND ANIMALS</b>	<b>LEES DIE ETIKET VOOR GEBRUIK EN LEES AANGEHEGDE VOUBILJET VOOR GEBRUIK EN HOU BUIITE BEREIK VAN KINDERS EN DIERE</b>
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<b>BIOLOGICAL NEMATICIDE</b>	<b>BIOLOGIESE AALWURMDODER</b>
<b>DRY FLOWABLE GRANULE</b> A biological contact nematicide for the control of nematodes in table grapes.	<b>WATERDISPERGEERBARE KORREL</b> 'n Biologiese kontak aalwurmdoder vir die beheer van aalwurms in tafeldruiwe

**Hazard Statements:**

Harmful if inhaled

**Precautionary Statements:**

If medical advice is needed, have product container or label at hand.  
Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.



**WARNING /  
WAARSKUWING**

**Gevaarverklarings:**

Skadelik indien ingeasem.

**Voorsorgverklarings:**

Indien mediese advise benodig word, hou die produkhouer of-etiket byderhand.  
Vermy inaseming van poeier/walm/gas/stuifsel/dampe/ spuitstof.  
Gebruik slegs buitenshuis of in 'n goed geventileerde area.

**Active Ingredient / Aktiewe Bestanddeel**

***Myrothecium verrucaria*\* strain  
AARC-0255 fermentation solids  
and solubles**

**90 g/kg**

***Myrothecium verrucaria*\* lyn  
AARC-0255 fermentasie vaste- en  
oplosbare stowwe**

Net mass

5 kg

Netto massa

**REGISTRATION HOLDER / REGISTRASIEHOUER**

VALENT BIOSCIENCES, a division of PHILAGRO SOUTH AFRICA PTY LTD/  
'n divisie van PHILAGRO SUID AFRIKA EDMS BPK.  
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**DITERA®** is the registered tradename / is die geregistreerde handelsnaam van  
**VALENT BIOSCIENCES CORPORATION**, Libertyville, Illinois USA

Batch No.

Date of Manufacture

Lot Nr.

Datum van Vervaardiging

**UN No. / VN No.** Not Regulated. / Nie gereguleer nie.

**Emergency Numbers / Noodnommers:**

Griffon Poison Information Centre:+27(0) 82 446 8946  
Poisons Information Centre:+27(0) 86 155 5777

## WARNINGS:

### GHS Hazard Statements:

Harmful if inhaled.

Handle with care.

Contact may cause skin or eye irritation.

Keep out of reach of children, animals and uninformed persons.

Store in a cool ventilated place away from food and feedstuff.

**Re-entry:** Do not enter treated field until 4 hours after application, unless wearing protective clothing.

**Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal climatic and storage conditions; quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest against the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions, which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.**

## PRECAUTIONS:

### GHS Precautions

#### General

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read carefully and follow all instructions.

#### Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

#### Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Get medical help.

#### Disposal

Dispose of contents or container to an approved waste disposal facility and in accordance with national regulations.

Wear gloves and face shield protection when handling the concentrate.

Avoid contact with skin. In case of skin contact, wash immediately with soap and plenty of water and remove contaminated clothes.

Avoid contact with eyes. In case of contact with eyes, flush with plenty of water and get medical attention.

Wash thoroughly with soap and water after handling.

Do not eat, drink or smoke during handling, application or before washing hands and face.

Do not contaminate rivers, dams and water sources.

Prevent contamination of food, feeds, drinking water and eating utensils.

## RELEVANT SUBSTANCES:

Hazardous Component	CAS Number	Weight - %	GHS Classification
Myrothecium verrucaria fermentation solids and soluble	None	90%	Not classified
Kaolin Clay	1332-58-7	2	STOT - Repeated Exposure, Category 1
Other ingredients	Trade Secret	8%	Not classified

**NOTE:** The other ingredients not included above, do not cause or contribute towards the correct GHS classification of **DITERA® DF** and is therefore, in terms of the South African Regulation for Hazardous Chemical Agents - 2021; Regulation 14(b), not listed.

## **FIRST AID:**

### **General Advice**

In all cases of doubt, seek medical attention.

### **Eye Contact**

Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

### **Skin Contact**

Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. Cover irritated skin with an emollient. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

### **Inhalation**

Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

### **Ingestion**

Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. Give large quantities of water. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

## **Medical Advice**

No specific antidote. Treat symptomatically and supportive.

## **DIRECTIONS FOR USE: USE ONLY AS DIRECTED**

Do not apply by mist sprayer or aerial spray equipment.

## **GENERAL INFORMATION**

**DiTera® DF** is a unique biological nematicide and is the fermentation product of a naturally occurring fungus, *Myrothecium verrucaria*. **DiTera® DF** kills adult and juvenile plant-parasitic nematodes on contact, by affecting their nervous system causing muscular paralysis, which permanently inhibits the nematode feeding mechanism, resulting in death. Nematodes that have already penetrated the roots are not controlled. When correctly applied and incorporated, **DiTera® DF** will establish a barrier layer in the soil that will provide protection only to roots within that barrier zone. Therefore, correct placement and even distribution of the product in the root target zone is important.

## **APPLICATION THROUGH IRRIGATION SYSTEM (Drip and Micro-jet)**

A thoroughly mixed **DiTera® DF** suspension must be applied through the irrigation system (drip and micro-jet), so as to treat the soil around the targeted crop root zone. Clean irrigation water must be applied before and after the **DiTera® DF** application in order to promote good infusion of **DiTera® DF** in the root zone area.

Pre-mix product in a mixing tank having both mechanical and by-pass agitation. Fill tank with 1/2 to 3/4 of the desired amount of water. Start mechanical and hydraulic systems to provide maximum agitation. Add 1/3 to 1/2 of the required dosage rate of **DiTera® DF** and allow mixing until thoroughly suspended. Add the remaining amount of **DiTera® DF** slowly while bringing water to the desired volume. Continue agitation. If a concentration greater than 50g of **DiTera® DF** per 1 litre of water is desired, the material should be added in smaller increments with sufficient agitation following each addition. It is recommended that the spray mixture be used immediately after mixing in order to avoid settling. **DiTera® DF** must be applied in the highest concentration over the shortest time span possible. Do not mix more **DiTera® DF** than can be used in a 24-hour period.

Excessive irrigation or rainfall after application will dilute and leach the product from the root zone. Therefore, the **DiTera® DF** application should be made near the end of the irrigation cycle. To avoid excessive dilution or leaching of product from root zone, flush irrigation lines for the minimum time period at the end of the application.

## **TIMING OF APPLICATION**

Timing of the application should be determined based on the cultural practises and nematode population dynamics and if possible, by root flush monitoring. The optimal application time for **DiTera® DF** is just prior and during a root flush to protect young roots. Active root growth of the vine starts prior to bloom and continues till veraison and then commences again after harvest for approx. 5 weeks before entering dormancy. Multiple applications are required to protect young roots during these root flush periods.

## **RECOMMENDATIONS**

<b>CROP/PEST</b>	<b>DOSAGE RATE</b>	<b>REMARKS</b>
<b>TABLE GRAPES</b> Nematodes  Ring nematodes ( <i>Criconeematidae</i> )  Dagger nematodes ( <i>Xiphinema</i> spp.)	<u>Spring Applications:</u> 3 - 4 applications of 2 kg/ha, 7 – 10 days apart.	Spring applications should be timed to protect new root flushes. Monitor the roots and start applications when a sustained root flush is present. Follow-up applications must be done at intervals of 7-10 days.
Root-knot nematodes ( <i>Meloidogyne</i> spp.)  Stubby root nematodes ( <i>Paratrichodorus</i> spp.)	<u>Post-harvest Applications:</u> 3 - 4 applications of 2 kg/ha, 7 – 10 days apart.	Monitor the roots after harvest and start applications when a sustained root flush is present. Follow-up applications must be done at intervals of 7-10 days, until the new root flush cycle has been completed.

## **NOTE**

1. In orchards with very high nematode infestations, it is recommended that **DiTera® DF** be used in combination with other registered chemical nematicides, e.g., cadusafos or fenamifos. Apply these chemical nematicides post-harvest to lower nematode counts, before applying **DiTera® DF**.
2. Do not apply **DiTera® DF** in combination with pesticides, fertilizers, or plant nutrients.
3. Do not apply **DiTera® DF** in orchards containing non-decomposed plant material and/or weeds and cover crops as groundcover, as this will prevent the **DiTera® DF** from reaching the targeted root zone in the soil.

## WAARSKUWINGS:

### GHS Gevaarverklarings:

Skadelik indien ingeasem.

Hanteer versigtig.

Kan vel- of oogirritasie veroorsaak.

Hou buite bereik van kinders, oningeligte persone en diere.

Bewaar in 'n koel deurlugte plek, weg van voedsel en voer.

**Herbetreding:** Moet nie behandelde area betree binne 4 uur na behandeling nie tensy beskermende klere gedra word.

**Alhoewel hierdie middel omvattend onder 'n groot verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder alle toestande doeltreffend sal wees nie, aangesien die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale klimaats-en bergingstoestande, kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie, sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie die verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van die versuim van die verbruiker om etiketaanwysings na te kom of as gevolg van die ontstaan van toestande wat nie kragtens die Registrasie voorsien kon word nie. Raadpleeg die verskaffer in die geval van enige onsekerheid.**

## VOORSORGMAATREËLS:

### GHS Voorsorgverklarings:

#### Algemeen

Indien mediese advise benodig word, hou die produkhouer of-etiket byderhand.

Hou buite bereik van kinders.

Lees sorgvuldig en volg alle instruksies.

#### Voorkomend

Vermynaseming van poeier/walm/gas/stuifsel/dampe/spuitstof.

Gebruik slegs buitenshuis of in 'n goed geventileerde area.

#### Reaksie

INDIEN INGEASEM: Neem slagoffer na vars lug en hou gemaklik vir asemhaling.

Verkry mediese noodhulp.

#### Ontslaeraak (wegdoen)

Raak ontslae van inhoud/houer deur gebruik te maak van 'n goedgekeurde afvalverwyderingsfasiliteit, in ooreenstemming met nasionale regulasies.

Dra handskoene en geskikte masker wanneer konsentraat hanteer word.

Vermyn kontak met vel. In geval van kontak, was met seep en baie water en verwyder besoedelde klere.

Vermyn kontak met oë. In geval van kontak, spoel oë met genoegsame hoeveelheid water en verkry mediese advies.

Was deeglik met seep en water na gebruik.

Moenie eet, drink of rook gedurende hantering, toediening en voordat hande en gesig gewas is nie.

Verhoed besoedeling van riviere, damme en waterbronne.

Vermyn besoedeling van kos, voedselware, drinkwater en eetgerei.

## RELEVANTE BESTANDELE:

Gevaarlike komponent	CAS Nommer	Massa %	GHS Klassifikasie
<i>Myrothecium verrucaria</i> fermentasie vaste- en oplosbare stowwe	Geen	90%	Nie geklassifiseer nie
Kaolien Klei	1332-58-7	2	Spesifieke teikenorgaan giftigheid - Herhaalde blootstelling, Kategorie 1
Ander bestanddele	Handelsgeheim	8%	Nie geklassifiseer nie

**LET WEL:** Die ander bestanddele wat nie hierbo ingesluit is nie, veroorsaak of dra nie by tot die korrekte GHS-klassifikasie van **DITERA® DF** nie en is dus in terme van die Suid-Afrikaanse Regulasie vir Gevaarlike Chemiese Middels - 2021; Regulasie 14(b), nie gelys nie.

## NOODHULP:

<b>Algemene advies</b>	In alle gevalle van twyfel, verkry mediese noodhulp.
<b>Oogkontak</b>	Verwyder van bron van blootstelling. Spoel oë met groot hoeveelhede water. Verwyder kontaklense, indien teenwoordig en maklik om te doen, na die eerste 5 minute, en gaan dan voort met spoel. Indien irritasie voortduur of tekens van toksisiteit voorkom, verkry mediese noodhulp. Voorsien simptomaties / ondersteunende sorg soos nodig.
<b>Vel kontak</b>	Verwyder van bron van blootstelling. Verwyder besoedelde klere. Spoel vel met groot hoeveelhede water. Bedek geïrriteerde vel met 'n versagmiddel. Indien irritasie of tekens van toksisiteit voorkom, verkry mediese noodhulp. Voorsien simptomaties / ondersteunende sorg soos nodig.
<b>Inaseming</b>	Verwyder van bron van blootstelling. Indien tekens van toksisiteit voorkom, verkry mediese noodhulp. Voorsien simptomaties / ondersteunende sorg soos nodig. Indien die persoon nie asemhaal nie, skakel die nooddienste en gee dan kunsmatige asemhaling.
<b>Inname</b>	Verwyder van bron van blootstelling. Beweeg persoon na vars lug. MOENIE braking veroorsaak nie. Gee groot hoeveelhede water. Indien tekens van toksisiteit voorkom, verkry mediese noodhulp. Voorsien simptomaties / ondersteunende sorg soos nodig.

## Mediese advies

Geen spesifieke teenmiddel nie. Behandel simptomaties en ondersteunend.

## **GEBRUIKSAANWYSINGS: GEBRUIK SLEGS SOOS AANGEDU!**

Moet nie toedien met misblaser of vliegtuig nie.

## **ALGEMENE INLIGTING**

**DiTera® DF** is 'n unieke biologiese aalwurmdoder wat die fermentasie eindproduk is van *Myrothecium verrucaria*, 'n swam wat vrylik in die natuur voorkom. **DiTera® DF** dood volwasse- en larwale aalwurms deur kontakaksie alleenlik. Kontak met **DiTera® DF** affekteer die sensus van aalwurms wat spierverlamming veroorsaak, waardeur die voedingsmeganisme van die aalwurms permanent gestaak word en uiteindelik hul dood veroorsaak. Aalwurms wat reeds die wortels gepenetreer het, sal nie beheer word nie. Indien **DiTera® DF** korrek toegedien en ingewas word sal dit 'n beskermende laag in die grondsonne vorm, wat die wortels wat binne daardie laag teenwoordig is, teen beskadiging deur aalwurms sal beskerm. Gevolglik is die korrekte plasing en eweredige verspreiding van **DiTera® DF** binne die teiken wortel sone baie krities. █

## **TOEDIENING d.m.v. BESPROEIINGSTELSEL (Drip en Mikrospuit)**

'n Deeglik gemengde suspensie van **DiTera® DF** moet deur die besproeiingstelsel (drip en mikrospuit) toegedien word om te verseker dat die teiken wortel area behandel word. **DiTera® DF** moet aan die einde van 'n besproeiingsiklus toegedien word om te verseker dat dit tot by die wortel area ingewas word.

Meng **DiTera® DF** vooraf in 'n tenk wat meganiese- en hidroliese roersisteme het. Vul tenk met 1/2 tot 1/3 van verlangde volume skoon water. Skakel die meganiese- en hidroliese roersisteme aan om optimale vermenging te kry. Voeg 1/3 tot 1/2 van **DiTera® DF** dosis stadig in tenk terwyl roersisteme steeds werk en laat toe dat produk volledig suspendeer. **Roer voortdurend**. Vul tenk stadig met water tot die verlangde volume terwyl die oorblywende produk bygevoeg word. Indien 'n oplossing van **DiTera® DF** gebruik word wat meer as 50 gram produk per liter water bevat, moet die produk in kleiner hoeveelhede in die tenk gevoeg word met voortdurende vermenging. Dit word aanbeveel dat die **DiTera® DF** -oplossing onmiddellik gebruik word om uitsakking te voorkom. **DiTera® DF** moet teen die hoogste konsentrasie en binne die kortste tydskuur moontlik toegedien word. Moet nie meer **DiTera® DF** vermeng as wat binne 24 uur van vermenging aangewend gaan word nie.

Oormatige besproeiing en/of reënval na toediening sal die produk verdun en uit die wortel sone loog. Derhalwe moet **DiTera® DF** toegedien word aan die einde van die besproeiingsiklus. Om oormatige verdunning of loging van produk te vermy, spoel besproeiingslyne kortstondig na toediening.

## **TYD VAN TOEDIENING**

Tyd van toediëning word bepaal deur inagneming van verbouingspraktyke, die aalwurm populasie en indien moontlik die monitering van aktiewe jong wortelgroei. Die optimale tyd van toediëning is net voor en tydens 'n aktiewe wortelstuwings fase. Normaalweg begin aktiewe wortel stuwings voor blom en duur tot by deurslaan (veraison) van die korrels en dan weer vanaf na-oes vir ongeveer 5 weke voordat winterrus intree. Veelvoudige toediënning is nodig om die wortels te beskerm gedurende die aktiewe wortel stuwings.

## **AANBEVELINGS**

<b>GEWAS/PLAAG</b>	<b>DOSIS</b>	<b>OPMERKINGS</b>
<b>TAFELDRUIWE</b> Aalwurms  Ringaalwurms ( <i>Criconematidae</i> )  Dolkaalwurms ( <i>Xiphinema spp.</i> )	<u>Lente behandelings:</u> 3 - 4 toediënning van 2 kg/ha, 7 – 10 dae intervalle.	Lente toediënning moet die aktiewe jong wortels beskerm. Moniteer wortels en begin toediënning wanneer 'n voortgehoue aktiewe jong wortel stuwings aanwesig is. Dien opvolg behandelings toe met 7-10 dae intervalle.
Knopwortelaalwurms ( <i>Meloidogyne spp.</i> )  Stompwortelaalwurms ( <i>Paratrichodorus spp.</i> )	<u>Na-oes behandelings:</u> 3 - 4 toediënning van 2 kg/ha, 7 – 10 dae intervalle.	Moniteer wortels en begin toediënning wanneer 'n voortgehoue aktiewe jong wortel stuwings aanwesig is. Dien opvolg behandelings toe met 7-10 dae intervalle, totdat nuwe wortel stuwings voltooi is.

## **NOTAS**

1. In boorde met hoë aalwurm getalle word dit aanbeveel dat **DiTera® DF** in kombinasie met geregistreerde chemiese aalwurmdoders soos kadusafos of fenamifos gebruik word. Dien die geregistreerde chemiese aalwurmdoders toe na oes om aalwurm getalle af te bring, voordat **DiTera® DF** toegedien word.
2. **DiTera® DF** is nie mengbaar met plaagdoders, kunsmis of plantvoedingsmiddels nie.
3. **DiTera® DF** moet nie toegedien word in boorde met on-ontbinde plantreste en/of onkruid en dekgewasse nie. Die reste sal verhoed dat die produk tot in die wortelsone beweeg.