

## COUNTER FC 15G®

## SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** COUNTER FC 15G®  
**Other identifier:** Terbufos 150 g/kg  
**Recommended use:** Insecticide  
**Restrictions on use:** Agriculture

**Supplier:** Villa Crop Protection (Pty) Ltd.  
Co. Reg. No.: 1992/002474/07  
PO Box 10413,  
Aston Manor, 1630, South Africa  
**Telephone:** (011) 396 2233  
**Fax:** (011) 396 4666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

#### Emergency telephone numbers:

#### 24 Hr Transport / Spill emergency no:

(Hazcall24) +27 86 044 4411  
(Client: Villa Crop Protection)  
Griffon Poison Information Centre +27 82 446 8946  
(Client: Villa Crop Protection)

#### Poisoning Emergency telephone numbers:

Griffon Poison Information Centre +27 82 446 8946  
Poisons Information Centre +27 861 555 777

### 2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Health</b>		
Oral	Acute Toxicity 2	H300
Dermal	Acute Toxicity 3	H311
Inhalation	Acute Toxicity 1	H330
Eye	Eye irritation 2B	H320
<b>Environmental:</b>		
Aquatic Acute	Aquatic Acute 1	H400
Aquatic Chronic	Aquatic Chronic 1	H410

#### The most important adverse effects:

**Physiochemical effects:** None known.

#### Human health effects:

Fatal if inhaled.  
Toxic in contact with skin.  
Fatal if swallowed.

#### Label elements:



**Signal word:** Danger

#### Hazard statements:

H300: Fatal if swallowed.  
H311: Toxic in contact with skin.  
H330: Fatal if inhaled.  
H320: Causes eye irritation.  
H401: Toxic to aquatic life.  
H411: Toxic to aquatic life with long lasting effects.

#### Precautionary statements:

P260: Do not breathe dust, fume, gas, mist, vapours or spray.  
P264+P265: Wash hands and face thoroughly after handling. Do not touch eyes.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors or in a well-ventilated area.  
P273: Avoid release into the environment.  
P280: Wear protective gloves/protective clothing.  
P284: In case of inadequate ventilation wear respiratory protection.  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER.  
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P330: Rinse mouth.  
P337+P317: If eye irritation persists: Get medical help.  
P361+P364: Take off immediately all contaminated clothing and wash before reuse.  
P391: Collect spillage.  
P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
P405: Store locked up.  
P501: Dispose of contents/container in accordance with local regulations.

#### Other hazards:

None known.

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### Toxicity:

Classification according to GHS: Category 1

Classification according to WHO: Group Ia

Classification according to GPIC: Group 1b

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Composition:

Chemical name	CAS	Conc. (m/m %)	Classification EC 1272/2008
Terbufos	13071-79-9	15 %	Acute Toxicity 2 (H300) Acute Toxicity 1 (H310) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Stabilizer	--	1 %	Not available
Inerts	--	84 %	Not available

### 4. FIRST AID MEASURES

Call a physician immediately in all cases of suspected poisoning. Remove the victim from the area of exposure. Wash off remaining material with non-abrasive soap and plenty of water. If the patient is unconscious and not breathing, apply oxygen or artificial respiration. Immediately consult a doctor or poison centre. Show this safety data sheet to the doctor in attendance. Avoid oral, dermal and eye contact and inhaling the product during the first aid process.

**Inhalation:** Remove from exposure to fresh air. Keep at rest in a position comfortable for breathing. Administer oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. **Call a physician or poison control centre immediately.**

**Skin:** Get medical attention immediately. Remove and isolate contaminated clothing and shoes. Wash contaminated areas with non-abrasive soap and water. Emergency personnel should wear gloves and avoid contamination. Wash contaminated clothing before reuse.

**Eyes: Do not rub eyes.** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue

rinsing. Get medical attention if irritation develops and persists.

**Ingestion: Call a physician or poison control centre immediately.** Rinse mouth. Do not induce vomiting without advice from poison control centre. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions.

**Most important symptoms/effects, acute and delayed:** This is a cholinesterase inhibiting organophosphorus pesticide. May cause headache, fatigue, faintness, giddiness, excessive sweating, nausea, abdominal pain, vomiting, diarrhoea, tightness of chest, anxiety, blurred vision, muscle twitching beginning in the eyelids and tongue, non-reactive pupils, respiratory distress, convulsions and coma.

#### Advice to physician:

**Antidote:** The decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by qualified medical personnel.

In the case of cholinergic symptomatology, the specific antagonist is atropine sulphate. If a large amount of product has been ingested, and if there was no vomiting, gastric emptying can be done within 2 hours after ingestion. Precautions should be taken to prevent pulmonary aspiration. Activated carbon can be used. Administer atropine sulphate at a dose of 1 to 2 mg every 15 or 20 minutes until the reversal of the cholinergic symptoms, at which time the maintenance dose should be adapted to maintain a condition free of symptoms of intoxication and with no atropine signals. Atropine should not be administered by a lay person. Measures such as the correction of electrolyte disorders and of the acid-base balance should be adopted. Maintain the patient under cardiac monitoring and with respiratory support if necessary.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.

**Unsuitable Extinguishing Media:** High volume water jet, as this will spread the fire. Use a water jet only to cool heated containers.

**Specific hazards:** During fire, gases hazardous to health may be formed.

**Special fire-fighting procedures:** Remove spectators from surrounding area. Isolate the fire area

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and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.  
**Personal protective equipment:** Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Avoid contact with skin and eyes. Do not breathe in spray mist or dust. Ventilate area of spill or leak, especially in contained areas. Keep people away from and upwind of spill/leak.

**Protective equipment:** Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

**Emergency procedures:** Alert firefighting personnel, evacuate unprotected personnel and animals. Local authorities should be advised if significant spillages cannot be contained.

**Environmental Precautions:** Prevent spilled product from entering sewers, waterways or ground water. This product is classified as toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.

**Methods and Materials for Containment:** Contain spilled product.

**Methods and Materials for Clean-up:** Contain spilt product by picking up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal. Do not create a powder cloud by using a brush or compressed air. Label containers with the contents and dispose of according to local regulations. Do not place spilt material back in original container. Do not re-use spilt material. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. Collect washings and add to the drums already collected. Do

not flush spilt material or washings into drains or waterways. See section 13 for disposal considerations.

### 7. HANDLING AND STORAGE

**Handling:**

**Precautions for safe handling:** Fatal if swallowed or inhaled. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

**General occupational hygiene:** Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

**Storage:**

**Conditions for safe storage:** Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

**Incompatible substances and mixtures:** Alkaline metals. Isocyanates.

**Packaging material:** Plastic bags.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Permissible concentration**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type of exposure limit	Exposure limits	Form
Stabilizer	PEL	15 mg/m3	Total dust.

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

Components	Type of exposure limit	Exposure limits	Form
Stabilizer	TWA	5 mg/m3 15 mg/m3	Respirable fraction Total dust.

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### US. ACGIH Threshold Limit Values

Components	Type of exposure limit	Exposure limits	Form
Stabilizer	TWA	10 mg/m <sup>3</sup>	
Terbufos	TWA	0.01 mg/m <sup>3</sup>	Inhalable fraction and vapor.

### Engineering Controls:

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

### Personal Protective Equipment:

**Respiratory Protection:** For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.

**Hand Protection:** The use of chemically protective gloves is recommended to prevent against skin contact.

**Eye Protection:** The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

**Skin and Body Protection:** Employees must wear appropriate protective clothing, boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

**Emergency eyewash:** Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Solid, granular, blue.

**Odour:** Not available.

**Odour threshold:** Not available.

**pH (1% aqueous dilution):** 7 – 7.2.

**Melting point:** < 20 °C (Terbufos technical).

**Freezing Point:** - 29 °C (estimated).

**Boiling Point:** 453 K (Terbufos Technical).

**Flash Point:** Not applicable to solids.

**Flammability:** Not applicable to solids.

**Upper / lower explosion limits:** Not applicable to solids.

**Vapour Pressure (mm Hg):**

2.60E-04 mm Hg thermal evolution method 26°C, Terbufos Technical.

1.00E-03 mm Hg thermal evolution method 42°C, Terbufos Technical.

2.40E-03 mm Hg thermal evolution method 76°C, Terbufos Technical.

**Relative Vapour Density:** Not available.

**Density / Relative density:** Not available.

**Solubility:** 2.77 - 3.07 % 27°C, Terbufos Technical.

**n-octanol / water partition coefficient:** 4.71 Terbufos Technical.

**Auto-ignition temperature:** Not available.

**Decomposition temperature:** Not available.

**Viscosity:** Not applicable to solids.

### 10. STABILITY AND REACTIVITY

**Chemical stability:** The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.

**Reactivity:** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Possibility of hazardous reactions:** Hazardous polymerization is unlikely to occur.

**Conditions to avoid:** Contact with incompatible materials

**Incompatible materials:** Alkaline metals. Isocyanates.

**Hazardous decomposition products:** Emits hazardous fumes and smoke of sulfur oxides, oxides of phosphorus and other unknown composition when heated to decomposition or burned.

### 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY:**

**Oral LD<sub>50</sub>** 10.05 mg/kg (rat)

**Dermal LD<sub>50</sub>** 510 mg/kg (rabbit)

**Inhalation LC<sub>50</sub>** (4h) 0.008 mg/l (rat) (dust, nose only)

**Skin Irritation:** Non irritating (rabbit).

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**Eye Irritation:** In a test on rabbits the product caused slight to moderate eye irritation.

**Skin Sensitization:** The product was considered non-sensitizing to skin in a study conducted on guinea pigs.

**Respiratory Sensitization:** No data available.

**Reproductive cell mutagenicity:** The product gave negative results for mutagenicity for the TA98, TA100, TA102, TA1535 and TA1537 strains of Salmonella typhimurium in the presence and absence of metabolic activation.

**Carcinogenicity:** Terbufos: Sprague-Dawley rats were administered technical terbufos in the diet (89.6% purity) at a concentration of 0, 0.125, 0.5 or 1 ppm for one year. No increase of tumours was detected during the test period.

Stabilizer: Carcinogenic activity was not observed in chronic testing conducted on rats for 103 weeks.

Inerts: No data is available.

**Reproductive toxicity:** This product is not expected to cause reproductive or developmental effects. Terbufos: The active ingredient was administered to female rats from day 6 to day 15 of gestation. No effects on the formation of the fetus or evidence of embryo-fetal toxicity or teratogenicity were found at any of the doses used.

Stabilizer: No data is available.

Inerts: No data is available.

**Specific target organ toxicity – single exposure:** Not classified.

**Specific target organ toxicity – repeated exposure:** Terbufos: Sprague-Dawley rats were administered technical terbufos in the diet at a concentration of 0, 0.125, 0.5 or 1 ppm for one year. No statistically significant effect was observed on body weight, body weight gain and food consumption. Hematological parameters and urinalysis were not altered in any treatment. A greater number of high-dose group females had chromodacryorrhea (7/29), excessive lacrimation (6/29) and alopecia (10/29) when compared to controls (2/29, 2/29, and 4/29, respectively). The activity of the erythrocyte ChE was not affected by any treatment. The ChE activity of the brain was significantly reduced (-8/10%) in the high dose group. In the high dose group kidney weight ([in] females) was reduced. The ophthalmoscopic examination revealed no changes related to the treatment.

Stabilizer: No toxic effects related to chronic exposure to the stabilizer were observed in a test conducted on rats.

Inerts: No data is available.

**Aspiration hazard:** Not available.

**Chronic Effects:** Prolonged inhalation may be harmful.

**POTENTIAL ADVERSE EFFECTS:**

Refer to section 4 – first aid.

### 12. ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

**ECOTOXICITY DATA:**

**Fish:**

LC<sub>50</sub> (96 h) *Brachydanjo rerio* 6.451 mg/l

**Daphnia:**

EC<sub>50</sub> (48 h) 0.12 mg/l

**Algae:**

EC<sub>50</sub> (96h) *Pseudokirchnerella subca* 12.3 mg/l

**Birds:**

LD<sub>50</sub> (14 d) *Coturnix japonica* 56.25 mg/kg

**Bees:**

LC<sub>50</sub> (48h) 0.008 µg ai/bee

**ENVIRONMENTAL EFFECTS**

Active ingredient – Terbufos technical

**Plants:** Degradation in plants is the same as in soil.

**Persistence and degradability:** Terbufos degradation occurs in both aerobic and anaerobic conditions. In aerobic conditions in a sand-clay soil, the biological half-life was found to be 5 days with a remnant of only 0.02 ppm after one year.

**Bio-accumulative potential:** For the evaluation a radiolabeled extract of aged soil treated with the active ingredient was placed in water under static conditions. The study results suggest that, in the event of residue of the soil containing the active ingredient being washed into the water of lakes through erosion, the total residue of the active ingredient related to the product expected to be found in the edible tissues of fish will be less than 0.02 ppm, and any fish mortality is likely to occur a few days after contamination.

**Mobility in soil:** Terbufos has a negligible mobility due to its strong adsorption by clays; it is relatively immobile in soil under leaching and non-leaching conditions.

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**Other adverse effects:** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**Special / Environmental Precautions:** Wedge drums tightly to avoid movement.

**Transport in bulk:** Refer to MARPOL 73/78, Annex II and the IBC code.

### 13. DISPOSAL CONSIDERATIONS

**Waste:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never dispose of untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

**Container:** Empty containers by inverting the container over the area of use. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 15. REGULATORY INFORMATION

**Safety, health and environmental regulations / legislation for the mixture:**

OHSA 1993 Regulations for Hazardous Chemical Substances.

**Relevant information regarding restrictions:** None.

**EU regulation:** Regulation EC1272/2008 (EU-GHS/CLP)

**Other national regulations:** None.

**Chemical Safety Assessment carried out?** No

### 14. TRANSPORT INFORMATION

**UN Number:** 2783

**Road Transport ADR / ORD:**

Class: 6.1

Packaging group: II

UN Proper Shipping Name:

ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC.

**Maritime Transport IMDG / IMO:**

Class: 6.1

Packaging group: II

UN Proper Shipping Name:

ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC.

**Marine pollutant (Y/N):** Yes.

**Air Transport IATA / ICAO:**

Class: 6.1

Packaging group: II

UN Proper Shipping Name:

ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC.

### 16. OTHER INFORMATION

**Packaging:** Packed in 15 and 18 kg plastic bags and labelled according to South African regulations and guidelines.

**Other hazard statements, abbreviations and explanations:**

**IATA:** International Air Transport Association.

**IBC:** International Bulk Chemical.

**ICAO:** International Civil Aviation Organization.

**IMDG:** International Maritime Dangerous Goods

**IMO:** International Maritime Organization.

**LD<sub>50</sub> value:** The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

**OEL/RL:** Occupational exposure limit-recommended limit.

**TWA:** Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.

**ST/STEL:** Short-term exposure limits.

**Disclaimer:** The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard

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uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

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### END OF DOCUMENT

**Compiled:** March 2019  
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For detailed information on revisions, contact the Registration holder.