STARPLEX 83 CC

Revised on: 15/7/2024
Revision number: 4
Next revision: July 2027
NuFog Dual Action

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nufog Dual Action

Use: Public Health / Farming / Industrial / Pest Control

Company Name:

Starplex 83 CC
Reg. No. 2004/01564/23
P.O. Box 14374
BREDELL 1623
SOUTH AFRICA
TEL: (011) 979-4246/7

Emergency Contact Numbers:
Griffon Poison Information Centre: (+27) 82 446 8946
Poison Information Centre: 0861 555 777

2. HAZARD IDENTIFICATION

SANS 10234:2008, Regulation EC 1272/2008 [EU-GHS/CLP]		
Hazard classes	**Hazard categories**	**Hazard codes**
Aerosols	Category 1	H222 H229
Skin irritation	Category 2	H315
Skin sensitization	Category 1	H317
Eye irritation	Category 2	H319
Aspiration hazard	Category 1	H304
STOT SE	Category 3	H336
Aquatic Acute	Category 1	H400
Aquatic Chronic	Category 1	H410

Hazard pictograms:

Signal word: Danger

Hazard statements:
H222: Extremely flammable aerosol.
H229: Pressurized container: may burst if heated.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H304: May be fatal if swallowed and enters airways.
H336: May cause drowsiness or dizziness.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211: Do not spray on an open flame or other ignition source.
P251: Do not pierce or burn, even after use.
P261: Avoid breathing mist, vapours and spray.
P264+P265: Wash hands and face thoroughly after handling. Do not touch eyes.
P271: Use only outdoors or with adequate ventilation.
P273: Avoid release to the environment.
P280: Wear protective gloves and chemical safety goggles.
P301+P316: IF SWALLOWED: Get emergency medical help immediately.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P319: Get medical help if you feel unwell.
P331: Do NOT induce vomiting.
P333+P317: If skin irritation or rash occurs: Get medical help.
P337+P317: If eye irritation persists: Get medical help.
P362+P364: Take off contaminated clothing and wash it before reuse.
P391: Collect spillage.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P410 + P412: Protect from sunlight. Do not expose to temperatures exceeding 50°C.
P501: Dispose of content/container to suitable landfill in accordance with local regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

Substance / Mixture: Mixture

Composition

CHEMICAL NAME	CAS NO	CONCENTRATION	GHS CLASSIFICATION
Propoxur	114-26-1	1 %	Acute Tox. 3 (oral) (H301) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Cyfluthrin	68359-37-5	0.025 %	Acute Tox. 2 (oral) (H300) Acute Tox. 2 (inhalation) (H330) Effect on or via lactation (H362) STOT SE 1 (H370) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Dichlorvos	62-73-7	0.5 %	Acute Tox. 3 (oral) (H301) Acute Tox. 3 (dermal) (H311) Skin Sens. 1 (H317) Acute Tox. 2 (inhalation) (H330) Aquatic Acute 1 (H400)
Solvent DB	Mixture	> 25%	Flam. Liquid 2 (H225) Skin Irritant 2 (H315) Aspiration Tox. 1 (H304) STOT SE 3 (H336) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Triethylorthoformate	122-51-0	< 1%	Flam. Liquid 3 (H226)
Acetone	67-64-1	> 10%	Flam. Liquid 2 (H225) Eye Irritation 2 (H319) STOT SE 3 (H336)
Butane 40	Mixture	> 25%	Flammable gas (H220) Pressurized gas (liquid) (H280)

4. FIRST AID MEASURES:

Skin contact: IF ON SKIN: Wash with plenty of water and non-abrasive soap. If skin irritation occurs: get medical help.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice.

Ingestion: IF SWALLOWED: Get emergency medical help immediately. Do NOT induce vomiting.

Inhalation: IF INHALED: Remove patient from source of poisoning to a well-ventilated area. Seek medical attention if the patient feels unwell.

5. FIRE FIGHTING MEASURES:

Suitable extinguishing media: Use carbon dioxide (CO_2) or dry chemical for small fires and water spray, fog or standard foam for large fires.

Unsuitable extinguishing media: High volume water jet. Use a water jet only to cool heated containers.

Specific hazards: In the event of fire, gaseous oxides of carbon and nitrogen may be released.
Special fire-fighting procedures: Fight fire from maximum distance. Remain upwind of fire and keep out of low areas. Avoid inhaling hazardous vapors and fumes from burning materials. Move container from fire area if you can do it without risk. Cool containers that are exposed to flames with water until well after the fire is out. Do not use high volume 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. Keep unnecessary people away; isolate hazard area and deny entry.
Personal protective equipment: Wear NIOSH / MSHA positive pressure self-contained breathing apparatus (SCBA) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions: Avoid contact with the eyes. Avoid breathing mist, vapours or spray. Ventilate area of spill or leak especially in contained areas.
Protective equipment: Wear protective gloves and chemical safety goggles. If conditions warrant, wear a positive pressure NIOSH approved self-contained breathing apparatus, or respirator.
Emergency procedures: Alert firefighting personnel and evacuate unprotected personnel.
Environmental precautions: Avoid release to the environment, especially water sources, due to aquatic toxicity.
Methods and Materials for containment: Collect in closed and suitable containers for disposal.
Methods and Materials for clean-up: Soak up spillage with dry sand, shovel up carefully and place the material in a clean, dry and sealable container. Label container with the contents and dispose of as for toxic waste in accordance with local/national regulations. DO NOT burn. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. Collect wash water and add to the drums already collected. Do not flush spilled material or wash water into drains or waterways.

7. HANDLING AND STORAGE:

Handling:
Precautions for safe handling: Causes skin irritation and may cause an allergic skin reaction. Causes serious eye irritation. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Avoid contact with eyes. Ensure adequate ventilation during handling and use. Immediately clean up spills that occurs during handling. In case of contact with the product refer to First Aid Measures – Section 4.
General occupational hygiene: Practice good hygiene when using this material. Avoid contact with eyes. 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 a dry, cool and well-ventilated area. Do not store near heat, open flame, sources of ignition or hot surfaces. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilizers.
Incompatible substances and mixtures: Incompatible with oxidizing agents and organic peroxides.
Packaging material: Metal aerosol canisters with total release actuator.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION:

Permissible concentration:

Components	Exposure limits	Type of exposure limit	Source
Dichlorvos (tech)	1 mg/m^3	TWA (up to 10 hours)	www.osha.gov
Acetone	250 ppm	TWA (up to 10 hours)	www.osha.gov

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 the exposure. Local exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.
Personal protective equipment:
Respiratory protection: If used in poorly ventilated areas (airborne concentrations exceed exposure limits), use a NIOSH approved, positive pressure self-contained breathing apparatus (SCBA).
Skin and body protection: Use protective gloves, coveralls and rubber boots to prevent repeated or prolonged skin contact with the product.
Eye protection: The use of chemical safety goggles is recommended to protect against eye contact. Contact lenses are not protective eye devices.
Emergency eyewash: Have an eye wash fountain readily available in the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Yellow to brown liquefied gas
Odour: Characteristic odour.
Odour threshold: Not known.
pH: Not established.
Melting point: Not available.
Freezing point: Not available.
Boiling point: Not available.
Flash point: > 45 °C
Flammability: Extremely flammable.
Upper / lower explosion limits: Not available.
Vapour pressure: Not established.
Relative vapour density: Not available.
Density / relative density: 0.739 – 0.749 g/mℓ at 20 °C
Solubility: Not applicable.
n-octanol / water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not applicable.

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 30 C and not for prolonged periods in direct sunlight.
Reacitvity: None known.
Possible hazardous reactions: None known.
Conditions to avoid: Highly flammable, keep away from heat, flames and sources of ignition. Do not puncture or incinerate can.
Incompatible materials: None known.
Hazardous decomposition products: In the event of fire, gaseous oxides of carbon and nitrogen may be released.

11. TOXICOLOGICAL INFORMATION:

ACUTE TOXICITY
Calculated according to GHS:
Oral LD_{50}: > 5000 mg/kg (rat)
Dermal LD_{50} : > 5000 mg/kg (rabbit)
Inhalation LC_{50}: > 5 mg/ℓ/4 hr (rat)

Skin irritation / corrosion: Causes skin irritation.
Eye damage / irritation: Causes serious eye irritation.
Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not calculated.
Germ cell mutagenicity: Not calculated.
Carcinogenicity: Not calculated.
Reproductive toxicity: Not calculated.
Specific target organ toxicity – single exposure: May cause drowsiness or dizziness when inhaled.
Specific target organ toxicity – repeat exposure: Not calculated.
Aspiration toxicity: May be fatal if swallowed and enters airways.
Chronic effects: Not available.

POTENTIAL ADVERSE EFFECTS:
Inhalation: May cause drowsiness or dizziness when inhaled.
Eye contact: Causes serious eye irritation.
Skin contact: May cause skin irritation and/or allergic reaction.
Other information: May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION:

ECOTOXICITY DATA:
For active ingredient **-** Dichlorvos:
Fish

LC_{50} (96 h)	Fathead minnow	11.6 mg/ℓ
LC_{50} (24 h)	Bluegill sunfish	1.0 mg/ℓ

Birds

LD_{50}	Ducks and pheasants	12 mg/kg

Bees

Dichlorvos is toxic to bees.

For active ingredient - Cyfluthrin:

Fish

LC_{50}	Rainbow trout	0.00068 mg/ℓ
	Bluegill	0.0015 mg/ℓ

Daphnia

LC_{50}		0.00000014 mg/ℓ

Birds

LD_{50}	Bobwhite quail	> 2000 mg/kg

Bees

Cyfluthrin is toxic to bees.

For active ingredient - Propoxur:

Fish

LC_{50} (96 h)	Rainbow trout	3.7 mg/ℓ
	Bluegill sunfish	6.6 mg/ℓ

Daphnia

LC_{50} (48 h)		0.15 mg/ℓ

Birds

LD_{50}	Bobwhite quail	25.9 mg/kg

Bees

Highly toxic to bees.

Plants: Dichlorvos is rapidly decomposed in plants. **Cyfluthrin** is not systemic, it penetrates only slightly into the plant tissue. The concentration is very low and can be neglected. **Propoxur** can enter the roots of a plant and travel to the leaves. It can have residual activity of up to 1 month when applied to plant surfaces. The primary metabolite is dimethyl propoxur.

Persistence and degradability: **Dichlorvos** has low persistence in soil and is subject to hydrolysis and biodegradation. The pH of the media determines the rate of breakdown. Breakdown is rapid in alkaline soils and water but slow in acidic media. Non persistent in the environment with rapid decomposition in the atmosphere.

Because **Cyfluthrin** is relatively non-soluble and less dense than water, it will float on the surface film of natural waters. At the surface it is subject to breakdown by exposure to sunlight. The metabolites are subject to further microbial degradation to the point of mineralization to CO_2.

Propoxur rapidly degrades in different soils. Its persistence in the soil environment is moderate to low.

Bio-accumulative potential: **Dichlorvos** does not significantly bioaccumulate in fish.

Mobility in soil: **Cyfluthrin** is very immobile in soils and not considered to be a threat to contaminate groundwater.

The mobility of **Propoxur** in the soil is relatively high.
Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS:

Waste: Open dumping, burying or burning of this product is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Do not contaminate rivers, dams or any other water sources with the product or used containers.
Container: Empty pesticide aerosol canisters cannot be cleaned effectively and can contain traces of active ingredients. It is thus categorized as hazardous waste. Burying or burning of empty aerosol canisters is a criminal offense. It may be extremely hazardous to puncture or burn empty aerosol canisters because of the highly flammable propellants used to dispense the contents. Disposal of empty canisters should be in accordance with local legal provisions.

14. TRANSPORT INFORMATION:

UN Number:	1950
Road Transport ADR / ORD:	
Class:	2
Packaging group:	Not applicable.
UN Proper Shipping Name:	Aerosols
Maritime Transport IMDG / IMO:	
Class:	2
Packaging group:	Not applicable.
UN Proper Shipping Name:	Aerosols
Marine pollutant:	Yes
Air Transport IATA / ICAO:	
Class:	2
Packaging group:	III
UN Proper Shipping Name:	Aerosols

Special / Environmental Precautions: Wedge drums tightly to avoid movement.
Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION:

Safety, health and environmental regulations / legislation for the mixture:
OSHA 2021 Regulations for Hazardous Chemical Substances.
Relevant information regarding the restrictions: None.
EU Regulation: Regulation EC1272/2008 (EU-GHS/CLP).
Other national regulations: None.
Chemical Safety Assessment carried out? No.

16. OTHER INFORMATION:

Packaging: Packed in 325 mℓ metal aerosol canisters with total release actuator and labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H220: Extremely flammable gas.
H225: Highly flammable liquid and vapour.
H226: Flammable liquid and vapour.
H280: Contains gas under pressure; may explode if heated.
H301: Toxic if swallowed.
H300: Fatal if swallowed.
H311: Toxic in contact with skin.
H330: Fatal if inhaled.
H362: May cause harm to breast-fed children.
H370: Causes damage to organs.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
LD_{50} 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.
PEL: Permissible exposure limits.
TWA: Time-weighted average – the average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
STOT: Single target organ toxicity.

Disclaimer:

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The information on this sheet is not a specification; it does not guarantee specific properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. 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. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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