

Safety Data Sheet (SDS) Tarmax 120 EC

According to UN GHS 8th Ed
Revision Date: 20/08/2022

First print date: 21/01/2020
Version: 1.1

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Identification as on the label/Trade name: Tarmax 120 EC

Common Name: Clethodim 120 g/ℓ EC

Relevant identification uses of the substance and uses advised against:

Identified uses: Herbicide

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

Enviro Bio-Chem (Pty) Ltd, 44 Kerk Street,
Lichtenburg, North West, South Africa, 2740

Details of the Registration Holder:

Enviro Africom (Pty) Ltd. 44 Kerk Street,
Lichtenburg, North West, South Africa, 2740

Contact Details:

Telephone: +27 87 231 7261

Fax: 086 541 7948

Website: www.envirobiochem.co.za

Emergency telephone numbers:

24 Hour Emergency Number: Bateleur: +27 83 123 3911

Griffon Poison Information Centre: +27 82 446 8946

Poisons Information Helpline: 0861 555 777

Tygerberg Hospital: +27 21 931 6129

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to SANS 10234:2019, Regulation EC 1272/2008 [EU-GHS/CLP]

Hazard classes/Hazard categories	Hazard statement
Aspiration toxicity (Category 1)	H304
Skin irritation (Category 2)	H315
Skin Sensitisation (Category 1)	H317
Eye Damage (Category 1)	H318
STOT SE (Category 3)	H335
STOT SE (Category 3)	H336
Carcinogenicity (Category 2)	H351
Aquatic Toxicity Acute (Category 1)	H400
Aquatic Toxicity Chronic (Category 1)	H410

For full text of H statements see section 16

The most important adverse effects

The most important adverse physiochemical effects: None known

The most important adverse human health effects: May be fatal if swallowed and enters airways. May cause respiratory irritation. Suspected of causing cancer.

Safety Data Sheet (SDS) Tarmax 120 EC

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Label elements



Hazard pictograms

Signal Word: Danger

Hazard Statements:

Code	Statement
H304	May be fatal if swallowed and enters the airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P102	Keep out of reach of children
P103	Read label before use
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands, forearms, and face thoroughly after handling
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+P361 +P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P331	Do not induce vomiting
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P310	Immediately call a POISON CENTRE.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up
P501	Dispose of contents/container in accordance with local/regional/ national regulations

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SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS
Substance/Mixture: Mixture

Ingredients:

Substance name (IUPAC)	CAS Number.	Concentration % by weight	Classification EC1272/2008
Clethodim	99129-21-2	12%	Acute Toxicity (Category 4) H302 Skin sensitization (Category 1) H317 Aquatic Chronic (Category 3) H412
500#	26264-06-2	<15%	Acute Toxicity Oral (Category 4) H302 Skin Irritation (Category 2) H315 Eye damage (Category 1) H318 Aquatic Chronic (Category 4) H413
600#	99734-09-5	<5 %	Aquatic Chronic 3 (H412)
Solvent Oil	64742-94-5	<75%	Aspiration Toxicity (Category 1) H304 Flammable liquids (Category 3), H226 Acute toxicity, Oral (Category 4), H302 Carcinogenicity (Category 2), H351 Skin irritation (Category 2), H315 Eye irritation (Category 2), H319 STOT SE (Category 3), H335 STOT SE (Category 3), H336 Aquatic Acute (Category 1) H400 Aquatic Chronic (Category 1) H410

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES
Description of first aid measures:

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.

In case of inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Immediately seek medical attention

In case of skin contact: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists

In case of eye contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. If eye symptoms (redness, irritation, or pain) persist refer patient to ophthalmologist for examination of eyes.

In case of ingestion: Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:

Anticipated acute effects: None known

Anticipated delayed effects: Suspected of causing cancer.

Safety Data Sheet (SDS) Tarmax 120 EC

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Indication of any immediate medical attention and special treatment needed:

Treat symptomatically and supportively. No specific antidote known. Do not aspirate, formulation contains a solvent.

SECTION 5. FIRE FIGHTING MEASURES

Extinguisher media:

Suitable extinguisher media: Foam. Dry powder. Carbon dioxide. Water spray.

Small Fire: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam.

Large Fire: Water fog or foam can be used for larger fires or cooling of unaffected stock but avoid the accumulation of polluted run-off from the site.

Unsuitable extinguishing media: Do not use high volume water jet, due to contamination risk.

Special hazards arising from the mixture:

May release irritating fumes upon combustion such as oxides of carbon and nitrogen

Hazardous decomposition products in case of fire: Refer to Section 10: Stability and Reactivity.

Advice for fire-fighters:

Avoid inhaling hazardous vapours and fumes. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Use an approved/certified respirator or equivalent.

Contain fire control agents for later disposal according to Section 13.

Water can be used to cool unaffected containers.

SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment, and emergency procedures:

Personal precautions: Avoid contact with skin and eyes. Do not breathe in fumes. Ventilate area of spill or leak, especially in contained areas.

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

For emergency responders: Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Use an approved/certified respirator or equivalent. Avoid contact with eyes and skin. Do not breathe in fumes. Refer to section 8 for recommended personal protective equipment. Evacuate unnecessary personnel.

Environmental precautions:

Stop leak if without risk. Do not touch spilled material. Prevent entry into drains, watercourses, groundwater or confined areas: dike if needed. This product is classified to be very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

If the product contaminates public water, inform appropriate authorities immediately in accordance with local regulations.

Dispose in a safe manner in accordance with local/national regulations.

Methods for containment and cleaning up:

Methods and Materials for Containment: Contain spilled product by diking area with sand or earth. Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spill material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

Reference to other sections:

See section 1 for emergency contact details

Safety Data Sheet (SDS) Tarmax 120 EC

According to UN GHS 8th Ed

Revision Date: 20/08/2022

First print date: 21/01/2020

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See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 13 for information on disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Harmful if swallowed and may be fatal if swallowed and enters airways. Avoid contact with skin and eyes. Do not inhale spray mist or vapours. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use

Protective measures: Observe directions on label and instructions for use.

Advice on general occupational hygiene: Do not eat drink or smoke when handling this product. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Wash clothing before reuse.

Conditions for safe storage, including incompatibilities:

Store product in a locked, segregated, and approved area, out of reach of unauthorized persons, children, and animals. Store in its original, labelled container, tightly closed, in an isolated, 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 fertilisers.

Specific end uses:

Use as directed. Use original container.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Occupational exposure limits (OEL): No information available.

Biological exposure indices (BEI): No information available.

Additional exposure limits under the conditions of use: No information available.

Exposure control:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure control.

Appropriate engineering controls: Adequate ventilation is essential. Appropriate measures 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. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal Protective Equipment

Eye/face protection: Wear chemical goggles or face shield when mixing or applying product. his product causes serious eye damage.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: Appropriate impervious clothing is required to prevent skin contact with the product.

Safety Data Sheet (SDS) Tarmax 120 EC

According to UN GHS 8th Ed
Revision Date: 20/08/2022

First print date: 21/01/2020
Version: 1.1

Respiratory protection: Use only in well ventilated areas. Use a NIOSH approved, air purifying respirator with cartridges / canisters approved for organic vapours. This product can be fatal if inhaled. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

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.

Environmental exposure controls: Prevent product from entry into sewers and water courses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Colour	Light Yellow
Odour	Slight aromatic odour
Odour threshold	No data available
pH	4-6
Melting point / freezing point (°C)	Not applicable
Boiling point (°C)	No data available
Flash point (°C)	No data available
Evaporation rate	No data available
Flammability	Non flammable
Upper /lower flammability limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density g/ml (20°C)	No data available
Specific Gravity at 20°C	0.98
Partition coefficient : n-octanol/water	No data available
Auto-ignition temperature (°C)	No data available
Decomposition temperature (°C)	No data available
Viscosity, dynamic (mPa s)	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: None known

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.

Possibility of hazardous reactions: No information available.

Conditions to avoid: Avoid excessive heat and ignition sources.

Incompatible materials: Incompatible with oxidizing agents, such as chlorates, nitrates, peroxides etc.

Hazardous decomposition products: By thermic decomposition, possibility of formation of toxic gases (sulphur oxide, phosphorus oxide, nitrogen oxide, carbon oxide)

Safety Data Sheet (SDS) Tarmax 120 EC

According to UN GHS 8th Ed

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SECTION 11. TOXICOLOGICAL INFORMATION
Toxicokinetics, metabolism and distribution: No data available

Information on toxicological effects:
Assessment of acute toxicity:

The product has not been tested. The data reported is for the main ingredients in the mixture.

Clethodim CAS No. 99129-21-2	
Acute toxicity:	
Acute Oral LD50 (rat - female)	1360 mg/kg
Acute Dermal LD50 (rabbits):	>5000 mg/kg
Acute Inhalation LC50 - 4 h (rat)	>3.9 mg/l (total aerosol)
Skin irritation/ corrosion (rabbit)	Not a skin irritant
Eye damage / irritation (rabbit)	Not a eye irritant
Respiratory or skin sensitization	Skin sensitiser
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
Specific Target Organ Toxicity STOT single	Based on available data, the classification criteria are not met
Specific Target Organ Toxicity STOT repeated	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met

Additional Information:

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Solvent Oil CAS No. 64742-94-5	
Acute toxicity:	
Acute Oral LD50 (rat - male)	>2000 mg/kg
Acute Dermal LD50 (rabbit)	>2000 mg/kg
Acute Inhalation LC50 - 4 h (rat)	>5.5 mg/l
Skin irritation/ corrosion (rabbit)	Irritating to skin
Eye damage / irritation (rabbit)	Irritating to eyes
Respiratory or skin sensitization	Respiratory irritant
Germ cell mutagenicity	No data available
Carcinogenicity	Suspected carcinogen
Reproductive toxicity	No data available
Specific Target Organ Toxicity STOT single exposure (CNS)	May cause drowsiness or dizziness
Specific Target Organ Toxicity STOT repeated exposure	No data available
Aspiration hazard	May be fatal if swallowed and enters airways.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

500# CAS No. 26264-06-2	
Acute toxicity:	
Acute Oral LD50 (rat - male)	1300 mg/kg
Acute Dermal LD50 (rat):	2000 mg/kg
Acute Inhalation LC50 - 4 h (rat)	0.31 mg/l

Safety Data Sheet (SDS) Tarmax 120 EC

According to UN GHS 8th Ed

Revision Date: 20/08/2022

First print date: 21/01/2020

Version: 1.1

Skin irritation/ corrosion	Irritating to skin
Eye damage / irritation	Irritating to eyes
Respiratory or skin sensitization	Not a respiratory or skin sensitizer
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific Target Organ Toxicity STOT single exposure	No data available
Specific Target Organ Toxicity STOT repeated exposure	No data available
Aspiration hazard	No data available

Additional Information:

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

Clethodim CAS No. 99129-21-2	
Toxicity	
Birds	
Acute oral LD ₅₀	> 2000 mg/kg Bobwhite quail
Dietary LC ₅₀ (5 d)	>6000 mg/kg Mallard ducks
Aquatic Toxicity Fish LC ₅₀ (96 hr)	67 mg/l Rainbow trout; >120 mg/l Bluegill sunfish
Aquatic Toxicity Daphnia LC ₅₀ (48 hr)	>120 mg/l
Toxicity to algae – static test EC ₅₀ (96h)	57.8 mg/l for green algae (<i>Selenastrum capricornutum</i>)
Toxicity to bees LD ₅₀ (48 h) for contact	>100 µg/bee (contact)
Persistence and degradability	Low persistence in most soils. Aerobic DT ₅₀ in soil 1–3 d. Kd 0.08–1.6 (5 soil types).
Bioaccumulation potential	Not determined
Mobility in soil	Clethodim is soluble in water and can be expected to adhere poorly to soils. The hazard for Clethodim to move of application site with irrigation or rainwater is high.
Result of PBT and vPvB assessment	No data available
Other adverse effects	No data available

500# CAS No. 26264-06-2	
Toxicity	
Aquatic Toxicity Fish LC ₅₀ (96 hr)	1.74 -7.16 mg/l
Aquatic Toxicity Daphnia semi static EC ₅₀ (96 hr)	No data available
Toxicity to algae – static test EC ₅₀ (96h)	2.73 – 29 mg/l
Toxicity to bacteria EC ₅₀ (3h)	500 – 723 mg/l
Persistence and degradability	No data available
Bioaccumulation potential	No data available
Mobility in Soil	No data available
Result of PBT and vPvB assessment	No data available
Other adverse effects	No data available

Solvent Oil CAS No. 64742-94-5	
Toxicity	

Safety Data Sheet (SDS) Tarmax 120 EC

According to UN GHS 8th Ed

Revision Date: 20/08/2022

First print date: 21/01/2020

Version: 1.1

Aquatic Toxicity Fish static test LC ₅₀ (96 h) (Naphthalene)	31.03 mg/l mg/l Bluegill; 0.9mg/l Pink Salmon trout.
Aquatic Toxicity Daphnia EC ₅₀ (48 h)	0.32 mg/l Crimson spotted Rainbow
Toxicity to algae –ErC50 (72h)	No data available
Toxicity to bacteria–EC50 (0.5h)	No data available
Persistence and degradability	Will evaporate and commence degradation on exposure to air.
Bioaccumulation potential	No data available
Mobility in Soil	Highly mobile in soil
Result of PBT and vPvB assessment	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Product:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour 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. Dispose of in accordance with local/ regional/ national/ international regulations.

Container:

Refer to container label for disposal information. Emptied containers retain product residues. Observe all labelled safeguards until container is cleaned, reconditioned, or destroyed. Rinse empty container three times with a volume of water equal to at least one tenth of that of the container. Pour rinse water into spray tank. Dispose of as hazardous waste. Do not contaminate water when disposing of rinse water. Dispose of using an approved waste disposal service provider. Follow all local/ regional/ national/ international regulations.

SECTION 14. TRANSPORT INFORMATION

UN Number	3082
UN proper shipping name	Environmentally Hazardous Substance; Liquid; N.O.S. (contains Clethodim)
Transport hazard class	3
Packaging group	III
Marine pollutant	Yes

SECTION 15. REGULATORY INFORMATION

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

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021.UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 8, 2019.

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP]

Other National regulations:

National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

Safety Data Sheet (SDS) Tarmax 120 EC

According to UN GHS 8th Ed

Revision Date: 20/08/2022

First print date: 21/01/2020

Version: 1.1

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes.

National Environmental Management Waste Act 59 of 2008.

Act 36 of 1947 of the Republic of South Africa. This product is registered under it is a violation of South African law to use this product in any manner inconsistent with its approved labelling. Read and follow all label directions

Chemical Safety Assessment carried out? No

SECTION 16. OTHER INFORMATION

Indication of changes:

Classification according to SANS 10234:2019, Regulation EC 1272/2008 [EU-GHS/CLP]

GHS aligned – all sections

Relevant H statements (number and full text):

H302-Harmful if swallowed

H315-Causes skin irritation

H319-Causes serious eye irritation

H226-Flammable liquid and vapour

H412-harmful to aquatic life with long lasting effects

H413-May cause long lasting harmful effects to aquatic life

Aspiration toxicity (Category 1): May be fatal if swallowed and enters the airways

Carcinogenicity (Category 2): Suspected of causing cancer

STOT SE 3 H335- Specific Target Organ Toxicity single exposure (Category 3), Respiratory system

STOT SE 3 H336 - Specific Target Organ Toxicity single exposure (Category 3), Central nervous system

Aquatic Toxicity acute (Category 1): Very toxic to aquatic life

Training instructions:

Use as indicated on the label, special training may be required for application.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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 uses of the product, nor where instructions or recommendations are not followed.