CRITICAL ECOSYSTEM PARTNERSHIP FUND

Pest Management Plan

May 2012

CEPF Grant 59603

ENVIRONMENTAL & RURAL SOLUTIONS

ONGELUKSNEK BIODIVERSITY CUSTODIANSHIP THROUGH PEOPLE & PARKS

EASTERN CAPE, SOUTH AFRICA, MPAH

Pest Management Plan

Objective

The pest management plan (PMP) will describe CEPF requirements to ensure the use of best practice in the control and removal of alien and invasive plants, insects, and animals in compliance with World Bank Safeguards. This is included in the CEPF Operational Manual.

The objective of these guidelines is to avoid, minimize, or mitigate potentially adverse effects of the application of pesticides, insecticides, and herbicides (herewith referred to in the unitary as "pesticides") in efforts to restore natural habitats.

This document describes the requirements and planning procedures for applicants/grantees in the preparation and implementation of alien and invasive species (AIS) control projects funded by CEPF, as well as the role of CEPF in ensuring compliance with these guidelines.

The spread of alien and invasive plants and animals is the second greatest cause of biodiversity loss after habitat destruction. In the context of CEPF, many of the KBAs and corridors targeted for investment suffer from, in particular, non-native plants which have opportunistically taken over natural landscapes, and from non-native animals that upset island ecosystems. Many Ecosystem Profiles specifically include the control and removal of such alien and invasive species as an investment priority. The control of alien and invasive species in KBAs and corridors is not an exception, but a standard part of CEPF operations in some hotspots, and as such, applicable guidelines must be followed.

Situations where these guidelines apply include grants which:

- Pay for the direct purchase or expenses related to the manufacture, acquisition, transport, application, storage, or disposal of pesticides, including the costs of materials, equipment, and labor.
- Pay for the direct purchase or expenses related to the control or removal of animals by chemical means.
- Pay for the planning, management, or supervision of work which involves the general use of pesticides or animal control as described in the two points above.

Examples of the types of grants to which these guidelines apply include, but are not limited to:

- A grant that involves the employ of labor and application of herbicide to restore a degraded landscape and allow endemic vegetation and animals to return.
- A grant that involves the supervision of teams conducting AIS control by chemical means, where those teams are operating with funding from a host country government or other donor.
- A grant that involves the eradication by chemical means of non-native rats, cats, reptiles (e.g., Brown Tree Snake), birds (e.g., Common Myna), and invertebrates (e.g., Golden Apple Snail) from an island or isolated natural habitat.

These guidelines do **not** apply to the physical removal of alien and invasive plant and animals through physical means as part of the restoration of degraded habitat or the maintenance of KBAs and corridors.

A single set of guidelines cannot anticipate every scenario under which a grantee will propose to remove alien and invasive species. The conditions of the habitat, the type of species, the method of control, the capacity of the organization, the latest knowledge of environmental impacts, and even the definitions of "best practice" will change over time. Thus, these guidelines establish a process that grantees must follow, rather than a specific set of AIS control measures.

Components of the PMP

Any CEPF project that proposes to use a pesticide must prepare a pest management plan with six sections, outlined below. These projects should benefit from the accumulated knowledge on the use of pesticides in invasive eradication, including those that are available at:

- The IUCN Invasive Species Specialist Group (http://www.issg.org /index.html), which provides dozens of resources, including the Global Invasive Species Information Network List of Invasive Alien Species Online Information Systems (http://www.gisinetwork.org/Documents/draftiasdbs.pdf).

- For Polynesia-Micronesia Hotspot, the Pacific Invasives Initiative Resource Kit for Rodent and Cat Eradication (http://www.pacificinvasivesinitiative.org/rk/index.html), which contains multiple templates and guidelines on animal control in the region.

- For Maputaland-Pondoland-Albany Hotspot, in particular in South Africa, the Expanded Public Works Programme Working for Water, managed by the Department of Water Affairs (http://www.dwaf.gov.za/wfw/), including the Position Paper on Biocontrol (http://www.dwaf.gov.za/wfw/Control/docs/article1.2.pdf), the Project Operating Standards (http://www.dwaf.gov.za/wfw/Control/docs/ProjectOperatingStandards%28May%202007%29Version3.pdf), and the treatment tables for aquatic and terrestrial invasives, available at the same website.

- The World Health Organization's Recommended Classification of Pesticides by Hazard, updated every two years (http://www.who.int/ipcs/publications/pesticides_hazard/en/).

The pest management plan consists of six sections comprising 34 questions.

Grant Summary

1. Grantee organization: Environmental & Rural Solutions (ERS)
2. Grant title: ONGELUKSNEK: BIODIVERSITY CUSTODIANSHIP THORUGH INNOVATIVE PEOPLE & PARKS CO-OPERATION
3. GEM number (*to be completed by CEPF).* 59603
4. Grant amount (US dollars). $217 429
5. Proposed dates of grant.: February 2012 to December 2013
6. Countries or territories where pesticides will be applied: South Africa
7. Full name, title, telephone numbers, and electronic mail address of Grantee personnel responsible for the pest management plan:
   Nicky McLeod, project manager, ++27 039 737 4849, nickyk@enviros.co.za
8. Summary of the project:
   - Improved stewardship of 14 000 hectares in the upper catchment zone, contributing to restored ecosystem integrity of the Highlands Grasslands corridor
   - Removal of 30% of the alien plant coverage in the protected area with mechanisms in place for continued sustained management
   - Improved long term livelihood opportunities for over 40 rural households through green jobs, grazing and tourism benefits.
9. Date of preparation of the pest management plan: May 2012

Pest Management Approach: This section should describe the applicant's understanding of the problem, their experience with pest management issues, and their proposed actions during the project. Specifically, what do you intend to do and how will you do it? The information presented should include methods of application, e.g. by hand or via aerial spraying.

10. Current and anticipated pest problems relevant to the project:
    Acacia mearnsii and dealbata (wattle) infestation of grassland in riparian and upper catchment areas of the Ongeluksnek Nature Reserve, which amounts to over 300 ha of degraded grassland. The infestation is increasing due to poor management and lack of appropriate clearing techniques being employed – the upper sections which are difficult to access are not cleared by the conventional Working For water teams (currently managed by IDT with limited mapping

and planning), and result in continual re-infestation by seed of the lower reaches which have been 'cleared' by the WfW programme. Uncontrolled fires also contribute to stimulation of seed germination and partial die-off with vigorous re-coppicing.

11. Current and proposed pest management practices:
    WfW teams are currently clearing the lower lying areas using conventional fell and treat methods, with some follow up foliar spraying. This is not done according to an available structured plan or updated mapping, but on a seemingly ad hoc basis. The project proposes to work in conjunction with the WfW team to:
    a. Plan work schedules effectively, targeting the entire micro catchment, using GIS mapping, and appropriate planning for initial and follow up clearing
    b. Explore and share improved techniques for improved technical effectiveness and cost efficiency.
12. Relevant integrated pest management experience within the project area, country or region.
    ERS was involved in establishing and co-implementing the first WfW programme in the Umzimvubu area from 1998 - 2001. Since then, members of the team have been involved in technical support for various smaller projects involving clearing and restoration in the reserve, along the adjacent Mehloding hiking trail and in the Ntenetyana dam catchment downstream. Expertise is sought where required on updated techniques, appropriate tools and new approaches. Long term sub-consultant Rob Adam has provided inputs to ERS for over 6 years, and was the manager of the WfW programme in the province for several years, after running research projects for the KZN Dept Agriculture in appropriate wattle control techniques.
13. Assessment of proposed or current pest management approach and recommendations for adjustment where necessary.
    - The current approach within the CEPF project involves no herbicide application and the following approach:
        - Manual ringbarking (removal of cambium) of all growth over 2cm diameter, with at least a 30cm exposed area to catalyse die off
        - Pulling or axe-chopping smaller growth to ensure no growth left at ground surface
        - Raking and seeding all bare soil in cleared and adjacent areas with pioneer indigenous grass species to stimulate grass regrowth to reduce degradation and associated wattle resprout percentage
        - Controlled burning where required to stimulate wattle seedbank germination for hand pulling in such areas
        - This approach works for single stem larger growth over 5cm trunk diameter, but is problematic with previously cut or burnt trees which have multiple convoluted stems. This adds significantly to the time requirement for clearing, estimated at 20%. It is also not effective for smaller stems, where they are new growth from seed or coppice, where ring barking and peeling is very difficult and often ineffective, allowing for regrowth. This is not a cost-effective nor technically desirable approach with regards to smaller growth.
    - Adjustments required include:
        - Use of specific broad leaf cut stump application mix herbicide on stems which are too big to pull and too cumbersome to effectively ringbark, whereby stems will be cut with loppers or bow saws to expose a treatable surface
        - Spraying regrowth of seed and coppicing on cut stumps with an appropriate approved broad leaf foliar spray

    These adjustments are deemed to improve the effectiveness markedly, as much of the manual ringbarking of smaller growth results in some recoppicing, and seed regrowth / sprouting is difficult to kill without herbicide application as they must either be handpulled or ring barked. In large areas this proves challenging and the strike rate is not as high as targeting spraying in the growth season.

Pesticide Selection and Use: This section aims to get a comprehensive understanding of the pesticide that will be selected, why it was selected and what efforts were made to assess risk. Note that in this section the applicant will also be required to present information on the potential risk that the selected pesticide will have on non-target species.

14. Description of present, proposed and/or envisaged pesticide use and assessment of whether such use is in line with best management practices.
    As described above, a specific approved, registered broad leaf herbicide will be used for cut stump and foliar spray application. The currently proposed herbicide is based on Triclopyr TEA(triethylamine salt) at 16.22% as the active ingredient and is marketed as CONFRONT SUPER. Please refer to the appended information on this product. Its predecessor, CONFRONT, has been successfully used on several projects implemented by ERS and WfW in the area.

Annex 1. Material Safety Data Sheet, Confront Super

Annex 2. Product label, Confront Super

15. Indication of type and quantity of pesticides envisaged to be financed by the project (in volume and dollar value) and/or assessment of increase in pesticide use resulting from the project.
The proposed herbicide requires a 2% mix for cut stump application and 0.5% for foliar spraying. It is estimated for a medium density infestation that a maximum of 10 litres of mixed herbicide will be required for cut stumps and frilling / ring barking application. The herbicide requires combination with a wetting agent as such as Actipron, as well as an organic dye to identity treated areas and coverage.
This amounts to approximately R495 / $62 per hectare for cut stump application and for foliar spraying, which uses a lower mixing ratio of % but requires a greater volume for coverage of foliar growth.
16. Chemical, trade, and common name of pesticide to be used.
Confront Super 132L (active ingredients

Triclopyr TEA(triethylamine salt)	16.22%	064700-56-7 265-024-8
Aminopyralid TIPA	2.22 %	50114-71-9
Triisopropanolammonium salt)		
EDTA	0.80 %	
Inert Ingredients	80.76 %	

17. Form in which pesticide will be used (e.g., pellet, spray).
Spray and manual hand painting onto cut stumps to avoid over spray and wastage
18. Specific geographic description of where the pesticide will be applied: name of province, district, municipality, land owners, or map coordinates (if available); and the total area (hectares) to which the pesticide will be applied.
Eastern Cape province, Alfred Nzo District, Ongeluksnek nature reserve and immediate buffer zone along fence / boundary.
Total target is at least 100ha. Vicinity around co-ords S30.28768 E28.33733
19. Assessment of environmental, occupational and public health risks associated with the transport, storage, handling and use of the proposed products under local circumstances, and the disposal of empty containers.
    - All herbicides will be transported by either the project manager, a delegated agent or the reserve manager or delegated agent, in sealed upright containers which are well secured and on a plastic drip tray.
    - Mixing will be done in storage room at reserve near clearing site, with cement floors and good ventilation. Pouring into spray applicator bottles to be done on this floor or plastic drip sheet out of doors at storage site on drip tray or sheet in case of accidental spillage.
    - Mixed herbicide will be allocated to work team supervisors at the estimated amount per hectare as per agreement for task contract. E.g. if agree signed task contract involves 10 hectares of dense infestation, the supervisor will be provided with the appropriate mixed amount of freshly herbicide required per week for that task. This will be stored in the described lockable storage room at the reserve, and decanted into applicator bottles under supervision of the project manager and / or reserve manager or head ranger.
    - Only trained personnel will be allowed to handle herbicides and all personnel will wear appropriate rubber gloves and cloth face masks.
    - Empty containers will be removed from the storage site at the reserve and preferably returned to the accredited supplier for disposal. Alternatively, they will be perforated and disposed of by the project manager at an appropriate permitted land fill site. Under no circumstances will they be given to community members as there is a risk of them being used to transport water.
    - The active ingredients are deemed to be (according to data sheet) of low toxicity to humans, even if ingested or inhaled or prolonged skin contact occurs.
    - Ecological safety indicates that two of the ingredients are not readily biodegradable, requiring specific application, while EDTA is inherently biodegradable. Ecotoxicity is fairly low for fish, but invertebrates such as honey bees and earthworms may be affected with prolonged exposure. This requires careful application especially in the growth season, while cut stump application will have limited risk during the winter months due to low activity by such organisms. Such effects are estimated at much higher concentrations than that to be used.
    - There are limited risks associated with the use of these registered herbicides so long as these procedures are observed.

20. Description of plans and results for tracking of damage to and/or deaths of non-target species prior to pesticide application and subsequent to pesticide application.

- An inspection of each target work site is undertaken prior to agreement on a task contract, between project manager and team supervisors. Photographic time lapse records are kept as baseline reference and to show progress.
- The herbicides are specific for broad leaf shrubs and will not harm grasses.
- Very specific application and no use on windy days will ensure limited exposure for invertebrate, fish and avian species.
- All herbicide is mixed with a blue dye to indicate areas which have been treated, to allow for monitoring of effectiveness and thoroughness of application.

21. Pre-requisites and/or measures required to reduce specific risks associated with envisaged pesticide use under the project (e.g., protective gear, training, upgrading of storage facilities, etc.).
    - All personnel will be issued with, and required to wear, appropriate protective clothing when using herbicides, including rubber gloves, cloth ventilator masks, boots and overalls, as well as clear glasses in case of spray splash.
    - All personnel will receive training by an accredited and experienced agent prior to any handling of herbicides, and will be mentored in their use for the first few sessions to ensure compliance with safety standards.
    - Storage facilities are locked, and the project manager allocates a key to an elected supervisor as the worker representative. Al supervisors to sign for allocated mixed herbicide and ensure that unused herbicide is stored in locked storage room overnight.
    - Reserve staff and project manager will undertake regular verification checks to ensure compliance and take remedial action if required.

22. Basis of selection of pesticides authorized for procurement under the project, taking into consideration WHO and World Bank standards, the above hazards and risks, and availability of newer and less hazardous products and techniques (e.g. bio-pesticides, traps).
    Use of these herbicides and updated versions has been proven as the most effective method for manual / labour based alien plant control for over 10 years of the WfW programme.
    Aerial spraying and biocontrol agents, although proven to be more effective in larger areas, are both beyond the scope of this project, in terms of costs and management. The creation of work / green jobs through this project is also seen as an effective means of building relationships between the park and surrounding communities, and is easier to monitor.

23. Name and address of source of selected pesticides.
    DOW AGROSCIENCES (PTY) LTD
    Private Bag X160,
    Bryanston.
    2021 South Africa

24. Name and address of vendor of selected pesticides.
    ECOGUARD
    Merrivale
    KZN
    Local supplier: Kenny Biggs 082 770 6618

25. Name and address of facility where pesticides will be stored.
    Will be delivered to project office (ERS main office): 110 Main Street, Matatiele.
    Will be transported from ERS to Ongeluksnek Nature Reserve by project manager in sealed containers.

Policy, Regulatory Framework, and Institutional Capacity: This section aims to understand the institutional and legal framework under which the pesticide will be applied, with reference to the documentation and standards required under local and national law and international good practice. Where the particular pesticide is not regulated at the target site, the proponent must identify similar pesticides and the applicable regulation, international laws in neighboring countries that could apply, and international good practice. The proponent must also explain why this particular pesticide is necessary even in the absence of national laws.

26. Policies on plant/animal protection, integrated pest management, and humane treatment of animals.
Compliant with any national standards and Biodiversity Act

27. Description and assessment of national capacity to develop and implement ecologically-based AIS control.
The long standing Working for water programme, originated under the Dept Water Affairs and now managed by the Dept Environment Affairs, provides the standards and guidelines for alien plant control. The DEA is exploring improved ways to effectively target the rife alien infestation and is tending towards a natural resource management approach rather than a purely 'alien control' approach, which justifies this project's objectives of restoring grassland in target areas to assist control of alien infestation through outcompeting alien seed regrowth with vigorous grass recovery support.

28. Description and assessment of the country's regulatory framework and institutional capacity for control of the distribution and use of pesticides.
See WFW policies and guidelines on page 3 above

29. Proposed project activities to train personnel and strengthen capacity (list # of people and what they are being trained in).
A minimum of 8 people will be trained in basic herbicide use, safety and application by an accredited service provider and Pest Control Officer.
This will take place before the end of June 2012.

30. Confirmation that the appropriate authorities were approached (who and when) and that the appropriate licenses and permissions were obtained by the project.
Eastern Cape Parks and Tourism Agency (ECPTA) is the authority for activities in the reserve, and has endorsed the use of herbicides for AIS in the reserve. ECPTA representative conslted is Regional Director Mzwabantu Kostauli, consulted on 28/05/2012.
Dow Agro-sciences is a licensed chemical supplier and the registration holder of the proposed herbicide

Consultation: This section aims to outline the range of informed consultations that the grantee has had both with experts to optimize the potential for success, and with stakeholders, particularly local communities, who are potentially affected (by proximity, by the use of certain areas for free-ranging livestock or non-timber forest product collection, etc.) by the use of pesticides.

31. Plans for, dates, and results of expert consultations, if necessary.
Consultant Rob Adam already involved through site visit to assess challenges, and advise on appropriate treatment approach, making use of suitable herbicide products. Basic approach is to use manual pulling and ringbarking, augmented by herbicide use for difficult areas where manual approach will not be effective.
Local herbicide supplier Kenny Biggs approached to advise on best product for this application and environment.
Reference made to other projects in KZN and Eastern Cape to verify that the proposed product is suitable.

32. Plans for, dates, and results of consultations with local communities.
Project Steering Committee has discussed use of herbicides on previous occasions, since local communities have been involved in WFW activities since 1998.
Next PSC meeting on 14th June meeting to discuss use of herbicides in this specific project.
Many of the local community people have been involved in the WFW programme over the last 12 years and are familiar with the parameters of herbicide use.

Monitoring and Evaluation: This section aims to outline what steps the proponent will take to monitor and evaluate the purchase, storage, application and effects of the pesticide in the target area.

33. Description of activities related to pest management that require monitoring during implementation.
- Transport, storage and preparation (project manager and reserve manager)
- Allocation to task leaders according to calculated area requirements and contracts

- Manual application using painting of cut stumps and specific target spraying with 2l small spray bottles
- Use volumes and application process – ensure no wastage or spillage

34. Monitoring and supervision plan, implementation responsibilities, required expertise and cost coverage.
    - All recommended application guidelines to be strictly followed according to approved product label
    - All personnel will be issued with, and required to wear, appropriate protective clothing when using herbicides, including rubber gloves, cloth ventilator masks, boots and overalls, as well as clear glasses in case of spray splash.
    - All personnel will receive training by an accredited and experienced agent prior to any handling of herbicides, and will be mentored in their use for the first few sessions to ensure compliance with safety standards.
    - Storage facilities are locked, and the project manager allocates a key to an elected supervisor as the worker representative. Al supervisors to sign for allocated mixed herbicide and ensure that unused herbicide is stored in locked storage room overnight.
    - Reserve staff and project manager will undertake regular verification checks to ensure compliance and take remedial action if required.
    - Monitoring and supervision are to take place as described in above, with overall responsibility lying with grantee (ERS) and project manger Nicky McLeod as well as Reserve Manager.
    - Supervision cost is part of management and facilitation (Salaries and wages), while purchase and training covered under "Supplies" and "meetings & special events" respectively. Herbicide component of budget will be an estimated R6000 / $750.

Appendix 1

Confront Super

Material Safety

Data sheet

Dow AgroSciences™

MATERIAL SAFETY DATA SHEET

CONFRONT SUPER 132 SL HERBICIDE

1. PRODUCT AND COMPANY IDENTIFICATION

Supplier **DOW AGROSCIENCES (PTY) LTD**
Private Bag X160,
Bryanston.
2021

SPILLAGES:
Emergency telephone: **(+27) 032 5330716 or 082 887 8079**
Fax: **(+27) 032 5336134**

POISONINGS:
National Poison Centre 021-9386084 (office hours).
021-9316129 (after hours).

Product Name: CONFRONT SUPER 132 SL HERBICIDE

LV70: **Issue Date:** 12/09/2008
Ref: GF-1883
Revised: February 2010

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components contributing to hazard:

		CAS	EINECS
Triclopyr TEA(triethylamine salt)	16.22%	064700-56-7	265-024-8
Aminopyralid TIPA	2.22 %	50114-71-9	
Triisopropanolammonium salt)			
EDTA	0.80 %	60-00-4	
Inert Ingredients	80.76 %		

UN No.: Not regulated for any mode of transport.

3. HAZARDS IDENTIFICATION

Eye Contact:
May cause slight eye irritation. May cause slight temporary corneal injury.
Skin Contact:
Brief contact may cause skin irritation with local redness.
Skin Absorption:
Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Inhalation:
No adverse effects are anticipated from single exposure to vapor. No adverse effects are anticipated from single exposure to mist. Prolonged exposure is not expected to cause adverse effects.
Ingestion:
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.
Effects of Repeated Exposure:
In animals, effects have been reported on the following organs: For the active ingredient(s): Kidney. or similar active ingredient(s).Liver. Gastro-intestinal tract.

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Birth Defects/Developmental Effects:
EDTA and its sodium salts have been reported to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation.
Reproductive Effects: For similar active ingredient(s). Triclopyr: In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

4. FIRST-AID MEASURES

Eye Contact:
Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Skin Contact:
Wash skin with plenty of water.
Inhalation:
Move person to fresh air; if effects occur, consult a physician.
Ingestion:
If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
Note to Physician:
No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Symptoms of poisoning are non specific.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:
To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.
Fire Fighting Procedures:
Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.
Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
Unusual Fire and Explosion Hazards:
This material will not burn until the water has evaporated. Residue can burn. May produce flash fire. If exposed to fire from another source and water is

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MATERIAL SAFETY DATA SHEET

evaporated, exposure to high temperatures may cause toxic fumes.
Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled:
Contain spilled material if possible.
Small spills:
Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers.
Large spills:
Contact the emergency contact number for clean-up assistance.
Personal Precautions:
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental Precautions:
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. HANDLING AND STORAGE

Handling
General Handling:
Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.
Other Precautions:
Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
Storage:
Product should be stored in compliance with local regulations. Store original container in a cool, dry, well-ventilated place in the original container. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilisers. Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure Guidelines
Triclopyr Triethylamine salt: Dow AgroSciences IHG is 2 mg/m3 (D-SEN).
A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

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CONFRONT SUPER 132 SL HERBICIDE

Engineering Controls
Ventilation:
Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Personal Protection
Eye/Face Protection:
Use safety glasses.
Skin Protection:
When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. For brief contact, no precautions other than clean body-covering clothing and impervious gloves should be needed.

Hand protection:
Use gloves chemically resistant to this material.
Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex").Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl").
Avoid gloves made of: Polyvinyl alcohol ("PVA").
NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection:
Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process.
For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.
Ingestion:
Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid
Colour	: Red to brown
Odour	: Mild

Rel. density (water=1)	: 1.0528 g/ml@20 °C
Water solubility	: Soluble
Flash point	: >100.0 °C.
pH	: 7.25 @ 23.4 °C

10. STABILITY AND REACTIVITY

Chemical Stability:
Is stable under normal storage conditions.
Conditions to Avoid:
Avoid extremes of temperature. Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems
Materials to Avoid:
Avoid contact with Oxidizers.
Hazardous Decomposition Products:
Decomposition products depend upon temperature, air supply and the presence of other materials.
Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Hydrogen chloride. Nitrogen oxides. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Oral LD50, Rat, female: 3,752 mg/kg
Skin absorbtion, Rat, male and female: > 5,000 mg/kg
Inhalation LC50, 4 h, Aerosol, Rat: male and female > 5.34 mg/l
Skin Sensitization: Did not cause allergic skin reactions when tested in mice.
Skin irritation: Brief contact may cause skin irritation with local redness.
Eye irritation: May cause slight eye irritation. May cause slight temporary corneal injury.

Repeated Dose Toxicity
In animals, effects have been reported on the following organs: For the active ingredient(s): Kidney.
For similar active ingredient(s). Liver. Gastrointestinal tract.
Chronic Toxicity and Carcinogenicity:
For similar active ingredient(s). Triclopyr. Aminopyralid.Did not cause cancer in laboratory animals.
The trisodium salt of EDTA did not cause cancer in laboratory animals.
Developmental Toxicity:
Active ingredient did not cause birth defects in laboratory animals. For similar active ingredient(s).Did not cause birth defects in laboratory animals. EDTA and its sodium salts have been reported to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation.
Reproductive Toxicity:
For similar active ingredient(s). Triclopyr. In laboratory animal studies, effects on reproduction have been seen only at doses that produced

significant toxicity to the parent animals. For similar active ingredient(s). Aminopyralid: In animal studies, did not interfere with reproduction.
For the minor component(s): Limited data on component(s) tested did not indicate an effect on reproduction in laboratory animals.

Genetic Toxicology:
For the active ingredient(s): In vitro genetic toxicity studies were negative.
For similar active ingredient(s).In vitro genetic toxicity studies were predominantly negative. Genetic toxicity studies in animals were negative for component(s) tested. Most data indicate that EDTA and its salts are not mutagenic. Minimal effects reported are likely due to trace metal deficiencies resulting from chelating by EDTA.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

Data for Component: Triclopyr Triethylamine Salt

Movement and Partitioning
Bio-concentration potential is low (BCF less than 100 or log Pow less than 3). Based largely or completely on information for similar material(s). Potential for mobility in soil is medium (Koc between 150 and 500).
Henry's Law Constant (H): 3.724E-14 atm*m3/mole; 25 °C Estimated
Partition coefficient, n-octanol/water (log Pow): 1.50 Estimated
Partition coefficient, soil organic carbon/water (Koc): 4,523 Estimated
Bioconcentration Factor (BCF): 1; invertebrate; Measured.

Persistence and Degradability
Chemical degradation (hydrolysis) is expected in the environment. Based largely or completely on information for similar material(s). Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).
Chemical degradation (hydrolysis) is expected in the environment. Based largely or completely on information for similar material(s). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Data for Component: Aminopyralid Triisopropanolamine Salt

Movement and Partitioning
For similar active ingredient(s). Aminopyralid. Bio=concentration potential is low (BCF less than 100 or log Pow less than 3).
Potential for mobility in soil is very high (Koc between 0 and 50).

Persistence and Degradability
Material is not readily biodegradable according to OECD/EC guidelines.

Data for Component: Ethylenediamine tetraacetic acid

Movement and Partitioning
Bio-concentration potential is low (BCF less than 100 or log Pow less than 3).

Potential for mobility in soil is high (Koc between 50 and 150).
Henry's Law Constant (H): 7.7E-16 atm*m3/mole. Estimated
Partition coefficient, n-octanol/water (log Pow): -5.005. Estimated
Partition coefficient, soil organic carbon/water (Koc): 98
Bio-concentration Factor (BCF): 1.1; fish; Measured.

Persistence and Degradability
Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

ECOTOXICITY
Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L). Material is practically non-toxic to aquatic invertebrates on an acute basis (LC50/EC50 > 100 mg/L). Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

Fish Acute and Prolonged Toxicity
LC50, rainbow trout (Oncorhynchus mykiss), flow-through, 96 h: > 800 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, flow-through, 48 h, immobilization: > 800 mg/l
Aquatic Plant Toxicity
EC50, diatom Navicula sp., static, biomass growth inhibition, 96 h: 89.8 mg/l
Toxicity to Non-mammalian Terrestrial Species
Oral LD50, bobwhite (Colinus virginianus): 1,839 mg/kg
Contact LD50, Honey bee (Apis mellifera): > 191.6 micrograms/bee
Oral LD50, Honey bee (Apis mellifera): 133.0 micrograms/bee
Toxicity to Soil Dwelling Organisms
LC50, Earthworm Eisenia foetida, adult, 14 d: > 0.333 ml/kg

13. DISPOSAL CONSIDERATIONS

Do not contaminate ponds, waterways or ditches with chemical or used container. Wash out thoroughly. Container and washings must be disposed of safely and in accordance with applicable regulations. The preferred options are to send to licensed reclaimer or to permitted incinerators. Do not re-use container for any purpose.

14. TRANSPORT INFORMATION

UN no.: Not Regulated.

15. REGULATORY INFORMATION

Hazard Symbol : Xn - Harmful
Xi- Irritating

Risk Phrases : Harmful if swallowed. (R22)
Irritating to eyes and skin (R36/38)

Safety Phrases : Keep out of reach of children. (S2)
Keep away from food, drink and animal feeding stuffs. (S13)
When using do not eat, drink or smoke. (S20/21)
Avoid contact with skin. (S24)
Wear suitable protective clothing, gloves and

eye/face protection. (S36/37/39)
In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible). (S45)

National legislation: In accordance with the South African National Road Traffic Act, 1996 (Act 93 of 1996), the Fire Brigade Act, 1987 (Act 99 of 1987) and the Occupational Health and Safety Act, 1993 (Act. No. 85 of 1993)

16. OTHER INFORMATION

REFERENCES

- Applicable own physical and chemical, toxicity and ecotoxicity research studies.
- ADR 2009.
- IMDG Code, 2008 Edition.
- IATA Dangerous goods regulations, Effective 1 January 2009, 50th Edition.

All information and instructions provided in this Material Safety Data Sheet MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and is presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS their own MSDS.

END OF MSDS.

Appendix 2

Confront Super

Product label

Dow AgroSciences

CONFRONT* SUPER 132 SL

REG. NO. L8772, ACT NO. 36 of 1947 / REG. NR. L8772, WET NR. 36 van 1947

A SYSTEMIC, WATER SOLUBLE LIQUID CONCENTRATE HERBICIDE FOR THE CONTROL OF WOODY PLANTS AS LISTED FOR FORESTRY, GRASS PASTURES, CONSERVATION AND INDUSTRIAL AREAS.

'N SISTEMIESE, WATER OPLOSBARE KONSENTRAAT ONKRUIDDODER VIR DIE BEHEER VAN HOUTAGTIGE PLANTE SOOS AANGETOON IN BOSBOU, GRASWEIDINGS, BEWARINGS- EN NYWERHEIDSGEBIEDE.

HERBICIDE GROUP CODE	0	ONKRUIDDODERGROEP KODE

Active Ingredients/ Aktiewe Bestanddele

Triclopyr (Pyridine Compound) (as triethyl ammonium)	120 g/ℓ a.e./s.e.	Triklopir (Piridienverbinding) (as triethielammonium)
Aminopyralid (Pyridine Compound) (as trisopropanol ammonium)	12 g/ℓ a.e./s.e.	Aminopiralied (Piridienverbinding) (as triisopropanol ammonium)
NET VOLUME	5 ℓ	**NETTO VOLUME**

REGISTRATION HOLDER / REGISTRASIEHOUER
DOW AGROSCIENCES SOUTHERN AFRICA (PTY) LTD / (EDMS) BPK
REG NO 1967/007147/07
PRIVATE BAG X 160 PRIVAATSAK
BRYANSTON 2021

*Trademark of/ Handelsmerk van Dow AgroSciences

Batch No. ..... Lot No. .....

Date of Manufacture ..... Datum van Vervaardiging .....

UN NO:

24 Hour Emergency Tel No: (032) 533-0716
Information Hotline Tel No: (012) 361-8112

CONFRONT SUPER 132 SL/2011-09-02*

P0035816302

WARNINGS

Poisonous by swallowing.
Concentrate may cause slight irritation to eyes.
May cause allergic skin reactions.
Store in a cool place.
Slightly toxic to aquatic invertebrates.
Store away from food, feed, seed and other agricultural chemicals and out of reach of children, uninformed persons and animals.
In case of poisoning, call a doctor and show him/her this label.

RE-ENTRY: Do not enter treated field within 1 day 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 soil, climatic and storage conditions; quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of weeds 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 or registration holder in the event of any uncertainty.

PRECAUTIONS

Wear protective gloves and face shield or safety glasses when handling the concentrate.
Do not breathe fumes or spray mist.
Wash contaminated clothing daily.
Wash with soap and water after accidental skin contact. Avoid eye contact. In case of eye contact, flush eyes with clean water.
Do not eat, drink or smoke whilst applying, mixing or before washing hands and face and change of clothing.
Prevent spray drift onto other crops, grazing, rivers, dams or areas not under treatment.
Clean the spray applicator with a 1 % solution of household ammonia before using with other products. Allow the solution to stand in the spray tank for several hours but preferably overnight. Rinse at least twice with clean water. This applicator should not be used for applying products other than herbicides. Dispose of wash water where it will not contaminate food, grazing, rivers or dams.

Rinse empty container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container by perforation and flattening and NEVER use for any other purpose.
Prevent contamination of food, feeds, drinking water and eating utensils.

USE RESTRICTIONS

Precautions for avoiding injury to non-target plants are:-

- **Do not permit spraymist to drift** or come into contact with sensitive broadleaf crops, including but not limited to lucerne, beans, melons, potatoes, soyabeans, sunflower, tobacco, tomatoes, cotton, fruit trees, grape vines, ornamentals, soil containing roots of these plants, soil in which such plants are to be grown, grain varieties in a susceptible stage of growth or grazing or any other area not under treatment.
- **Do not contaminate water intended for irrigation or domestic purposes.** To avoid injury to crops or other desirable plants, do not treat or allow spray or spray drift or spray run-off to fall onto banks or bottoms of irrigation ditches, canals, streams, dams, rivers, either dry or containing water that may be used for irrigation or domestic purposes or may carry water to an irrigation facility.
- **Do not make application when circumstances favour movement from treated site.**
- **Do not apply to areas that may be rotated to any broadleaf crop.**
- **Do not use manure** from animals grazing treated areas on land used for growing broadleaf crops, ornamentals, orchards or other susceptible crops. Manure may contain enough herbicide to cause injury to susceptible plants.
- **Do not use grass or sprayed plants** from treated areas for composting or mulching of susceptible broadleaf plants or crops.
- **Do not transfer livestock** from treated grazing areas (or feeding of treated grass) onto sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated grass pasture. Otherwise, urine and manure may contain enough herbicide to cause injury to sensitive broadleaf plants.
- **Do not use on flood irrigated land or fields.**
- **Do not move treated soil** to areas other than sites for which **CONFRONT* SUPER 132 SL** is registered for use.
- **Do not apply through a mist blower.**
- **Do not apply to land NEAR to desirable broadleaved plants** or land onto which such plants are to be grown or grain varieties in a susceptible stage of growth. May, however, be applied in the VICINITY of desirable broadleaved plants, or soil or land onto which such plants are to be grown, or grain varieties in a susceptible stage of growth, PROVIDED THAT ADEQUATE PRECAUTIONARY MEASURES ARE TAKEN TO AVOID SPRAYDRIFT OR CONTAMINATION OF RUN-OFF AREAS.
- Apply the product strictly in accordance with the application directions.

SYMPTOMS OF HUMAN POISONING:

There are no specific signs of poisoning. The concentrate may cause slight eye irritation. Prolonged or repeated skin contact may cause allergic reactions in some individuals. Ingestion of large amounts may cause gastrointestinal irritation. Single exposure to vapours is not likely to be hazardous.

FIRST AID TREATMENT:

Eyes: Irrigate with clean flowing water for 15 minutes. Seek medical advice.
Skin: Remove contaminated clothing. Rinse affected area thoroughly with clean running water.
Ingestion: In case of accidental ingestion, do not induce vomiting. Give 1 or 2 glasses of water or milk to drink. Do not give anything by mouth to an unconscious person. Seek medical attention.

Inhalation: Remove patient to fresh air if effects occur. Seek medical advice.

NOTE TO PHYSICIAN:

No specific antidote. Treatment should always be symptomatic. If lavage is performed, suggest endotracheal and / or esophagoscopic control.

DIRECTIONS FOR USE — Use only as directed

Compatibility

CONFRONT* SUPER 132 SL is compatible with ACTIPRON SUPER**.

Mixing

For foliar applications, half fill the spray tank with water and add the required quantity of **CONFRONT* SUPER 132 SL**. While filling the spray tank add ACTIPRON SUPER at the rate indicated below while maintaining constant agitation.

Application

A. FOLIAR A
Use only

- Apply as a full
- Do not apply
- Avoid spray dri
- Use a knapsack coverage of th
- Rain 3 hours a
- Prevent drift o

Warning:

If topkill is obtained

B. CUT STUMP

- Apply on the d
- **CONFRONT* S**
- Use solid cone
- Apply mixture

RATES AND METH

FOLIAR APPLICATI

NOTE: ACTIPRON

PLANT
Acacia mearnsii (Black Wattle)
Acacia saligna (Port Jackson)
Acacia cyclops (Red eye)
Chromolaena od (Triffid Weed)
Acacia longifolia (Long leaf wattle)
Acacia melanox (Blackwood)
Prosopis glandu (Mesquite)

Application

A. FOLIAR APPLICATION
Use only on actively growing plants with full leaf cover

- Apply as a full cover spray to leaves and stems to the point of spray solution run-off.
- Do not apply to foliage wet from rain or dew etc.
- Avoid spray drift onto non-target plants.
- Use a knapsack sprayer with a solid cone nozzle (eg. Spraying Systems TG-1, Delavan CE 1 or equivalent type) that will ensure an even coverage of the target area. Maintain a constant pressure of between 200 – 250 kPa.
- Rain 3 hours after application will have no effect on efficacy provided the spray has dried on the target plants.
- Prevent drift of spray mist onto desirable plants.

Warning:

If topkill is obtained but regrowth occurs from the crown, apply a herbicide, registered for the relevant species, as a foliar spray.

B. CUT STUMP

- Apply on the day of felling (within 12 hours).
- **CONFRONT* SUPER 132 SL** should not be applied to stumps if surface is wet from rain or dew.
- Use solid cone nozzle tips (eg. Spraying Systems TG-1, Delavan CE 1 or equivalent type) at 100 kPa. (low pressure).
- Apply mixture to the point of run-off according to directions for stump and cut stumps in the table below.

RATES AND METHODS

FOLIAR APPLICATIONS

NOTE: ACTIPRON SUPER should be added at a rate of 500 mℓ / 100 litres spray mix for all foliar applications.

PLANT	RATE / 100 ℓ WATER	REMARKS
Acacia mearnsii (Black Wattle)	500 mℓ (0,5 % mixture)	Apply to young actively growing trees (saplings) up to 2 metres in height until the point of run-off. Apply until the point of run-off Plants too high for a good cover spray should be slashed and the regrowth sprayed when not less than 0,5 m high. Some re-growth may occur which will require a follow-up spray.
Acacia saligna (Port Jackson) ***Acacia cyclops*** (Red eye) ***Chromolaena odorata*** (Triffid Weed)	750 mℓ (0,75 % mixture)	
Acacia longifolia (Long leaf wattle) ***Acacia melanoxylon*** (Blackwood)	1000 mℓ (1,0 % mixture)	
Prosopis glandulosa. (Mesquite)	3000 mℓ (3,0 % mixture)	

CUT STUMP

NOTE: ACTIPRON SUPER should be added at a rate of 500 mℓ / 100 litres final spray mixture for all cut stump applications.

PLANT	RATE / 100 ℓ WATER	REMARKS
Acacia mearnsii (Black wattle) ***Acacia saligna*** (Port Jackson willow)	2,0 ℓ (2,0 % mixture)	Apply to low cut stumps (10 – 20 cm high) preferably with a single cut surface. Remove any shoots/branches, below cut line, prior to application. Apply to complete cut surface and bark of stumps with a diameter of less than 10 cm. Where multiple stumps are present, all cut surfaces and bark must be treated. For bigger stumps, apply to the cambial region (sapwood) of the cut surface and bark. In all cases, apply until the point of run-off. In the event of some regrowth, a follow-up spray as a coppice application with a registered herbicide may be required.
Acacia melanoxylon (Blackwood)	4,0 ℓ (4,0 % mixture)	

CONFRONT* SUPER 132 SL controls trees and shrubs. Other trees and shrubs that were not present during the development trials with the product may also be controlled to a certain degree. The registration holder does not accept any responsibility for unlisted trees and shrubs.

N.B. - In situations where more than one species of target plant occurs contact your local technical representative.

- For assistance in the calibration for spot treatments please contact your local technical representative.

** ACTIPRON SUPER (Mineral oil), Reg. No. L5506 Act No. 36 of 1947, is the Trademark of H&R GSP (Pty) Ltd.

24 HOUR EMERGENCY TEL. NO. (032) 533-0716

INFORMATION HOTLINE : TEL. NO.: (012) 361-8112

WAARSKUWINGS

Giftig indien ingesluk word.
Konsentraat mag geringe irritasie van oë veroorsaak.
Mag allergiese reaksie veroorsaak.
Effens giftig vir waterlewende invertebrata.
Berg in 'n koel plek.
Berg weg van voedselware, voer, saad en ander landboumiddels en buite die bereik van kinders, onnoselige persone en diere.
In geval van vergiftiging ontbied 'n geneesheer en toon hierdie etiket aan hom/haar.

HERBETREDING: Moenie behandelde gebied binnegaan binne 1 dag na behandeling tensy beskermende klere gedra word nie.

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 grond-, klimaats- en bergingstoestande; kwaliteit van verdunningswater; verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van die onkruid teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie 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 gebruiker om etiketaanwysings van die betrokke middel na te kom of as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie.

Raadpleeg die verskaffer of die registrasiehouer in die geval van enige onsekerheid.

VOORSORGMAATREËLS

Dra beskermende handskoene en gesigskerm of veiligheidsbril wanneer die konsentraat hanteer word.
Moenie dampe of sproeireën inasem nie.
Was besoedelde klere daagliks.
Was onmiddellik met seep en water indien per ongeluk met die vel in aanraking kom. Vermy aanraking met die oë. In geval van oogkontak, spoel oë met skoon water uit.
Moenie eet, drink of rook tydens vermenging en toediening en alvorens hande en gesig gewas en skoon klere aangetrek is nie.
Verhoed spuitstof wegdrywing na ander gewasse, weidings, riviere, damme of enige gebied wat nie behandel word nie.
Maak spuittoerusting met 'n 1 % huishoudelike ammoniakoplossing skoon voordat ander plaagdoders daarmee gebruik word. Laat staan die oplossing in die spuittenk vir 'n paar uur, maar verkieslik oornag. Spoel ten minste twee keer met skoon water uit. Hierdie spuittoerusting behoort nie gebruik te word vir die toediening van enige ander chemikalieë nie, behalwe onkruiddoders. Gooi waswater weg waar dit nie voedsel, weiding, rivière of damme sal besoedel nie.

Spoel leë houer driekeer uit met 'n volume water gelykstaande aan 'n minimum van 10 % van die houer. Gooi die spoelwater by die inhoud van die spuitenk voordat die houer vernietig word deur gate daarin te maak en dit plat te druk en moet nie vir enige ander doel gebruik nie. Voorkom besoedeling van voedselware, voer, drinkwater en eelgerei.

GEBRUIKSBEPERKINGS

Maatreëls om beskadiging van nie-teiken plante te voorkom is soos volg:-

- **Voorkom dat spuitnewel wegdryf** of in kontak kom met sensitiewe breëblaar gewasse, insluitend, maar nie beperk tot: lusern, bone, waatlemoene, aartappels, soyabone, sonneblomme, tabak, tamaties, katoen, vrugtebome, wingerdstokke, sierplante, gronde waarin voorheen van die plante voorkom, grond waarin die plante verbou gaan word, jong graangewasse in vatbare groeistadium, weidings of enige ander area wat nie behandel gaan word nie.
- **Moenie water vir besproeiing of huishoudelike gebruik besoedel nie.** Om beskadiging van gewasse of ander gewensde plante te voorkom, moenie toelaat dat spuitnewel of spuitstof op walle of bodem van besproeiingsvore, kanale, strome, damme, riviere, wat vir besproeiing of huishoudelike gebruik bedoel is, hetsy droog of met water daarin, beland of deur water na besproeiings sisteme afgevoer word nie.
- **Moenie onder toestande wat die beweging van die onkruiddoder uit behandelde areas bevorder, toedien nie.**
- **Moenie areas behandel wat moontlik met enige breëblaar gewas geroteer gaan word nie.**
- **Moenie die mis van diere** wat op behandelde areas gewei het vir lande waarop 'n breëblaar gewas, sierplante, boorde of enige ander vatbare gewas geveslig is of gevestig gaan word, gebruik nie. Mis mag genoeg onkruiddoder nog bevat om skade te veroorsaak op gevoelige gewasse.
- **Moenie gras of bespuite plante** uit behandelde areas vir kompostering of deklaag by gevoelige breëblaar plante of gewasse gebruik nie.
- **Moenie lewende hawe van behandelde weidingsareas** (of wat op behandelde gras gevoed het) na areas van gevoelige breëblaar gewasse oorplaas alvorens hulle vir minstens 7 dae op onbehandelde grasweidings gewei het nie. Urine of mis van sulke diere mag voldoende onkruiddoder bevat om gevoelige breëblaar plante te beskadig.
- **Moenie op lande of veld wat vloedbesproei word gebruik nie.**
- **Moenie toedien as die verlies van peulgewas weidings, insluitend klawers, nie geduld kan word nie.** Dit mag jare neem voordat nuwe peulplante sal vestig.
- **Moenie behandelde grond** na areas anders as gronde waarop die gebruik van **CONFRONT® SUPER 132 SL** geregistreer is, verskuif nie.
- **Moenie met 'n newelspuit (misblaser) toedien nie.**
- **Moenie op grond wat NADY gewenste breëblaar plante** of grond waarop sulke plante groei, of graangewasse wat in gevoelige ontwikkelingstadium is toedien, **mits daar nie voldoende voorsorg getref word om die wegdrywing van spuitnewel na die areas of besoedeling van afloop areas te voorkom nie.**
- Dien die produk streng volgens die gebruiksaanwysings toe.

SIMPTOME VAN VERGIFTIGING:

Daar is geen spesifieke tekens van vergiftiging nie. Die konsentraat mag geringe oog irritasie veroorsaak. Verlengde en aanhoudende velkontak mag allergiese reaksies in sommige individue veroorsaak. Opneming van groot hoeveelhede mag maagderm irritasie veroorsaak. 'n Enkele blootstelling aan dampe sal nie noodwendig gevaarlik wees nie.

NOODHULPBEHANDELING:

Oë: Spoel uit met skoon lopende water vir 15 minutes. Verkry mediese advies.

Vel: Verwyder die besoedelde klere. Spoel besmette liggaamsdele deeglik met skoon lopende water.

Indien produk ingesluk is: In geval van toevallige inname, gee een of twee glase water of melk om te drink - moet nie die persoon laat braak nie. Niks per mond vir 'n bewustelose persoon. Verkry mediese advies.

Indien produk ingeasem is: Verwyder die persoon na 'n plek met vars lug. Verkry mediese advies.

NOTA AAN GENEESHEER:

Geen spesifieke teenmiddel. Behandeling simptomaties. Indien maagspoeling gedoen moet word, word endotrageale en/of esofagoskopie aanbeveel.

GEBRUIKSAANV

Mengbaarheid

CONFRONT® SU

Vermenging

Vir looftoedienin
dan verder met v

Toedienning

A. LOOFTOEDIEI
Wend slegs aan

- Dien toe as '
- Moet nie toe
- Gebruik 'n
  spuitstukke)
- Na toedienin
- Verhoed spu

B. GEKAPTE STO

- Dien toe ged
- **CONFRONT®**
- Gebruik solle
  100 kPa (lae
- Dien toe volg

GEBRUIKSAANWYSINGS **Gebruik slegs soos aangedui**

Mengbaarheid

CONFRONT® SUPER 132 SL is mengbaar met ACTIPRON SUPER®.

Vermenging

Vir looftoediening vul die spuittenk halfvol met water en voeg die benodigde hoeveelheid **CONFRONT® SUPER 132 SL** by. Vul die spuittenk dan verder met water en voeg ACTIPRON SUPER by teen die dosis soos aangedui hieronder, terwyl roering plaasvind.

Toediening

A. LOOFTOEDIENING
Wend slegs aan wanneer plante volle drag blare het en aktief groei.

- Dien toe as 'n volledige dekbespuiting op loof en stamme tot die punt van spuitstof afloop.
- Moet nie toegedien word wanneer blare nat is as gevolg van reën of dou ens. nie.
- Gebruik 'n rugsakspuit wat toegerus is met sollede keëlspuitstukke (bv. Spraying Systems TG-1, Delavan CE 1 of soortgelyke spuitstukke) wat egalige benatting sal verseker. Handhaaf 'n konstante druk van 200 – 250 kPa.
- Na toediening sal reën 3 ure na toediening geen invloed op die effektiwiteit hê nie, indien die spuitstof op die teiken plant gedroog het.
- Verhoed spuitingstofwegdrywing na gewenste plante.

B. GEKAPTE STOMPBESPUITING

- Dien toe gedurende die dag van afkap (binne 12 uur).
- **CONFRONT® SUPER 132 SL** moet nie toegedien word op stompe indien hulle nat is weens reën of dou nie.
- Gebruik sollede keëlspuitstukke (bv. Spraying Systems TG-1, Delavan CE 1 of soortgelyke spuitstukke) en handhaal 'n druk van 100 kPa (lae druk).
- Dien toe volgens aanwysings vir stompe en gekapte stomphespuiting in tabel hieronder.

TOEDIENINGSHOEVEELHEDE EN METODE VAN TOEDIENING

LOOFTOEDIENING

OPMERKING: ACTIPRON SUPER, moet ten alle tye vir alle looftoediening bygevoeg word teen 500 mℓ / 100 liter finale spuitmengsel.

PLANTSOORT	DOSIS / 100 ℓ WATER	OPMERKINGS
Acacia mearnsii (Swartwattel)	500 mℓ (0,5 % mengsel)	Dien toe op jong aktief groiende boompies, ("Saplings") tot 'n hoogte van 2 meter, tot die punt van afloop. Plante te hoog vir goeie spuitbedekking moet eers gekap word. Die hergroei word gespuit wanneer dit nie minder as 0.5 m hoog is nie 'n Mate van hergroei mag ontstaan wat 'n opvolg bespuiting sal benodig.
Acacia saligna (Port Jackson) ***Acacia cyclops*** (Rondkrans) ***Chromolaena odorata*** (Paraihenbos)	750 mℓ (0.75 % mengsel)	
Acacia longifolia (Langblaarwattel) ***Acacia melanoxylon*** (Swarthout)	1000 mℓ (1.0 % mengsel)	
Prosopis glandulosa (Suidwesdoring)	3000 mℓ (3,0 % mengsel)	

GEKAPTE STOMPBESPUITING

OPMERKING: ACTIPRON SUPER, moet ten alle tye vir alle stompbespuitings bygevoeg word teen 500 mℓ / 100 liter finale spuitmengsel.

PLANTSOORTE	DOSIS / 100 ℓ WATER	OPMERKINGS
Acacia mearnsii (Swartwattel) ***Acacia saligna*** (Port Jackson)	2.0 ℓ (2.0 % mengsel)	Dien toe op nag gekapte stompe (10 – 20 cm hoog) verkieslik met 'n enkele gekapte oppervlakte. Verwyder enige lote/takkies, onder die snylyn, voor toediening. Dien toe op die hele gekapte oppervlakte en bas vir stompe met 'n deursnee van minder as 10 cm.
Acacia melanoxylon (Swarthout)	4.0 ℓ (4.0 % mengsel)	Waar veelvoudige stompe teenwoordig is, moet alle gekapte oppervlakte en bas behandel word. Vir groter stompe, dien toe op die kambium gedeelte (splinthout) en bas. In alle gevalle, dien toe tot die punt van afloop. In die geval van hergroei mag 'n opvolgbespuiting met 'n geregistreerde onkruiddoder benodig word.

CONFRONT* SUPER 132 SL beheer bome en struike. Ander bome en struike wat nie tydens die ontwikkelingsproewe met die middel voorgekom het nie, kan ook in meerdere of mindere mate daardeur beheer word. Die registrasiehouer aanvaar egter geen aanspreeklikheid ten opsigte van ongelyste bome en struike nie.

BELANGRIK:

- Wanneer meer as een ongewenste plant spesies voorkom, raadpleeg die plaaslike tegniese verteenwoordiger van die verskaffer.
- Vir hulp met kalibrasie by kolbehandeling raadpleeg die plaaslike tegniese verteenwoordiger van die verskaffer.

** ACTIPRON SUPER (mineraal olie) (Reg. Nr. L5506) Wet Nr. 36 van 1947, is die handelsmerk van H&R GSP (Edms) Bpk.

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