ASSEMBLY 160 ME

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **ASSEMBLY 160 ME**
Other identifier: **Picloram/ Fluroxypyr 160 ME**
Recommended use: Herbicide
Restrictions on use: Agriculture and Industrial

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

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
(Hazcall24) +27 86 044 4411
(Client: Villa Crop Protection)
Griffon Poison Information Centre +27 82 446 8946
(Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
Griffon Poison Information Centre +27 82 446 8946
Poisons Information Centre +27 861 555 777

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**H-statements**
Physical		
Flammable	Flam. Liq. 3	H226
Health		
Oral	Acute Tox. 4	H302
Inhalation	Acute Tox. 2	H330
Dermal	Skin Irrit. 2	H315
Eye	Eye Dam. 1	H318
Carcinogenicity	Carc. 2	H351
Aspiration	Asp. Tox. 1	H304
Environment		
Aquatic acute	Aquatic acute 2	H401
Aquatic chronic	Aquatic chronic 2	H411

The most important adverse effects:
Physiochemical effects: None known.
Human health effects:
Harmful if swallowed (Acute Tox. 4).
Fatal if inhaled (Acute Tox. 2).
Causes skin irritation Skin Irrit. 2).
Causes serious eye damage (Eye Dam. 1).
Suspected of causing cancer (Carc. 2)
May be fatal if swallowed and enters airways (Asp. Tox. 1).

Label elements:

Signal word: Danger.
Hazard statements:
H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H330: Fatal if inhaled.
H351: Suspected of causing cancer by inhalation.
H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.
Precautionary statements:
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P260: Do not breathe dust, fume, gas, mist, vapours, or spray.
P264: Wash hands and face thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release into the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P284: In case of inadequate ventilation wear respiratory protection.
P301+P316: IF SWALLOWED: Get emergency medical help immediately.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [shower].
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313: If exposed or concerned: Get medical attention.
P310: IF IN EYES: Immediately call a POISION CENTRE.
P316: Get emergency medical help immediately.
P320: Specific treatment is urgent (see… on this label)
P331: Do NOT induce vomiting.
P332+P313: If skin irritation occurs get medical advice.

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.
P501: Dispose of contents/container to suitable landfill in accordance with local regulations.
Special labelling of certain mixtures:
None known.
Other hazards:
None known.
Toxicity:
Classification according to GHS: Category 2.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.
Composition:

Chemical Name	CAS	Conc. (m/v%)	Classification EC 1272/2008
Picloram	1918-02-1	8.0 %	Aquatic Chronic 3 (H412)
Fluroxypyr as Fluroxypyr-meptyl	81406-37-3	8.0 %	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Sodium dodecylbenzene sulfonate	25155-30-0	< 30 %	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)
Napthalene	91-20-3	< 2.5 %	Acute Tox. 4 (H302) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H411)
Solvent Naptha	64742-94-5	< 15 %	Asp. Tox. 1 (H304)

4. 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.
Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. **Seek medical attention immediately.**
Skin: Remove contaminated clothing and shoes. Gently wipe of excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap for 15 – 20 minutes. If irritation persists, obtain medical attention.
Eyes: Immediately flush eyes with clean water for at least 15-20 minutes. Lift eyelid (s) to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention immediately.**
Ingestion: Seek medical attention immediately. Do NOT induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give any liquid to the person. If vomiting occurs naturally, prevent aspiration.
Anticipated acute effects: None known.
Anticipated delayed effects: None known.
Most important symptoms/effects: None known.
Advice to physician: There is no specific antidote available. Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.
Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.
Specific hazards: Combustion may result in the release of the following gases: carbon monoxide, oxides of nitrogen, carbon dioxide and hydrogen chloride.
Special Fire Fighting Procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Contain fire control agents and waste for later disposal. Avoid pollution of waterways by run-off from the site.
Personal protective equipment: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Do not breathe in fumes. Avoid contact with eyes and skin. 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.
Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.
Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water as the product is classified to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses should be immediately reported to the

police and the Department of Water/Environmental Affairs.

Methods and Materials for Containment: Prevent material from spreading by diking area in with sand, earth or vermiculite.

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 spilled 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.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Avoid inhaling fumes or spray mists. Ensure adequate ventilation during handling and use. Avoid contact with skin and eyes. Do not swallow. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly closed when not in use. In case of contact with the product refer to First Aid Measures – Section 4.

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

Storage:

Conditions for safe storage: Keep out of reach of unauthorised persons, children and animals. Store in original, labelled container kept tightly closed in an isolated, dry, cool and well-ventilated area. Avoid excess heat and protect from frost. Keep out of direct sunlight. Avoid cross contamination with other pesticides and fertilisers. Local regulations should be complied with.

Incompatible substances and mixtures: Refer to product label.

Packaging material: Plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Picloram	10 mg/m^3	TWA	OEL-RL
Napthalene	10ppm	TWA	OEL-RL
	50 mg/m^3		

Engineering Controls:

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

Personal Protective Equipment:

Respiratory Protection: The employee must wear a NIOSH approved air-purifying respirator to prevent inhalation of this product.

Hand Protection: The employee must wear appropriate chemically resistant gloves, e.g., nitrile rubber gloves, to prevent repeated or prolonged contact with this mixture.

Eye Protection: Wear a face shield when handling the concentrate and when applying the product. The use of safety goggles is recommended if a face shield is not used. Contact lenses are not protective devices.

Skin and Body Protection: The use of impervious clothing and equipment (according to exposure level) to prevent repeated or prolonged skin contact with this mixture is recommended.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Tan to brown micro emulsion.
Odour: Amine odour.
pH (1% aqueous dilution): 7.0 – 8.0.
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: 43.4°C
Flammability: Flammable.
Upper/lower explosion limits: Not explosive.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density/Relative density: 1.08 g/cm^3 at 20˚C.
Solubility: Emulsifies in water.
n-octanol/water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical Stability: The product is stable for 2 years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50°C, preferably below 30°C, and not for prolonged periods in direct sunlight.
Reactivity: None known.
Possibility of Hazardous Reactions: None known.
Conditions to Avoid: Avoid extreme heat and exposure to flames or direct sunlight. Can coagulate if frozen.
Incompatible Materials: Avoid contact with oxidizers.
Hazardous Decomposition Products: Decomposition products depend upon temperature, air supply and materials. Decomposition products may include but are not limited to carbon monoxide, hydrogen chloride, carbon dioxide, oxides of nitrogen. Combustion may release toxic and irritant vapours.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY
Calculated according to GHS

Oral LD_{50} (24 h) rat 1579.44 mg/kg.
Dermal LD_{50} (24 h) rat Unclassified.
Inhalation LC_{50} rat 0.38 mg/L.
Skin Irritation/Corrosion: Causes skin irritation.
Eye Damage/Irritation: Causes serious eye damage.
Skin Sensitization: Not a skin sensitizer.
Respiratory Sensitization: Not classified.
Reproductive cell mutagenicity: Not classified.
Carcinogenicity: Suspected of causing cancer.
Reproductive toxicity: Not classified.
Specific target organ toxicity – single exposure: Not classified.
Specific target organ toxicity – repeated exposure: Not classified.
Aspiration hazard: May be fatal if swallowed and enters airways.
Chronic Effects: Not classified.
POTENTIAL ADVERSE EFFECTS:
No significant adverse effects are expected to develop when used as recommended.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.
ECOTOXICITY DATA (based on active ingredients):

Fish:

Picloram		
LC_{50} (96 h)	Bluegill sunfish	8.8 mg/ℓ
	Rainbow trout	26 mg/ℓ
Fluroxypyr-meptyl		
LC_{50} (96 h)	Rainbow trout	>0.225 mg/ℓ

Daphnia:

Picloram		
LC_{50} (48 h)		44.2 mg/ℓ
Fluroxypyr-meptyl		
Acute LC_{50} (48 h)		>0.183 mg/ℓ

Algae:

Picloram		
EC_{50} (96 h)	*Pseudokirchneriella subcapitata*	60.2 mg/ℓ
EC_{50} (120 h)	*Anabaena flos-aquae*	38.2 mg/ℓ
Fluroxypyr-meptyl		
EC_{50} (120 h)	*Skeletonema costatum*	0.208 mg/ℓ

Birds:

Picloram		
Acute oral LD_{50}	Mallard ducks	>1944 mg/kg
Dietary LC_{50}	Mallard duck	>5000 mg/kg
	Bobwhite quail	>5000 mg/kg
Fluroxypyr-meptyl		
Acute oral LD_{50}	Mallard duck	>2000 mg/kg
	Bobwhite quail	>2000 mg/kg
Dietary LC_{50}	Bobwhite quail	>5000 mg/kg diet

Bees:

Picloram	
LD_{50} (oral)	>74 µg/bee
(contact)	>100 µg/bee
Fluroxypyr-meptyl	
Not toxic to bees	
LD_{50} (oral and contact, 48h)	>100 µg/bee

Worms:

Picloram		
LC_{50} (14 d)	*Eisenia fetida*	>4475 mg/kg soil
Fluroxypyr-meptyl		
LC_{50} (14d)	Earthworms	>1000 mg/kg soil

ENVIRONMENTAL EFFECTS:
Based on information for the formulation / active ingredient(s):

Plants:
Picloram: On plant surfaces, photodecomposition occurs, possibly with cleavage of the pyridine ring.
Fluroxypyr-methyl: Hydrolysed to the parent acid.

Persistence and degradability:
Picloram: Quickly degraded by light, in clear water or on plant surfaces. Degraded moderately slowly to slowly by soil micro-organisms, typical field DT50 30–90 d. Rate of degradation in soil strongly proportional to application rate. Aqueous photodegradation DT50 <3 d.

Fluroxypyr-methyl: In laboratory soils, the ester is rapidly converted to Fluroxypyr in all soil types, with DT50 <7 d. In soil/water slurries, DT50 2–5 h (pH 6–7, 22–24 °C). Total DT50 for Fluroxypyr-meptyl and Fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d.
Bio-accumulative Potential: Not determined.
Mobility in soil: Not determined.
Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never 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. Waste should only be handled by licensed facilities. Comply with local legislation applying to waste disposal. The product may be taken to a certified waste disposal site.
Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN NUMBER: 1992
Road Transport ADR/RID:

Class:	3 + 6.1
Packaging group:	II
Shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (picloram 80 g/l and fluropyr 80 g/l)

Maritime Transport IMDG/IMO:

Class:	3 + 6.1
Packaging group:	II
Shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (picloram 80 g/l and fluropyr 80 g/l)

Marine Pollutant: **Yes**
Air Transport IATA/ICAO:

Class:	3 + 6.1
Packaging group:	II
Shipping name:	FLAMMABLE LIQUID, N.O.S.

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:
OHSA 1993 Regulations for Hazardous Chemical Substances.
Relevant information regarding restrictions: None.
EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)
Other national regulations: None.
Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 1, 5, 10, 20, 25, 50 and 200 litres plastic containers, labelled according to South African regulations and guidelines.
Other hazard statements, abbreviations and explanations:
H302: Harmful if swallowed.
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.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.