2,4-D AMINE 480 SL

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **2,4-D AMINE 480 SL**
Other identifier: **2,4-dichlorophenoxy acetic acid 480 g ae/ℓ (as a 2,4-D-dimethyl-ammonium salt 580 g/ℓ)**
Recommended use: Herbicide
Restrictions on use: Agriculture

Supplier: **Universal Crop Protection (Pty) Ltd.**
Co. Reg. No.: 1983/008184/07
PO Box 801,
Kempton Park, 1620, 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**
Health		
Oral	Acute Tox. 4	H302
Dermal	Acute Tox. 5 Skin Sens. 1	H313 H317
Eye	Eye Dam. 1	H318
Inhalation	Acute Tox. 4	H333
Specific Target Organ Toxicity Single exposure	STOT SE 3	H335
Environment		
Aquatic acute	Aquatic Acute 1	H400
Aquatic chronic	Aquatic chronic 3	H412

The most important adverse effects:
Physiochemical effects:
None known.
Human health effects:
Causes serious eye damage.
May be harmful in contact with skin.
May be harmful if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Label elements:

Signal word: Danger.

Hazard statements:
H302: Harmful if swallowed
H313: May be harmful in contact with skin
H317: May cause an allergic skin reaction
H318: Causes serious eye damage
H333: May be harmful if inhaled
H335: May cause respiratory irritation
H400: Very toxic to aquatic life
H412: Harmful to aquatic life with long last effects

Precautionary statements:
P261: Avoid breathing dust, fumes, mists, gas, vapours or spray.
P264: Wash hands and face thoroughly after handling.
P264+P265: Wash hands thoroughly after handling. Do not touch eyes.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P301+P317: IF SWALLOWED: Get medical help.
P302+P317: IF ON SKIN: Get medical help.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P304+P317: IF INHALED: Get medical help.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P317: Get medical help.
P319: Get medical help if you feel unwell.
P330: Rinse mouth.
P333+P317: If skin irritation or rash occurs: Get medical help
P391: Collect spillage.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations.
Special labelling of certain mixtures:
None known.

Other hazards:
None known.
Toxicity:
Classification according to GHS: Category 4

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture
Composition:

Chemical Name	CAS	Conc. (m/v or m/m %)	Classification EC 1272/2008
2,4-D dimethyl-ammonium salt	94-75-7	46.4 %	Acute Tox. 4 (H302) Acute Tox. 5 (H313) Acute Tox. 4 (H333) Skin Sens. 1 (H317) Eye Dam. 1 (H318) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)
Water	7732-18-5	>50 %	N/A

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. Only qualified personnel should perform administration of oxygen. Get medical attention immediately if condition persists.
Skin: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Do not rub the skin. Obtain medical attention if irritation persists.
Eyes: Flush eyes with clean, lukewarm water for at least 15 minutes or until the product is removed, holding the eyelid(s) open. Lift eyelids to facilitate irrigation. Take care not to rinse contaminated water into the unaffected eye or onto the face. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention immediately.**
Ingestion: 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. If the person is alert and conscious, rinse mouth thoroughly with water and give 2 to 3 glasses of water to drink. **Seek medical attention immediately**.
Anticipated acute effects:
Harmful if swallowed.
May be harmful in contact with skin.
May cause an allergic skin reaction.
Causes serious eye damage.
May be harmful if inhaled.
Anticipated delayed effects: None known.
Most important symptoms / effects:
Over-exposure to the product or swallowing excessive amounts may cause nausea, vomiting, sweating, headaches, muscle soreness, abdominal pain and loss of coordination. May cause burns of mouth, throat and oesophagus.
Advice to physician: This product contains a phenoxy herbicide. There is no antidote. Treat symptomatically and supportively. Empty stomach by gastric lavage with activated charcoal, is advised. Follow with saline 0.9 % cathartic. Avoid oily laxatives.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide, dry chemical, water fog or foam.
Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.
Specific hazards: Decomposes on heating, emitting toxic fumes including those of hydrogen chloride and phosgene.
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. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.
Personal protective equipment: Wear NIOSH/MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with eyes. Do not breathe in spray mist or 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.
Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.
Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water.

This product is classified to be toxic to aquatic organisms and causes long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water/Environmental Affairs.
Methods and Materials for Containment: Contain spilled product 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 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: Harmful if swallowed. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.
General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.
Storage:
Conditions for safe storage: : Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well- ventilated area. 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.

Incompatible substances and mixtures: Refer to product label.
Packaging material: Containers and drums.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration:

Components	Exposure limits	Type of exposure limit	Source
2,4-D	10 mg/m3	8-hour TWA	www.osha.gov

Engineering Controls:
It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.
Personal Protective Equipment:
Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved air-purifying respirator.
Hand Protection: The use of chemically protective gloves is recommended to prevent against skin contact.
Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.
Skin and Body Protection: Employee must wear appropriate protective clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.
Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear brownish viscous liquid.
Odour: Mildly basic odour.
pH (1% aqueous dilution): 8 to 10.
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: 95 °C.
Flammability: Not flammable.
Upper/lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density: 1.138 g/mℓ.
Solubility: Soluble 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 two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions.

Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.
Reactivity: None known.
Possibility of Hazardous Reactions: Unlikely to occur.
Conditions to Avoid: Extreme heat or exposure to flames.
Incompatible Materials: Strong oxidizers, strong bases, strong reducing agents.
Hazardous Decomposition Products: Under heating conditions: carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke may be emitted, nitrogen and its compounds, may emit and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas, hydrogen chloride gas, other compounds of chlorine and water may be produced.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS:
Oral LD_{50} rat > 1377 mg/kg
Dermal LD_{50} rabbit > 3448 mg/kg
Inhalation LC_{50} rat > 3.86 mg/ℓ
Skin Irritation/ corrosion: May cause an allergic skin reaction.
Eye Damage / Irritation: Causes serious eye damage.
Skin Sensitization: May cause an allergic skin reaction.
Respiratory Sensitization: Not known to be a respiratory sensitizer.
Reproductive cell mutagenicity: Not classified.
Carcinogenicity: Not classified.
Reproductive toxicity: Not classified.
Specific target organ toxicity – single exposure: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure: Not classified.
Aspiration hazard: Not classified.
Chronic Effects (other targets e.g. developmental)**:** Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: May be harmful if inhaled.
Skin contact: May be harmful in contact with skin. May cause an allergic skin reaction
Eye contact: Causes serious eye damage.
Ingestion: Harmful if swallowed.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

ECOTOXICITY DATA:
(Based on 2,4-D)

Fish:		
LC_{50} (96 h)	Rainbow trout	>100 mg/ℓ
Algae:		
E_rC_{50} (72h)	*Pseudokirchneriella subcapitata*	>78 mg/ℓ
	Navicula pellicosa	>100 mg/ℓ
Birds:		
LD_{50}	Bobwhite quail	500 mg/kg
LC_{50} (96h)	Bobwhite quail & Mallard ducks	> 5620 mg/ℓ diet
Bees:		
LD_{50} contact		> 100 µg/bee
LD_{50} oral		> 94 µg/bee
Worms:	*Eisinia fetida*	350 mg/kg soil
LC_{50} (14 d)		

ENVIRONMENTAL EFFECTS:
Based on information for the active ingredient:
Plants: Metabolism involves hydroxylation, decarboxylation, cleavage of the acid sidechain, and ring opening.
Persistence and degradability: Microbial degradation involves hydroxylation, decarboxylation, cleavage of the acid sidechain, and ring opening. DT_{50} in soil < 7 days. K_{oc} c. 60. Rapid degradation in the soil prevents significant downward movement under normal conditions.
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. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.
Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a third of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner. 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: **3082**
Road Transport ADR/IRD:

Class:	9
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, Liquid, N.O.S. (2,4-D-dimethyl-ammonium salt 480 g/ℓ)

Maritime Transport IMDG/IMO:

Class:	9
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, N.O.S. (2,4-D-dimethyl-ammonium salt 480 g/ℓ)

Marine Pollutant (Y/N): Yes.

Air Transport IATA/ICAO:

Class:	9
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, N.O.S. (2,4-D-dimethyl-ammonium salt 480 g/ℓ)

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

Transport in bulk (according to MARPOL 73/78, Annex II and the IBC code): Not available.

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 250, 300, 375, 400, 500 and 750 millilitres; 1, 2, 3, 4, 5, 20, 25, 100 and 200 litres plastic containers and drums labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD_{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.