

# VILLA PALLADIUM ULTRA 660 SC

# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF PRODUCT AND COMPANY

**Product Name:** PALLADIUM ULTRA 660 SC  
Herbicide

**UN No.** 3082

**Supplier:** Villa Crop Protection (Pty) Ltd.  
PO Box 801  
Kempton Park, 1620, South Africa

**Telephone:** (011) 396 2233

**Fax:** (011) 396 4666

**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

### Emergency telephone numbers:

#### 24 Hr Transport / Spill emergency no:

Envirosure. +27 31 205 4918  
 (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

#### Villa Crop Protection Emergency number:

**National Safety, Health and Environmental Manager:**  
+27 63 698 0668

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Common Name:** 1. S-Metolachlor  
2. Atrazine

**Chemical Name:** 1. A mixture of (aRS,1S)-2-chloro-6'-ethyl-N-(2-methoxy-1-methylethyl) aceto-o-toluidide and (aRS,1R)-2-chloro-6'-ethyl-N-(2-methoxy-1-methylethyl)aceto-o-toluidide in the proportion 80–100% to 20–0% (IUPAC)  
2. 6-chloro-N<sup>2</sup>-ethyl-N<sup>4</sup>-isopropyl-1,3,5-triazine-2,4-diamine (IUPAC)

**CAS No.:** 1. [51218-45-2]  
2. [1912-24-9]

**Chemical Family:** 1. Chloroacetamide  
2. Triazine

**Chemical Formula:** 1. C<sub>15</sub>H<sub>22</sub>ClNO<sub>2</sub> (Mol. wt.: 283.8)  
2. C<sub>8</sub>H<sub>14</sub>ClN<sub>5</sub> (Mol. wt.: 215.7)

**Formulation:** S-Metolachlor + Atrazine + (safener) Benoxacor 660 SC Soluble concentrate

**Use / Mode of Action:** A herbicide with benoxacor for selective control of most annual broadleaf weeds and grasses.

## Hazardous ingredients of toxicological concern:

<u>Inert:</u>	concern:
S-Metolachlor:	harmful
Atrazine:	harmful

## 3. HAZARD IDENTIFICATION

**SYMBOLS:** Xn, N.  
**RISK-PHASE(S):** R 22, 50/53  
 May be harmful if swallowed.  
 Very toxic to aquatic organisms.

## 4. FIRST AID MEASURES AND PRECAUTIONS

**Inhalation:** Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Keep person warm and at rest. Treat symptomatically and supportively as and when required. **Seek medical advice immediately.**

**Skin contact:** Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.

**Eye contact:** Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, get medical attention.

**Ingestion: Do not induce vomiting.** Remove by gastric lavage and catharsis. Maintain blood pressure and airway. Give oxygen if respiration is depressed. Do not perform gastric lavage if victim is unconscious. Get medical attention immediately. Qualified medical personnel should perform administration of gastric lavage or oxygen.

**Antidote:** No specific antidote. Treat symptomatically and supportively.

## 5. FIRE FIGHTING MEASURES

**Fire/Explosion hazard:** Non-flammable, non-explosive. Combustible.

Combustion products are toxic and/or irritant. Inhalation of material could be harmful.

**Extinguishing agents:** Extinguish fires with water spray, carbon dioxide, dry powder, or alcohol-resistant foam. Solid stream may cause spreading. Contain water used for firefighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Firefighting:** Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a

## VILLA PALLADIUM ULTRA 660 SC

## MATERIAL SAFETY DATA SHEET

recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for firefighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Personal protective equipment:** Fire may produce irritating or poisonous vapours or gases or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES (Spillage)

#### Personal precautions:

Avoid contact with skin and eyes. Do not breathe in fumes. For personal protection see Section 8.

**Environmental precautions:** **S-Metolachlor** is toxic to fish and very toxic to algae. Is an environmentally hazardous substance. Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

**Occupational spill:** Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

**For spills:** Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

Do not get water inside containers.

### 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Harmful if swallowed. Avoid inhalation and contact with eyes and skin. Use with adequate ventilation. Do not handle broken packages without protective equipment. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Seek medical advice.

Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Worker should shower at the end of each workday. Launder all clothing before it is re-used again.

**Storage:** Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs and water supplies.

Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

**Storage stability:** Stable for a period of 2 years under normal warehouse conditions.

### 8. EXPOSURE CONTROL/PERSONAL PROTECTION

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. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

#### PERSONAL PROTECTIVE EQUIPMENT:

**Respirator:** An approved full-face respirator suitable for protection from spray or mists of pesticides is required. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

**Clothing:** Employee must wear appropriate protective (impervious) clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

**Gloves:** Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

**Eye protection:** The use of chemical resistant goggles or a face shield.

**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.

## VILLA PALLADIUM ULTRA 660 SC

## MATERIAL SAFETY DATA SHEET

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Off-white viscous Liquid.  
**Odour:** Faint odour.  
**Relative density:** 1.107 g/ml at 20 °C.  
**pH of 1 % aqueous dilution:** 6.6 at 20°C.

### 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal, dry storage conditions for a period of 2 years.  
**Hazardous decomposition:** Combustion will evolve toxic and irritant vapors.  
**Hazardous reactions:** Hazardous polymerization does not occur.

### 11. TOXICOLOGICAL INFORMATION

**Formulation (calculated):**  
**Acute oral LD<sub>50</sub>:** 4202 mg/kg.  
**Acute dermal LD<sub>50</sub>:** 3663 mg/kg.  
**Acute inhalation LC<sub>50</sub>:** > 5.8 mg/l/hr (Tech).  
**Acute skin irritation:** Mild irritant.  
**Sensitization:** None.  
**Acute eye irritation:** Mild irritant.

### 12. ECOLOGICAL INFORMATION

In rats **S-Metolachlor** is rapidly oxidised by liver microsomal oxygenases via dechlorination, O-demethylation and side-chain oxidation.  
In plants, metabolism involves natural product conjugation of the chloroacetyl group and hydrolysis and sugar conjugation at the ether group. Final metabolites are polar, water-soluble and non-volatile.  
Half-life in soil is: DT<sub>50</sub> is about 20 days (field).

#### ECOTOXICOLOGY: (Technical material)

**Birds: S-Metolachlor:** Moderately toxic to birds.  
LD<sub>50</sub>:  
Bobwhite quail: > 2150 mg/kg  
Mallard ducks: > 2150 mg/kg

**Atrazine:** Acute oral LD<sub>50</sub> varies from 940 mg/kg for bobwhite quail to >2000 mg/kg for mallard ducks and 4237 mg/kg for adult Japanese quail. Dietary LC<sub>50</sub> (8 d) for Japanese quail (chicks) >5000, (adults) >1000 mg/kg.

#### Fish: S-Metolachlor:

Toxic to fish.  
LC<sub>50</sub> (96 hours):  
Bluegill: 3.16 mg/l  
Rainbow trout: 1.23 mg/l

**Daphnia:** Very toxic to Daphnia.  
*Daphnia magna*: 48-hour LC<sub>50</sub>: 11.24 to 26.00 mg/l  
**Atrazine:** LC<sub>50</sub> (96 h) for rainbow trout 4.5-11.0, bluegill sunfish 16, carp 76, catfish 7.6, guppies 4.3 mg/l;

**Other aquatic spp.:** Long-term studies in aquatic ecosystems indicate no permanent damage up to 0.020 mg/l.

**Bees: S-Metolachlor:** Slightly toxic to bees.  
LD<sub>50</sub> (oral & contact): >0.085 µg/bee

**Atrazine:** LD<sub>50</sub> (contact) >100 µg/bee, (oral) >97 µg/bee;

**Earthworms: S-Metolachlor:**  
LC<sub>50</sub> (14 days): 570 mg/kg soil

**Atrazine:** LC<sub>50</sub> (14 d) for *Eisenia foetida* 78 mg/kg soil.

**Algae: S-Metolachlor:** Very toxic to algae.  
*Selenastrum capricornutum* 0.008 mg/l

*Skeletonema costatum* 0.11 mg/l.

**Other aquatic spp.:** LC<sub>50</sub> (96 h) for Mysid shrimps (*Mysidopsis bahia*) 1.4 mg/l. E<sub>d</sub>C<sub>50</sub> (14 d) and *Lemna gibba* 0.023 mg/l.

**Atrazine: Other aquatic spp.:** Long-term studies in aquatic ecosystems indicate no permanent damage up to 0.020 mg/l.

### 13. DISPOSAL CONSIDERATION

**Pesticide disposal:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products 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.

**Container disposal:** Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

**TRIPLE RINSE** empty containers in the following manner: Invert 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 minimum of a third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

### 14. TRANSPORT INFORMATION

**UN No.:** 3082  
**Road Transport ADR/IRD:**  
**Class:** 9  
**Packing group:** III  
**Shipping name:** Environmentally hazardous substance, liquid, N.O.S.

# VILLA PALLADIUM ULTRA 660 SC

# MATERIAL SAFETY DATA SHEET

**S-Metolachlor + Atrazine +  
 (safener) Benoxacor 660 SC**

**END OF DOCUMENT**

**Air Transport ICAO/IATA:**

Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, liquid, N.O.S.

**Compiled:** August 2014  
**Revised:** March 2019  
**Revision no.:** (2)  
**Next revision date:** March 2024

**S-Metolachlor + Atrazine +  
 (safener) Benoxacor 660 SC**

For detailed information on revisions, contact the Registration holder.

**Maritime Transport IMDG/IMO:**

Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, liquid, N.O.S.

**S-Metolachlor + Atrazine +  
 (safener) Benoxacor 660 SC**

## 15. REGULATORY INFORMATION

**Symbol:** Xn, N  
**Indication of danger:** Harmful, Environmentally Hazardous Substance.

**Risk phrases:**

**R 22** Harmful if swallowed.  
**R 50/53** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

**S 1/2** Keep under lock and key and out of reach of children.  
**S 24/25** Avoid contact with skin and eyes.  
**S 28** After contact with skin, wash immediately with plenty of water.  
**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.  
**S 61** Avoid release to the environment. Refer to special instructions / Safety data sheets.

## 16. OTHER INFORMATION

**Packing and Labelling:** Packed in 1, 5, 10, 20 & 25 litres plastic containers and labelled according to the South African regulations and guidelines.

**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 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.