

## MATERIAL SAFETY DATA SHEET

### STATEMENT OF HAZARDOUS NATURE:

Hazardous according to the criteria of NOHSC

### COMPANY DETAILS:

Syngenta Crop Protection Pty Limited  
ABN 33 002 933 717  
140-150 Bungaree Rd.,  
PENDLE HILL, NSW, 2145

Telephone No.: (02) 9688 0444  
24 Hours Emergency No.: 1 800 033 111

## IDENTIFICATION

### PRODUCT NAME: DUAL<sup>Ø</sup> GOLD Herbicide

Formulation type:	emulsifiable concentrate	Dangerous Goods Class/ and Subsidiary Risk (ADG):	none allocated
Active Ingredient:	S-metolachlor	Packing Group	none allocated
Product Code No.:	A-9396B	Hazchem Code:	none allocated
Chemical type:	acetanilide	Poisons Schedule:	5
UN Number:	none allocated		

**USE:** Herbicide for the control of certain annual grasses and broadleaf weeds in maize (not waxy maize) sweet corn, soybeans, sunflowers, cotton, peanuts, pastures, tobacco, wheat, barley, broccoli, brussels sprouts, cabbages and cauliflowers, and also in sorghum when treated previously with Concep® II Sorghum Seed Safener in certain states as specified in the Directions for Use table on the container label.

### PHYSICAL DESCRIPTION/PROPERTIES

Appearance:	brown liquid	Specific gravity (20°C):	1.08- 1.13 g/cm <sup>3</sup>
Odour:	Mild aromatic solvent odour	Flash Point:	120°C
Boiling Point/ Melting Point:	Not available	Flammability:	Non-flammable
Vapour pressure:	Not available	Solubility in water:	Emulsifiable

### OTHER PROPERTIES

Combustibility:	Combustible - C1	Corrosiveness:	Non-corrosive
-----------------	------------------	----------------	---------------

### INGREDIENTS

	CAS No.	Content (%w/v)
<b>S-metolachlor (technical grade)</b>		>96
to give S-metolachlor	87392-12-9	96
phenol polyglycoether sulfate mixture	9081-17-8	<10
	61791-26-2	
Copolymer nonylphenol	37251-69-7	<10
aromatic petroleum hydrocarbon liquid mixture	unknown	<10

## HEALTH HAZARD INFORMATION

### HEALTH EFFECTS

#### ACUTE

**Toxicity** - This product is slightly hazardous (WHO Hazard Class III)

Swallowed: **LOW TOXICITY**  
Tests on rats indicate a slight toxicity following single doses of undiluted product.  
(LD<sub>50</sub> = approx. 2267 mg/kg)

Dermal absorption: **LOW TOXICITY**  
Tests on rats using undiluted product indicate a low toxicity due to skin contact with the undiluted product.  
(LD<sub>50</sub> >2020 mg/kg)

Inhaled: **LOW TOXICITY**  
Tests on rats using undiluted product indicate a slight toxicity due to inhalation of the undiluted product.  
(LC<sub>50</sub> (4 h) >4060 mg/m<sup>3</sup>)

**Irritation**

Eye: **NON IRRITANT**  
Skin: **NON IRRITANT** (based on tests with rabbits)

**Sensitisation** (based on results obtained with metolachlor technical on guinea pigs)

Skin: **Potential SENSITISER**

**Poisoning Symptoms:**

No case of human poisoning due to this product is on record. The poisoning symptoms observed in experimental animals were non-specific.

**CHRONIC** (Active ingredient) -

Chronic toxicity and/or oncogenicity studies were conducted on metolachlor in rats, mice and dogs. Considering that metolachlor and S-metolachlor had similar toxicological properties in acute, mutagenicity, subchronic and developmental toxicity studies, the NOEL established in the chronic studies on metolachlor and the derived ADI value are also expected to be valid for S-metolachlor.

**Metolachlor and S-metolachlor technical** has been extensively tested on laboratory mammals and in test-tube systems. No evidence of mutagenic, teratogenic or reproductive effects was obtained. In two separate studies in mice, **metolachlor technical** did not induce tumors or other long-term toxic effects. No adverse effects were observed in two long-term studies in rats, except at extremely high doses, where a small number of females developed benign liver tumors. The observed oncogenic response reflects the metabolic overloading of the liver at the highest dose level administered which resulted in cytotoxicity. The *in-vitro/in-vivo* replicative DNA synthesis study conducted with S-metolachlor in rat hepatocytes suggests that a similar mechanism may be operative in S-metolachlor.

**FIRST AID**

**In case of poisoning by any exposure route contact a doctor or Poisons Information Centre. Phone 131 126**

Swallowed: DO NOT induce vomiting. If swallowed, contact a doctor or Poisons Information Centre.  
Eye: Flush eyes with large quantities of clean water for at least 15 minutes.  
Skin: Remove contaminated clothing and wash affected areas thoroughly with soap and water.  
Inhaled: Move affected person to fresh air and keep at rest until recovered.

**ADVICE TO DOCTOR**

No specific antidote is available. If poisoning is suspected apply symptomatic therapy.

**PRECAUTIONS FOR USE**

**ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS**

**EXPOSURE STANDARDS**

No exposure standards have been set for the components of this product. The manufacturer of the liquid aromatic hydrocarbon solvent recommends an occupational exposure limit of 100 mg/L of air (8 hour time-weighted average).

**Exposure Potential** - Swallowing is unlikely under normal conditions of usage. Significant skin uptake of metolachlor technical does not occur. This product is diluted with water prior to use as a spray. This diluted form is less toxic by all exposure routes.

**Re-entry Period** - Do not enter treated areas without protective clothing until the spray has dried.

**ENGINEERING CONTROLS**

No special requirements. Product is used outdoors.

**PERSONAL PROTECTION**

Will damage the eyes. Avoid contact with eyes and skin. Repeated exposure may cause allergic disorders.

Sensitive workers should use protective clothing.

When opening the container and preparing spray wear: Cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, and elbow-length PVC gloves, and goggles

When using the prepared spray, wear: Cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, and elbow-length PVC gloves, and face shield or goggles  
If product in eyes, wash it out immediately with water.

After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, faceshield or goggles and contaminated clothing.

#### FLAMMABILITY

This product is non-flammable. Product is combustible (C1).

## SAFE HANDLING INFORMATION

#### STORAGE AND TRANSPORT

Store in tightly sealed, original containers in a dry secure place away from fertilisers, seed, feed and food. Store out of direct sunlight. Keep out of reach of children, unauthorised persons and animals.

#### SPILLS AND DISPOSAL

In case of spillage it is important to take all steps necessary to:

- Avoid eye and skin contact.
- Avoid contamination of waterways.

##### **Procedure for spill:**

- (1) Keep all bystanders away.
- (2) Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length waterproof clothing and elbow-length PVC gloves.
- (3) Reposition any leaking containers so as to minimise leakage.
- (4) Dam and absorb spill with an absorbent material (e.g. sand or soil).
- (5) Shovel the absorbed material into drums.
- (6) Disposal of the absorbed material will depend upon the extent of the spill.
  - For quantities up to 50L of product bury in a secure landfill site.
  - For quantities greater than 50L seek advice (use emergency contact number below) from the manufacturer before attempting disposal. Contain in a secure location until disposal method is established.
- (7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable.

##### **Dispose of empty, used containers by:**

- (a) Triple rinsing or preferably pressure rinsing containers with water. Add the rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site.
- (b) If recycling, replace cap and return clean containers to recycler or designated collection point.
- (c) If not recycling, break, crush or puncture and bury empty containers in a local authority landfill site. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

#### FIRE/EXPLOSION HAZARD

This product is non-flammable and non-explosive. Product is combustible. Extinguish warehouse and factory fires using fine water-spray or foam. Do not allow fire-water to enter drains.

#### OTHER INFORMATION

**S-Metolachlor technical** is practically non-toxic to birds, slightly toxic to moderately toxic to fish [LC<sub>50</sub> (96 h), bluegill= 3.16 mg/L] and slightly toxic to bees.

**Note:** This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the Federal health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

<b>CONTACT POINT:</b> Regulatory Affairs Manager - Crop Protection - (02) 9688 0444 <b>24 HOURS EMERGENCY CONTACT:</b> 1 800 033 111
---

This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

○ Registered Trade Mark of a Syngenta Group Company, Basel, Switzerland.