



DUAL GOLD SAFETY DATA SHEET

1: Identification of the Substance and Supplier

Product Name:	DUAL GOLD
Recommended Use:	Herbicide
Company Details:	Orion Crop Protection Ltd 14 – 22 Triton Drive, North Harbour, Auckland PO Box 100 570, North Shore Mail Centre, 0745 New Zealand
Telephone Number:	(09) 415 1679 (office hours)
Emergency Telephone:	0800 CHEMCALL (0800 243 622) (24 hours)
National Poison Centre:	0800 POISON (0800 764 766) (24 hours)
Date of Issue/Revision:	June 2009

2: Hazards Identification

Priority Identifiers:	Harmful, Ecotoxic, Keep Out of Reach of Children
HSNO Classes:	Secondary Identifiers:
6.1D	May be harmful if swallowed, inhaled or absorbed through the skin
6.4A	May cause eye irritation
6.5B	May cause sensitisation from prolonged skin contact
9.1A	Very toxic to aquatic organisms
9.2A	Very toxic to some plant species

3: Composition/ Information on Ingredients

Ingredient	CAS No	Content (% w/v)
S-Metolachlor (active ingredient)	87392-12-9	96
Naphthalene	91-20-3	1
Other ingredients	Proprietary	Remainder

4: First Aid Measures

Skin Contact:	In case of contact, immediately wash affected area with soap and water. Wash contaminated clothing before reuse. Seek medical advice if irritation persists.
Eye Contact:	Hold eyes open and rinse with water for at least 15 minutes. Remove contact lenses if easy to do so. Seek medical advice immediately.
Ingestion:	Do not induce vomiting. Seek medical advice immediately.
Inhalation:	Immediately move to fresh air and rest. Maintain half upright position if breathing is difficult. Seek medical advice immediately.

Workplace Facilities:	Hand wash facility. Eye wash facility.
Advice to Doctor:	No specific antidote. Treat symptomatically. If gastric lavage or emesis is considered necessary, inhalation of hydrocarbons must be prevented.
National Poison Centre:	0800 POISON (0800 764 766) (24 hours)

5: Fire-Fighting Measures

Fire/Explosion Hazard:	Non-Flammable (but will be combustible in a fire).
HAZCHEM Code:	3Z
ERP Guide No:	47
Extinguishing Media:	Water spray, foam, dry chemical or CO2. Avoid water jet.
Fire Fighting Instructions:	During a fire, toxic fumes may be emitted. Wear self-contained breathing apparatus. Contain runoff.

6: Accidental Release Measures

Caution: Floors may be slippery if wet. When dealing with spills wear personal protective clothing and equipment as described in section 8. Prevent further spillage or leakage. Keep bystanders away. Absorb spillage with inert material such as spill kit, sand or cat litter. Collect and place in a sealable container for disposal. Wash down affected area with water and detergent. Absorb and collect washings for disposal. Dispose of safely to a suitable landfill.

7: Storage, Handling and Use

Storage:	Keep out of reach of children. Store in the original, tightly closed container, in a secure area away from feed or foodstuffs.
Handling and Use:	Keep out of reach of children. Avoid contact with eyes and skin. Avoid inhalation of spray mist. When mixing or applying, wear protective clothing as described in section 8. Do not eat, drink or smoke while using. Wash hands and face after use. Wash protective clothing after use.
Approved Handler	Required if applied in a wide dispersive manner, or by a commercial contractor.
Tracking	Not required.
Record Keeping	Record of use must be kept if 3 litres or more is used in an area within 24 hours, and is likely to enter air or water and leave that place.
Site Requirements under the HSNO Act 1996 and HSNO Regulations:	<ul style="list-style-type: none"> • A location test certificate is not required • A hazardous atmosphere zone is not required • Fire extinguishers are not required • Signage is required for 100 litres or more • Emergency information is required for 1 litre or more • An emergency plan is required for more than 100 litres • Secondary containment is required for more than 100 litres. • Separation/Segregation from incompatible substances is not applicable.
Additional Requirements	All aspects of storage, handling, use, disposal and record keeping must be in accordance with NZS 8409:2004 'Management of Agrichemicals', and relevant local and regional council plans.

8: Exposure Control / Personal Protection

Tolerable Exposure Limit:	None established.
Workplace Exposure Standards:	Product – None established (Use lowest practicable level). Active ingredient – None established (Use lowest practicable level). [Recommendation: S-Metolachlor 10 mg/m ³ (8hr TWA)] Excipients Naphthalene 52 mg/m ³ , 10 ppm (8 hr TWA), 79 mg/m ³ , 15 ppm (15 min STEL)
Engineering Controls:	Limited given nature of use.
Personal Protection:	
Eye:	Safety glasses/goggles (or full face respirator incorporating visor) when mixing or applying.
Skin:	Cotton overalls snugly fitting at the neck, wrist and ankle, chemical resistant boots and gloves (barrier multilayer, nitrile or neoprene).
Respiratory:	Respirator (organic vapour and particulate matter) when mixing or applying.

9: Physical and Chemical Properties

Appearance:	Brown Liquid
Odour:	Petroleum like
Boiling Point:	Not available
Flash Point:	>93°C (closed cup method)
Auto ignition Temperature:	Not available
Explosive Limits:	Not available
Density:	1.11 g/mL (approx)
Vapour Pressure:	3.7 mPa (25°C) (S-Metolachlor)
Vapour Density:	>1 (heavier than air)
Solubility in Water:	Emulsifiable
pH:	7.2 (1% emulsion) (approx)
Oxidising Properties:	Not an oxidizer
Corrosive Properties:	Not a corrosive

10: Stability and Reactivity

Stability:	Stable under normal conditions.
Incompatibility:	Avoid mixing with strong acids, alkalis, and oxidizing agents such as chlorine compounds, ammonium nitrate, etc.
Decomposition:	Decomposition will not occur under normal conditions.
Dangerous Reactions:	Products arising from combustion or thermal decomposition may be toxic, corrosive or flammable.

11: Toxicological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet.

Swallowed:	Abdominal cramps, nausea, diarrhoea, anemia, shortness of breath, dark urine, convulsions, jaundice, sweating, dizziness. The solvent in this product may cause bronchopneumonia or pulmonary oedema if aspirated into the lungs from ingestion or from vomiting.
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Eye:	Irritation.
Skin:	Irritation. Prolonged or repeated contact may result in degreasing of the skin and dermatitis. Contact may induce an allergic response in susceptible individuals.
Inhalation:	Irritation, headache, dizziness, nausea, vomiting.
Acute Toxicity: (Active Ingredient)	Acute Oral LD50 (Rat) 2672 mg/kg Acute Dermal LD50 (Rabbit) >2000 mg/kg Inhalation LC50 (4 hr) (Rat) > 2910 mg/l
Sensitisation Effects:	Potential contact sensitiser in susceptible individuals.
Mutagenic Effects:	None
Carcinogenic Effects:	None
Reproductive Effects:	None
Teratogenic (Birth) Effects:	None
Systemic Effects:	None

12: Ecotoxicity Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet.

The following information is presented in respect of the active ingredient:

Ecotoxic Effects:	Acute Oral LD50 (Bobwhite quail) >2510 mg/kg LC50 (96 hr) (Rainbow trout) 1.2 mg/l LC50 (48 hr) (Daphnia) 11.2 mg/l Very toxic to some plant species (selective herbicide) Non - toxic to bees.
Environmental Fate:	Biodegradable. DT50 (soil) 11 – 30 days.
Partition Co-Efficient (Kow):	LogP = 3.05 (low)
Environmental Exposure Limit:	None established.

13: Disposal Considerations

Product:	Dispose of product by using it in accordance with the label. Do not burn. Waste product should be disposed of to a suitable landfill. For disposal of large quantities contact Orion Crop Protection Ltd.
Container:	Dispose of to a suitable landfill or agricultural recycling scheme. Do not burn. Do not use packaging for any other purpose.

14: Transport Information

Dangerous Goods:	
UN Number:	3082
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR 96%)
Class:	9
Subsidiary Class:	None
Packing Group:	III
Additional Information:	MARINE POLLUTANT
MTQ (Non-Commercial)	250 litres
Passenger Service Vehicle:	Maximum quantity 0.1 litre

15: Regulatory Information

HSNO Approval No: HSR000392
ACVM Registration No: P5259

16: Other Information

Glossary

Approved Handler	For some hazardous substances, persons storing, handling and using must be trained and certified
DT50	Time (days) for 50% reduction in concentration
EC50	Concentration required to produce an effect in 50% of organisms
Environmental Exposure Limit	Maximum concentration limit of a substance in an environmental medium, e.g., water, soil.
ERMA	Environmental Risk Management Authority
ERP Guide	Dangerous Goods – Initial Emergency Response Guide SNZ HB 76:2008
HAZCHEM Code	Emergency action code for emergency services
HAZNOTE	A brief document providing hazardous substance information for transport, storage and emergency management purposes
HSNO	Hazardous Substances and New Organisms
LC50	Concentration that will kill 50% of organisms
LD50	Dose that will kill 50% of organisms
MTQ	Maximum Transport Quantity. The maximum amount of dangerous goods that can be transported by road by the user
Partition Co-Efficient Kow	Ratio of concentration between octanol and water. Values are given as the log value. A high value indicates a substance may bioaccumulate
Record Keeping	Spray diary
STEL	Short term exposure level
Tolerable Exposure Limit	Maximum concentration limit of a substance above which persons must not be exposed
Tracking	For some hazardous substances, a record must be kept of the transport, storage, sale and use of the product
TWA	Time weighted average
Workplace Exposure standard	An occupational health standard limiting concentrations of specified substances to which persons are exposed

Please Note

Users must ensure that the most up to date version of this safety data sheet is used. This Safety Data Sheet summarises information on this product, and how to safely handle and use the product. Each user should familiarise themselves with the product label, HazNote and Safety data Sheet, and consider the information in the context of how the product will be handled and used, including in conjunction with other products. Orion Crop Protection Ltd assumes no responsibility for the accuracy, completeness or suitability of this information. The user is responsible for determining the suitability and accuracy of this information for their particular purposes. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Always read the product label before use.