

SAFETY DATA SHEET

Section 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	Innova Clethodim 240 Herbicide
Other Names:	Product code: A15780A
Recommended Use:	Agricultural Herbicide for the control of certain grass weeds in Beetroot, Cabbage, Canola, Celery, Chickpeas, Cotton, Faba Beans, Field Peas, Forestry, Lentils, Lettuce, Lupins, Mung Beans, non-bearing fruit trees, Onions, Ornamentals, Peanuts, Potatoes, and Soybeans
Company Details:	Syngenta Crop Protection Pty Limited ABN 33 002 933 717
Address:	Level 1, 2-4 Lyon Park Road NORTH RYDE NSW 2113 AUSTRALIA
Telephone Number:	(02) 8876 8444
Emergency Telephone Number:	24 hours - 1800 033 111

Section 2: HAZARDS IDENTIFICATION

Hazard Classification:	Hazardous according to the criteria of NOHSC Australia
Risk Phrases:	R22, R65, R36/38. Harmful if swallowed. Harmful: May cause lung damage if swallowed. Irritating to eyes and skin
Safety Phrases:	—

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE

Chemical Identity of Pure Substance:	Clethodim
Synonym:	ASF1004
CAS Number:	99129-21-2

MIXTURE		
Chemical Identity of Ingredients	CAS No	Proportion (% w/v)
Clethodim	99129-21-2	24
Liquid hydrocarbon	Various	66.3
Other ingredients determined not to be hazardous	-	to 100

Section 4: FIRST AID MEASURES

Description of Necessary First Aid Measures:	<p>In case of poisoning by any exposure route get to a doctor or hospital quickly. Phone Poisons Information Centre on 131 126. Have the product label or SDS with you when calling or going for treatment.</p> <p>Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water.</p> <p>Eye contact: Immediately flush water for 20 minutes while holding the eyes open.</p> <p>Skin contact: Remove contaminated clothing and wash affected areas with soap and water.</p> <p>Inhalation: If inhaled, remove to fresh air and keep at rest.</p>
Poisoning Symptoms: Medical Advice:	<p>Poisoning symptoms in laboratory animals were non-specific.</p> <p>There is no antidote. Treat symptomatically.</p>

Section 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Carbon dioxide, dry chemical, foam or water fog.
Hazards from Combustion Products:	May emit toxic and irritating fumes under fire conditions. Normal combustion forms carbon dioxide, water vapour and may produce oxides of nitrogen. Combustion may produce toxic compounds of chlorine. Incomplete combustion can produce carbon monoxide.
Special Protective Precautions and Equipment for Fire Fighters:	Ensure respiratory equipment is available. Evacuate immediate area. Wear full protective equipment, including breathing apparatus. Remove drums from site of fire, if possible, as overheating may cause some of the drums to explode. Surrounding containers should be cooled using a fine water spray. All run-off must be contained.
Hazchem Code:	2X

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	In case of spillage it is important to take all steps necessary to: <ul style="list-style-type: none"> • Avoid eye and skin contact. • Avoid contamination of waterways.
Methods and Materials for Containment and Clean Up:	<p>Procedure for spill:</p> <ol style="list-style-type: none"> (1) Keep all bystanders away. (2) Wear full length clothing and PVC gloves. (3) Reposition any leaking containers so as to minimise further leakage. (4) Dam and absorb spill with an absorbent material (e.g. sand or soil). (5) Shovel the absorbed spill into drums. (6) Disposal of the absorbed material will depend upon the extent of the spill. <ul style="list-style-type: none"> • For quantities up to 50L of product bury in a secure landfill site. • For quantities greater than 50L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established. (7) Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling:	<p>Harmful if swallowed. Will irritate the eyes and skin. When preparing spray and using the prepared spray wear:</p> <ul style="list-style-type: none"> • cotton overalls buttoned to the neck and wrist • washable hat • elbow-length PVC gloves • face shield or goggles <p>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, face shield or goggles and contaminated clothing.</p>
Conditions for Safe Storage:	Keep out of reach of children. Store in the closed, original container in a dry, cool well ventilated area out of direct sunlight.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS

National Exposure Standards:	Threshold Limit Value (TLV) – 100 ppm, 435 mg/m ³ TWA ACGI (liquid hydrocarbon solvent).
Biological Limit Values:	No biological limit allocated
Engineering Controls:	No special requirements. Product is used outdoors
Personal Protective Equipment:	<p>Harmful if swallowed. Will irritate the eyes and skin. When preparing spray and using the prepared spray wear:</p> <ul style="list-style-type: none"> • cotton overalls buttoned to the neck and wrist • washable hat • elbow-length PVC gloves • face shield or goggles

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber colored liquid	Boiling Point/Range:	Not available
Odour:	Mild aromatic odour	Freezing/Melting Point:	No specific data
pH:	3.6 (as aqueous emulsion)	Solubility:	Emulsifiable
Vapour Pressure:	1 x 10 ⁻² mPa (clethodim)	Specific Gravity or Density:	0.945
Vapour Density:	No data		

Flash Point:	61°C (Pensky Martin closed cup)	Explosive Properties:	Not explosive
Upper and Lower Flammable (Explosive) Limits in Air:	No data	Oxidising Properties:	No data
Ignition Temperature:	No data	Combustibility:	Combustible C1
		Corrosiveness:	No data

Section 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended storage and handling conditions.
Conditions to Avoid:	Unstable at extreme pH's, temperature and upon exposure to UV light. Avoid direct sunlight. Isolate from sources of heat, naked flames or sparks.
Incompatible Materials:	Strong oxidising agents such as chlorates, nitrates, peroxides
Hazardous Decomposition Products:	Emits toxic fumes under fire conditions
Hazardous Reactions:	None known

Section 11: TOXICOLOGICAL INFORMATION

Health Effects from Likely Routes of Exposure:

Acute:	Oral toxicity:	Low toxicity LD ₅₀ is 1630 mg/kg (clethodim, male rat)
	Dermal toxicity:	Low toxicity LD ₅₀ > 5,000 mg/kg (clethodim, rabbit)
	Inhalation:	Low toxicity LC ₅₀ (4 hours) > 3.9 mg/L (clethodim, rat)
	Skin irritation:	Moderant irritant (clethodim, rabbit)
	Eye irritation:	Moderant irritant (clethodim, rabbit)
	Sensitisation:	Not sensitising (clethodim, guinea pig)

Effects of acute exposure to Clethodim or formulated products may include eye or skin irritation or central nervous system effects, e.g., salivation, decreased motor activity, incoordination, unsteady gait and hyperactivity. These latter effects may be in large measure due to the aromatic constituents of the formulation, as these effects commonly occur upon exposure to such compounds.

Chronic: This product contains a solvent mixture. Reports have associated repeated and prolonged occupational overexposures to solvents with permanent brain and nervous system damage. Symptoms reported include fatigue, concentration difficulties, anxiety, depression, rapid mood swings and short-term memory loss. Since many other diseases cause some or all of these symptoms, a doctor should be consulted if any appear. Overall, this product is not expected to be a chronic hazard when used according to the label directions.

Clethodim was not mutagenic, carcinogenic or teratogenic (at less than maternally toxic doses) and did not show reproductive effects in animal studies.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: For clethodim technical

LOW TOXICITY TO BIRDS
 Acute dietary LC₅₀ >6000 mg/kg (mallard duck)
 Acute oral LD₅₀ >2000 mg/kg (bobwhite quail)

LOW TOXICITY
 Acute LC₅₀ (96 hour) 67 mg/L (rainbow trout)
 Acute LC₅₀ (96 hour) 120 mg/L (bluegill sunfish)
 Acute LC₅₀ (48 hour) 120 mg/L (*Daphnia magna*)
 Acute EC₅₀ (5 days) 57.8 mg/L (fresh water algae)

LOW TOXICITY
 Acute LC₅₀ to the earthworm 454 mg/kg
 Acute contact LD₅₀ to bee >100 µg/bee

Persistence and Degradability: Clethodim is of low persistence in most soils with a reported half-life of approximately 3 days. Breakdown is mainly by aerobic processes, although photolysis may make some contribution. Clethodim may be highly persistent in the aquatic environment. Reported half-lives for Clethodim in the aquatic environment are 128 days in the aqueous phase and 214 days in the sediment. The reported hydrolysis half-life at pH 7-9 is approximately 300 days.

Mobility	-
Environmental Fate (Exposure):	-
Bioaccumulative Potential:	-

Section 13: DISPOSAL CONSIDERATIONS

Disposal Methods and Containers:	Triple, or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If not 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.
Special Precautions for Landfill or Incineration:	Not applicable

Section 14: TRANSPORT INFORMATION

LAND TRANSPORT	ADG	Not a dangerous good in Australia	
UN Number:	None allocated	Packing Group:	None allocated
UN Proper Shipping Name:	None allocated	Special Precautions for User:	None allocated
Class:	None allocated	Hazchem Code:	2X
Subsidiary Risk:	None allocated		

SEA TRANSPORT	Not a dangerous good by marine transport		
IMDG			
UN Number:	None allocated	Packing Group:	None allocated
UN Proper Shipping Name:	None allocated	Special Precautions for User:	None allocated
Class:	None allocated	Hazchem Code:	2X
Subsidiary Risk:	None allocated	Marine Pollutant:	No

AIR TRANSPORT	Not a dangerous good by air		
ICAO / IATA			
UN Number:	None allocated	Packing Group:	None allocated
UN Proper Shipping Name:	None allocated	Special Precautions for User:	None allocated
Class:	None allocated	Hazchem Code:	2X
Subsidiary Risk:	None allocated		

Section 15: REGULATORY INFORMATION

APVMA Product Number:	61592
Poisons Schedule (SUSDP):	S5

Section 16: OTHER INFORMATION

Date of preparation or last revision: May 2007
Source of Data: The information provided in this SDS is sourced from Syngenta internal studies which have been conducted according to Regulatory requirements including OECD and CIPAC Guidelines and EC Directives. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.
Note: This product is a registered agricultural chemical and must, therefore, be used in accordance with the container label directions
CONTACT POINT: Regulatory Affairs Manager, Syngenta Crop Protection Pty Limited (02) 8876 8444 24 HOURS EMERGENCY CONTACT: 1800 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 SDS 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.

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