

SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name:	ESTATE
Design Code:	A24907A
Recommended Use:	Herbicide
Company Details:	Syngenta Crop Protection Limited
Address:	Level 4, 60 Parnell Road, Parnell AUCKLAND 1052 NEW ZEALAND
Telephone number:	(weekdays) 09 306 1500
Emergency Telephone number:	(24 Hours) 0800 734 607
National Poisons & Hazchem Information Centre :	0800 POISON (0800 764 766)

Section 2: HAZARDS IDENTIFICATION

GHS classification:

Acute Toxicity (oral):	Category 4
Skin corrosion/irritation:	Category 2
Serious eye damage/eye irritation:	Category 1
Specific target organ toxicity, repeat exposure	Category 2
Hazardous to the aquatic environment (acute)	Category 1
Hazardous to the aquatic environment (chronic)	Category 1
Hazardous to soil organisms	
Hazardous to terrestrial vertebrates	

GHS label elements:
Hazard pictogram:



Signal word: DANGER

Hazard statements:

H302	Harmful if swallowed
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/eye protection/face protection.

Response:

P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTRE/ doctor if you feel unwell. Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/ doctor.
P332+P313	If skin irritation occurs: Get medical attention.
P362+P364	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.

Disposal:

P501	Dispose of contents/container to an approved waste disposal plant.
------	--

Other hazards which do not result in classification: None known.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixture: Chemical Identity of ingredients:		
Ingredient	CAS no.	Content (% w/w)
propane-1,2-diol	57-55-6	>= 30 -< 60
MCPA (ISO)	94-74-6	>= 10 -< 30
clopyralid (ISO)	1702-17-6	>= 1 -< 3
diflufenican (ISO)	83164-33-4	< 10
other ingredients determined not to be hazardous	-	to 100%

Section 4: FIRST AID MEASURES

Description of First Aid measures:	
General Advice:	For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.
If inhaled:	Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a Doctor or the National Poisons Centre immediately.
In case of skin contact:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a doctor. Wash contaminated clothing before re-use.
In case of eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses (if present). Immediate medical attention is required.
If swallowed:	If swallowed seek medical advice immediately and show the container or label. DO NOT induce vomiting.
Important symptoms and effects, both acute and delayed:	
Symptoms:	Nonspecific No symptoms known or expected.
Indication of any immediate medical attention and special treatment needed:	
There is no specific antidote available. Treat symptomatically.	

Section 5: FIRE-FIGHTING MEASURES

Extinguishing media:	
Suitable extinguishing media:	Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Large Fires: Alcohol resistant foam or water spray.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.
Special hazards arising from the substance or mixture:	
Specific hazards during fire-fighting:	Fire will spread by burning with a visible flame. As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10) Exposure to decomposition products may be a hazard to health.

Advice for firefighters:
Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.
Hazchem Code: 3Z
Further information: Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions:
Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and material for containment and cleaning up:
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Reference to other sections:
Refer to disposal considerations listed in Section 13.
Refer to protective measures listed in sections 7 and 8.

Section 7: HANDLING AND STORAGE

Precautions for Safe handling:
Advice on safe handling: No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

Conditions for safe storage, including any incompatibilities:
Requirements for storage area and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

Specific end use(s)
Specific use(s) For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits:

Components	CAS No	Value type (form of exposure)	Control parameters	Basis
glycerin (propane-1,2,3-triol)	56-81-5	WES-TWA (Mist)	10 mg/m ³	WES
fludioxonil	131341-86-1	TWA	5 mg/m ³	Syngenta
difenoconazole	119446-68-3	TWA	5 mg/m ³	Syngenta

Exposure controls
Engineering measures: THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

	<p>Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.</p> <p>The extent of these protection measures depends on the actual risks in use.</p> <p>Maintain air concentrations below occupational exposure standards.</p> <p>Where necessary, seek additional occupational hygiene advice.</p>
Personal Protective Protection:	
Eye protection:	Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Hand protection:	<p>Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.</p> <p>Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.</p>
Skin and body protection:	<p>Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use.</p> <p>Wear as appropriate: boots, overalls, washable hat, gloves.</p>
Respiratory protection:	<p>When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.</p> <p>Wear respiratory protective equipment when opening the container and preparing the product for use.</p> <p>Respiratory protective equipment is not normally required when using the prepared product.</p>
Protective measures:	<p>The use of technical measures should always have priority over the use of personal protective equipment.</p> <p>When selecting personal protective equipment, seek appropriate professional advice.</p> <p>Personal protective equipment should be certified to appropriate standards.</p>

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:	
Appearance:	liquid
Colour:	Light brown
Odour:	Slight sweet smell
Odour threshold:	No data
pH value	Approx. 10
Melting point / freezing point:	No data
Initial boiling point and boiling range:	Approx. 100°C
Flash point:	No data
Flammability (solid, gas):	No data
Upper flammability / explosive limits:	No data
Lower flammability / explosive limits	No data
Vapour pressure:	No data
Vapour Density:	No data
Density:	1.16 g/
Bulk density:	Not applicable
Solubility(ies):	
Solubility in water:	Suspensible
Solubility in other solvents:	No data
Partition co-efficient: n-octanol / water:	No data

Autoignition temperature	No data
Decomposition temperature:	No data
Dynamic viscosity:	No data
Explosive properties:	Not explosive
Oxidising properties:	Not oxidising
Surface tension:	No data
Dust explosion class:	Not applicable
Minimum ignition energy:	No data
Self-heating substances:	No data

Section 10: STABILITY AND REACTIVITY

Reactivity:

See Section: "Possibility of Hazardous Reactions".

Chemical Stability:

The product is stable when used in normal conditions.

Possibility of Hazardous Reactions:

No hazardous reactions by normal handling and storage according to provisions.

Conditions to Avoid

No decomposition if used as directed.

Incompatible Materials:

Strong oxidising agents.

Hazardous Decomposition Products:

No hazardous decomposition products are known. Thermal decomposition may result in the release of carbon monoxide, carbon dioxide, hydrogen fluoride, hydrogen chloride and oxides of nitrogen.

Section 11: TOXICOLOGICAL INFORMATION

Exposure routes

Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Oral toxicity:

Product:

Acute toxicity estimate: 1,934 mg/kg (rat)
Method: Calculation method

MCPA:

LD₅₀ (rat): 300 – 2,000 mg/kg

Diflufenican:

LD₅₀ (rat): >5,000 mg/kg

Clopyralid:

LD₅₀ (rat): 3,738 mg/kg (male), 2,675 mg/kg (female)

Dermal toxicity:

MCPA:

LD₅₀ (rat): >2,000 mg/kg

Diflufenican:

LD₅₀ (rat): >2,000 mg/kg

Clopyralid:

LD₅₀ (rat): >2,000 mg/kg

Inhalation:	<p><i>MCPA:</i> LC₅₀ (rat) (4h): >5 mg/L</p> <p><i>Diflufenican:</i> LC₅₀ (rat) (4h): >5.12 mg/L</p> <p><i>Clopyralid:</i> LC₅₀ (rat) (4h): >0.38 mg/L</p>
Skin irritation:	Causes skin irritation
Eye irritation:	Irritant. Causes serious damage to eyes.
Sensitisation:	Product not considered a skin sensitiser based on components.
Chronic toxicity	
Mutagenicity:	<p><i>MCPA:</i> Data indicates that MCPA is not mutagenic.</p> <p><i>Diflufenican:</i> Animal testing did not show any mutagenic effects.</p> <p><i>Clopyralid:</i> Clopyralid did not show mutagenic or genotoxic effects in animal experiments.</p>
Carcinogenicity:	<p><i>MCPA:</i> MCPA is not considered carcinogenic based on weight of evidence.</p> <p><i>Diflufenican:</i> No evidence of carcinogenicity in animal studies.</p> <p><i>Clopyralid:</i> Clopyralid did not show carcinogenic effects in animal experiments.</p>
Reproductive and Developmental toxicity:	<p><i>MCPA:</i> MCPA did not adversely affect development.</p> <p><i>Diflufenican:</i> No toxicity to reproduction.</p> <p><i>Clopyralid:</i> Clopyralid did not interfere with reproduction in animal experiments. Clopyralid caused birth defects in test animals, but only at greatly exaggerated doses that were severely toxic to the mothers. No birth defects were observed in animals given clopyralid at doses several times greater than those expected during normal exposure.</p>
Specific Target Organ Toxicity (STOT) - single exposure:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
Specific Target Organ Toxicity (STOT) - repeated exposure:	The substance or mixture is classified as specific target organ toxicant, repeated exposure Category 2..
Aspiration hazard:	Not an aspiration hazard.

Section 12: ECOLOGICAL INFORMATION

Ecotoxic herbicide. Do not use for treating turf that will be mown and the clippings used for making compost; or made available for collection for, or deposited at, a municipal green waste recycling depot.

Ecotoxicity Effects - Aquatic

Acute toxicity to fish:

MCPA:
Oncorhynchus mykiss (rainbow trout):
LC₅₀: 50 mg/L, 96 h

Diflufenican:
Oncorhynchus mykiss (rainbow trout):
LC₅₀: >0.1090 mg/L, 96 h

Clopyralid:
Oncorhynchus mykiss (rainbow trout):
LC₅₀: 103.5 mg/L, 96 h

Toxicity to daphnia and other aquatic invertebrates:

MCPA:
Daphnia magna (Water flea):
EC₅₀: >190 mg/L, 48 h

Diflufenican:
Daphnia magna (Water flea):
EC₅₀: >0.24 mg/L, 48 h

Clopyralid:
Daphnia magna (Water flea):
EC₅₀: 225 mg/L, 48 h

Toxicity to algae:

MCPA:
Myriophyllum spicatum (Eurasian watermilfoil):
ErC₅₀: 0.243 mg/L, 14 d
NOEC: 0.0305 mg/L, 14 d
Raphidocelis subcapitata (freshwater green alga):
EC₅₀: >320 mg/L, 72 h
Navicula pelliculosa (Freshwater diatom):
EC₅₀: 117 mg/L, 72 h

Diflufenican:
Desmodesmus subspicatus (green algae):
EC₅₀: 0.00045 mg/L, 72 h

Ankistrodesmus falcatus:
ErC₅₀: 0.000071 mg/L, 72 h
EC₁₀: 0.000029 mg/L, 72 h
End point: Growth rate

Clopyralid:
Raphidocelis subcapitata (freshwater green alga):
EC₅₀: 6.9 mg/L, 72 h

Ecotoxicity Effects - Terrestrial

Toxicity to Birds:

MCPA:
LD₅₀ = 377 mg/kg (bobwhite quail)

Diflufenican:
LD₅₀ = >2150 mg/kg (bobwhite quail)
LD₅₀ = >4000 mg/kg (mallard duck)

Clopyralid:
LD₅₀ = >2000 mg/kg (bobwhite quail)
LD₅₀ = 1465mg/kg (mallard duck)
LC₅₀ (5 days) = >4640 mg/kg (bobwhite quail)
LC₅₀ (5 days) = >4640 mg/kg (mallard duck)

Toxicity to soil dwelling organisms:	<p><i>MCPA:</i> LC₅₀ (14 days) = 325 mg/kg dry soil (earthworms)</p> <p><i>Diflufenican:</i> LC₅₀ (14 days) = >1000 mg/kg dry soil (earthworms)</p> <p><i>Clopyralid:</i> LC₅₀ (14 days) = >1500 mg/kg dry soil (earthworms)</p>
Toxicity to Bees:	<p><i>MCPA:</i> LD₅₀ (48 h) (oral) = >200 µg/bee LD₅₀ (48h) (contact) = >200 µg/bee</p> <p><i>Diflufenican:</i> LD₅₀ (48 h) (oral) = >75.9 µg/bee LD₅₀ (48h) (contact) = >200 µg/bee</p> <p><i>Clopyralid:</i> LD₅₀ (48h) (contact) = >250 µg/bee</p>
Persistence and degradability: Biodegradability:	<p>This product is not readily biodegradable. It may accumulate in the soil or water.</p> <p><i>MCPA:</i> Readily biodegradable.</p> <p><i>Diflufenican:</i> Not readily biodegradable.</p> <p><i>Clopyralid:</i> Moderate to medium persistence in soil.</p>
Bioaccumulative potential: Bioaccumulation:	<p><i>MCPA:</i> Low bioaccumulation potential. Partition coefficient (n-octanol/water): log Pow: -0.71 (pH7)</p> <p><i>Diflufenican:</i> Bioaccumulates Partition coefficient (n-octanol/water): log Pow: 4.2 (20°C)</p> <p><i>Clopyralid:</i> Low bioaccumulation potential.</p>
Mobility in soil: Distribution among environmental compartments:	<p><i>MCPA:</i> Highly mobile in soils.</p> <p><i>Diflufenican:</i> Slightly mobile in soils.</p> <p><i>Clopyralid:</i> Moderate mobility in soil</p>
Stability in soil:	<p><i>MCPA:</i> Dissipation time: <7d Remarks: Product is not persistent.</p> <p><i>Diflufenican:</i> Dissipation time: 128d Remarks: Product is not persistent.</p>
Other adverse effects: Results of PBT and vPvB assessment (product):	<p>This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).</p>

Section 13: DISPOSAL CONSIDERATIONS

Product Disposal:

DO NOT contaminate ponds, waterways or ditches with chemical or used containers. DO NOT dispose of waste into sewer. Dispose of this product only by using according to the label. Otherwise, dispose of waste at an approved landfill or other approved facility that will ensure the substance does not exceed the tolerable exposure limit (TEL) or environmental exposure limit (EEL), where relevant, or will treat the substance so that it is rendered no longer hazardous.

Container Disposal:

Ensure the container is empty. Triple rinse empty container and add rinsate to the spray tank. Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.

Section 14: TRANSPORT INFORMATION

Rail / Road (NZS 5433)

UN-No: 3082
 Class: 9
 Packing Group: III
 Hazchem: 3Z
 Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA, DIFLUFENICAN)
 Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

Sea (IMDG-Code)

UN-No: 3082
 Class: 9
 Packing Group: III
 Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA, DIFLUFENICAN)
 EmS Code: F-A, S-F
 MARINE POLLUTANT: Yes
 Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

Air (IATA)

UN-No: 3082
 Class: 9
 Packing Group: III
 Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA, DIFLUFENICAN)
 Packing instruction: 964 (cargo and passenger aircraft)
 Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

Section 15: REGULATORY INFORMATION

HSNO Approval Number:	HSR100816
Tolerable Exposure Limit or Environmental Exposure Limit:	No TEL or EEL values are set for this substance at this time
Required Regulatory Controls:	
Certified handler:	No
Tracking:	No
Record Keeping:	Yes
ACVM Registration:	Not applicable
ACVM Controls:	Not applicable
International Agreements related to the substance (eg, Montreal Protocol, Stockholm Convention or Rotterdam Convention):	Not applicable

Section 16: OTHER INFORMATION

Date of SDS Preparation / Review:	5 November 2024
Version number of SDS:	1.2
Key / Legend to abbreviations and acronyms used:	
<p>AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose);</p>	
<p>MARPOL - International Convention for the Prevention of Pollution from Ships; N.O.S. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity/Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WES – Workplace Exposure Standard (Worksafe NZ); WHMIS - Workplace Hazardous Materials Information System</p>	
<p>The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the test.</p>	
<p>This version replaces all previous versions. PRODUCT NAMES are a trademark or registered trademark of a Syngenta Group Company.</p>	