HIGRAN

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
8.0	10.08.2021	S00049948082	

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : HIGRAN

Design code : A7630E

Manufacturer or supplier's details

Company : Syngenta Australia Pty Ltd (ABN 33 002 933 717)
www.syngenta.com.au

Address : 2-4 Lyonpark Road
Macquarie Park NSW 2113
Australia

Telephone : (02) 8014 5200

Emergency telephone number : 13 11 26 (Poison Information Centre)
1800 033 111 (Syngenta)

Telefax : (02) 8876 8446

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation) : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Lungs)

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H330 Fatal if inhaled.
H373 May cause damage to organs (Lungs) through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P260 Do not breathe mist or vapours.
P271 Use only outdoors or in a well-ventilated area.

P284 Wear respiratory protection.

Response:

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P314 Get medical advice/ attention if you feel unwell.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

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

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
diafenthiuron	80060-09-9	>= 30 -< 60
propane-1,2-diol	57-55-6	< 10

SECTION 4. FIRST AID MEASURES

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

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 physician or poison control 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 physician.
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.
Immediate medical attention is required.

If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.

Most important symptoms and effects, both acute and : Nonspecific
No symptoms known or expected.

delayed
Notes to physician : There is no specific antidote available.
Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - 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.

Specific hazards during firefighting : 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.

Specific extinguishing methods : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Hazchem Code : •3Z

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 materials 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).
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

SECTION 7. HANDLING AND STORAGE

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 : 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
diafenthiuron	80060-09-9	TWA	0.2 mg/m3 (Skin)	Syngenta
propane-1,2-diol	57-55-6	TWA (particulate)	10 mg/m3	AU OEL
		TWA (Total (vapour and particles))	150 ppm 474 mg/m3	AU OEL

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.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Seek additional occupational hygiene advice.

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Suitable respiratory equipment:
Respirator with a half face mask
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm

Remarks	:	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. 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.
Eye protection	:	No special protective equipment required.
Skin and body protection	:	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. Wear as appropriate: Impervious clothing
Protective measures	:	The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should comply with relevant national standards

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	suspension
Colour	:	white
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	6 - 10 Concentration: 1 % w/v 6 - 10 Concentration: 100 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available

Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.03 - 1.07 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	495 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No decomposition if used as directed.
Incompatible materials	:	None known.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes	:	Ingestion Inhalation

Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male): 0.35 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.

LC50 (Rat, female): 0.053 - 0.52 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Components:

diafenthiuron:

Acute oral toxicity : LD50 (Rat): 2,068 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.558 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

diafenthiuron:

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Product:

Species	:	Rabbit
Result	:	No eye irritation

Components:

diafenthiuron:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitisation

Product:

Test Type	:	mouse lymphoma cells
Species	:	Mouse
Result	:	Does not cause skin sensitisation.

Components:

diafenthiuron:

Species	:	Guinea pig
Result	:	A weak skin sensitizer in animal tests

Chronic toxicity

Germ cell mutagenicity

Components:

diafenthiuron:

Germ cell mutagenicity - Assessment	:	Did not show mutagenic or teratogenic effects in animal experiments.

Carcinogenicity

Components:

diafenthiuron:

Carcinogenicity - Assessment	:	In animal studies (rat, mouse, dog), prolonged exposure to diafenthiuron has been shown to produce lung damage. In mice, chronic oral administration has produced lung tumours at high dose levels.

Reproductive toxicity

Components:

diafenthiuron:

Reproductive toxicity - As-	:	No toxicity to reproduction

sessment

STOT - repeated exposure

Components:

diafenthiuron:

Target Organs	:	Lungs
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00852 mg/l Exposure time: 96 h NOEC (Oncorhynchus mykiss (rainbow trout)): 0.00274 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.00285 mg/l Exposure time: 48 h NOEC (Daphnia magna (Water flea)): 0.00120 mg/l Exposure time: 48 h

Components:

diafenthiuron:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.002 mg/l Exposure time: 96 h LC50 (Ictalurus punctatus (channel catfish)): 0.0013 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.00015 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.059 mg/l Exposure time: 96 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.059 mg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility
M-Factor (Acute aquatic toxicity)	:	1,000
Toxicity to fish (Chronic tox-	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.000018 mg/l

icity)		Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.0011 µg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	10,000

Persistence and degradability

Components:

diafenthiuron:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential

Components:

diafenthiuron:

Bioaccumulation	:	Remarks: Bioaccumulates
Partition coefficient: n-octanol/water	:	log Pow: 5.76 (25 °C)

Mobility in soil

Components:

diafenthiuron:

Distribution among environmental compartments	:	Remarks: immobile
Stability in soil	:	Remarks: Product is not persistent.

Other adverse effects

Components:

diafenthiuron:

Results of PBT and vPvB assessment	:	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).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging	:	Non-returnable containers:

Triple rinse containers.
Add rinsings to spray tank
If recycling, replace cap and return clean containers to recycler or designated collection point. Containers marked with the drumMUSTER container logo can be taken to a drumMUSTER collection site (02 6206 6868, www.drummuster.org.au).
Empty containers can be landfilled, when in accordance with the local regulations.
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.
Returnable containers:
Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIAFENTHIURON AND TRISTYRYLPHENOL ETHOXYLATES)
Class	:	9
Packing group	:	III
Labels	:	9

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (DIAFENTHIURON AND TRISTYRYLPHENOL ETHOXYLATES)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIAFENTHIURON AND TRISTYRYLPHENOL ETHOXYLATES)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F

Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIAFENTHIURON AND TRISTYRYLPHENOL ETHOXYLATES)
Class	:	9
Packing group	:	III
Labels	:	9
Hazchem Code	:	•3Z
Remarks	:	Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Code for the Transport of Dangerous Goods (ADG). This applies when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs per ADG Special Provision AU01.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 5
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.
Product Registration Number	:	APVMA Approval No. 68340

SECTION 16. OTHER INFORMATION

Revision Date : 10.08.2021

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : dd.mm.yyyy

Full text of other abbreviations

AU OEL : Australia. Workplace Exposure Standards for Airborne Contaminants.

AU OEL / TWA : Exposure standard - time weighted average

AIIC - Australian Inventory of Industrial Chemicals; 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; 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); 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; TECI - Thailand Existing Chemicals Inventory; 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; WHMIS - Workplace Hazardous Materials Information System

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 text.

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