SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name	Decision® Selective Herbicide
Other names	none
Product code (UVP)	06044298
Chemical Group	aryloxyphenoxypropionate cyclohexanedione oxime pyrazoline dicarboxylate
Recommended use	Herbicide
Chemical Formulation	Emulsifiable concentrate (EC)
Company	Bayer Cropscience Pty Ltd –ABN 87 000 226 022 391-393 Tooronga Road, East Hawthorn Victoria 3123, Australia
Telephone	(03) 9248 6888
Technical Information Service	1800 804 479
Facsimile	(03) 9248 6800
Website	www.bayercropscience.com.au
Emergency telephone no.	1800 033 111 Orica SH&E Shared Services

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

HAZARDOUS SUBSTANCE DANGEROUS GOODS

Hazardous classification	Hazardous (National Occupational Health and Safety Commission - NOHSC)
R-phrase(s)	R65 - Harmful: may cause lung damage if swallowed. R36/38 - Irritating to eyes and skin. R43 - May cause sensitisation by skin contact.
S-phrase(s)	See sections 4, 5, 6, 7, 8, 10, 12, 13.
ADG Classification	"Dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. - See Section 14.
SUSMP classification (Poison Schedule)	Schedule 6 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature
Diclofop-methyl/Sethoxydim/Mefenpyr-diethyl (crop safener) 200:20:20g/l

Chemical Name	CAS-No.	Concentration [%]
Diclofop-methyl	51338-27-3	20.00
Sethoxydim	74051-80-2	2.00
Mefenpyr-diethyl	135590-91-9	2.00
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	<= 60.00
Naphthalene	91-20-3	>= 5.00 - < 10.00

Tetrapropylene benzene sulfonate, calcium salt	11117-11-6	>= 0.00 - <= 5.00
Isotridecanol, ethoxylated	9043-30-5	>= 0.00 - <= 5.00
Other ingredients (non-hazardous) to 100%		

SECTION 4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Safety Data Sheet to the doctor.

Inhalation
Move the victim to fresh air and keep at rest. When symptoms persist or in all cases of doubt seek medical advice.

Skin contact
Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion
Keep patient warm and at rest. Do NOT induce vomiting. Rinse mouth. Obtain medical attention. Do not induce vomiting or give anything by mouth to an unconscious person.

Notes to physician

Symptoms
Symptoms of Overexposure, Somnolence, Headache, Dizziness, Nausea, Vomiting, Diarrhoea, Gastrointestinal discomfort, Cough, Rapid respiration, Aspiration may cause pulmonary oedema and pneumonitis., Cyanosis

Risks
Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.
In case of aspiration intubation and bronchial lavage should be considered.
Activated charcoal and cathartics like sorbitol or magnesium sulphate should be given.
Monitor: kidney, liver and pancreas function.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Hazards from combustion products
In the event of fire the following may be released:
Hydrogen chloride (HCl)
Carbon dioxide (CO2)
Carbon monoxide (CO)
Nitrogen oxides (NOx)

Sulphur oxides

Precautions for fire-fighting

Wear self-contained breathing apparatus and protective suit.
Evacuate personnel to safe areas.
Whenever possible, contain fire-fighting water by diking area with sand or earth.
Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazchem Code •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid contact with spilled product or contaminated surfaces.
Remove all sources of ignition.
When dealing with a spillage do not eat, drink or smoke.
Use personal protective equipment.
Keep unauthorized people away.

Environmental precautions

Do not allow to get into surface water, drains and ground water.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Collect and transfer the product into a properly labelled and tightly closed container.

Reference to other sections

Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

Handling

Hygiene measures

Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
When using, do not eat, drink or smoke.
Before removing gloves clean them with soap and water.
Remove soiled clothing immediately and clean thoroughly before using again.
Wash hands immediately after work, if necessary take a shower.

Advice on protection against fire and explosion

Keep away from heat and sources of ignition.

Storage

Requirements for storage areas and containers

Keep out of the reach of children.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from direct sunlight.

Flammability C1 Combustible Liquids Flash Point > 60 °C - <= 150 °C

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Control parameters	Update	Basis
Naphthalene	91-20-3	10 ppm (TWA)		OES BCS
Naphthalene	91-20-3	52 mg/m3 / 10 ppm (TWA)	08 2005	AU OEL
Naphthalene	91-20-3	79 mg/m3 / 15 ppm (STEL)	08 2005	AU OEL

For further details on the Occupational Exposure Standards, see Section 16.

Biological limit values
none

Personal protective equipment - End user

Respiratory protection	AS/NZS 1715/1716 approved respirator Use respiratory protection for organic vapours.
Hand protection	Elbow-length PVC or nitrile gloves
Eye protection	Face-shield or goggles
Skin and body protection	Cotton overall buttoned to the neck and wrist Washable hat

Engineering Controls

Advice on safe handling
Use only in area provided with appropriate exhaust ventilation.
Avoid contact with skin, eyes and clothing.
Contents under pressure.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid, clear
Colour	beige to brown
Odour	aromatic

Safety data

pH	5.0 - 6.0 at 1 %
Flash point	> 63 °C
Ignition temperature	> 400 °C The data refer to the solvent.
Upper explosion limit	7 %(V) The data refer to the solvent.
Lower explosion limit	0.6 %(V) The data refer to the solvent.

Vapour pressure	no data available
Relative vapour density	no data available
Density	ca. 1.00 g/cm³ at 20 °C
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to avoid	Heat, flames and sparks.
Materials to avoid	Strong oxidizing agents Acids Bases Copper
Hazardous Decomposition Products	Thermal decomposition can lead to release of: Hydrogen chloride (HCl) Carbon oxides Nitrogen oxides (NOx) Sulphur oxides
Hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Inhalation	Low acute inhalation toxicity. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. High concentration of vapours may cause irritation to eyes and respiratory system and produce narcotic effects.
Skin	Low acute dermal toxicity. May cause skin irritation. Prolonged skin contact may cause skin irritation and/or dermatitis.
Eye	Causes eye irritation.
Ingestion	Harmful if swallowed. Small amounts of the solvent in this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury.
Chronic exposure	This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic).
Acute oral toxicity	LD50 (rat) 481 - 693 mg/kg The value mentioned relates to the active ingredient diclofop-methyl.

Acute oral toxicity	LD50 (rat) 2,676 mg/kg The value mentioned relates to the active ingredient sethoxydim.
Acute oral toxicity	LD50 (rat) > 5,000 mg/kg The value mentioned relates to the active ingredient mefenpyr-diethyl.
Acute inhalation toxicity	LC50 > 1.36 mg/l Exposure time: 4 h The value mentioned relates to the active ingredient diclofop-methyl.
Acute inhalation toxicity	LC50 > 6.28 mg/l Exposure time: 4 h The value mentioned relates to the active ingredient sethoxydim.
Acute inhalation toxicity	LC50 > 1.32 mg/l Exposure time: 4 h The value mentioned relates to the active ingredient mefenpyr-diethyl.
Acute dermal toxicity	LD50 (rat) > 5,000 mg/kg The value mentioned relates to the active ingredient diclofop-methyl.
Acute dermal toxicity	LD50 (rat) > 5,000 mg/kg The value mentioned relates to the active ingredient sethoxydim.
Acute dermal toxicity	LD50 (rat) > 4,000 mg/kg The value mentioned relates to the active ingredient mefenpyr-diethyl.
Skin irritation	No skin irritation (rabbit) The value mentioned relates to the active ingredient diclofop-methyl.
Skin irritation	No skin irritation (rabbit) The value mentioned relates to the active ingredient sethoxydim.
Skin irritation	No skin irritation (rabbit) The value mentioned relates to the active ingredient mefenpyr-diethyl.
Eye irritation	No eye irritation (rabbit) The value mentioned relates to the active ingredient diclofop-methyl.
Eye irritation	No eye irritation (rabbit) The value mentioned relates to the active ingredient sethoxydim.
Eye irritation	No eye irritation (rabbit) The value mentioned relates to the active ingredient mefenpyr-diethyl.
Sensitisation	Sensitising (guinea pig) OECD Test Guideline 406, Magnusson & Kligman test The value mentioned relates to the active ingredient diclofop-methyl.

Sensitisation	Non-sensitizing. (guinea pig) The value mentioned relates to the active ingredient sethoxydim.
Sensitisation	Non-sensitizing. (guinea pig) The value mentioned relates to the active ingredient mefenpyr-diethyl.
Chronic toxicity	Diclofop-methyl did not cause specific target organ toxicity in experimental animal studies. Sethoxydim did not cause specific target organ toxicity in experimental animal studies. Mefenpyr-diethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment Mutagenicity

Diclofop-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Sethoxydim was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Mefenpyr-diethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity

Diclofop-methyl caused at high dose levels an increased incidence of tumours in the following organ(s): liver. The tumours seen with Diclofop-methyl were caused through peroxisome proliferation. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.
Sethoxydim was not carcinogenic in lifetime feeding studies in rats and mice.
Mefenpyr-diethyl was not carcinogenic in lifetime feeding studies in rats and mice.
This product contains ≥ 1% naphthalene. Naphthalene caused an increased incidence of tumours after chronic inhalation of high vapour concentrations in the following organ: Respiratory Tract. The tumours seen with naphthalene were caused through a non-genotoxic mechanism, which is not relevant at low doses.

Assessment toxicity to reproduction

Diclofop-methyl did not cause reproductive toxicity in a two-generation study in rats.
Diclofop-methyl: No indications of reprotoxic effects were observed in reproduction studies in animals.
Sethoxydim did not cause reproductive toxicity in a two-generation study in rats.
Mefenpyr-diethyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Diclofop-methyl caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Diclofop-methyl are related to maternal toxicity.
Diclofop-methyl: No indication of developmental toxicity in animal tests.
Sethoxydim did not cause developmental toxicity in rats and rabbits.
Mefenpyr-diethyl caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Mefenpyr-diethyl are related to maternal toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.23 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient diclofop-methyl.
Toxicity to fish	LC50 (Trout) 38 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient sethoxydim.
Toxicity to fish	LC50 (Cyprinus carpio (Carp)) 153 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient sethoxydim.
Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 4.2 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to fish	LC50 (Cyprinus carpio (Carp)) 2.4 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to aquatic invertebrates	LC50 (Water flea (Daphnia magna)) 0.23 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient diclofop-methyl.
Toxicity to aquatic invertebrates	LC50 (Water flea (Daphnia magna)) 1.5 mg/l Exposure time: 3 h The value mentioned relates to the active ingredient sethoxydim.
Toxicity to aquatic invertebrates	EC50 (Water flea (Daphnia magna)) 53 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to aquatic plants	EC50 (Scenedesmus subspicatus) 1.5 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient diclofop-methyl.
Toxicity to aquatic plants	EC50 (Navicula pelliculosa) 1.65 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to aquatic plants	EC50 (Scenedesmus subspicatus) 5.8 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to other organisms	LD50 (Coturnix japonica (Japanese quail)) > 10,000 mg/kg The value mentioned relates to the active ingredient diclofop-methyl.
Toxicity to other organisms	LD50 (Coturnix japonica (Japanese quail)) > 5,000 mg/kg The value mentioned relates to the active ingredient sethoxydim.

Toxicity to other organisms	LD50 (Coturnix japonica (Japanese quail)) > 2,000 mg/kg The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to other organisms	(Apis mellifera (bees)) The value mentioned relates to the active ingredient sethoxydim. Non-hazardous for bees.
Toxicity to other organisms	LD50 (Apis mellifera (bees)) > (contact) > 700 µg/bee Exposure time: 48 d The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to other organisms	LD50 (Apis mellifera (bees)) > > 900 µg/bee Exposure time: 48 d The value mentioned relates to the active ingredient mefenpyr-diethyl.
Toxicity to other organisms	LD50 (Eisenia fetida (earthworms)) > 1,000 mg/kg Exposure time: 14 d The value mentioned relates to the active ingredient mefenpyr-diethyl.
Biodegradability	Inherently biodegradable. The data refer to the solvent.
Stability in water	DT50: 365 d at 25 °C, pH: 5. The value mentioned relates to the active ingredient mefenpyr-diethyl. DT50: 0.35 d at 25 °C, pH: 9. The value mentioned relates to the active ingredient mefenpyr-diethyl. DT50: 40.9 d at 25 °C, pH: 7. The value mentioned relates to the active ingredient mefenpyr-diethyl.
Stability in soil	In various soils in Field trial: DT50 1 - 57 d. Adsorbs on soil. The value mentioned relates to the active ingredient diclofop-methyl. In various soils in Field trial: DT90 30 - 281 d. The value mentioned relates to the active ingredient diclofop-methyl. In Soil : DT50 < 1 d at 15 °C. The value mentioned relates to the active ingredient sethoxydim. In Soil : DT50 < 10 d. Not leached. The value mentioned relates to the active ingredient mefenpyr-diethyl.
Bioaccumulation	no data available

Additional Environmental Information	no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Dispose of rinsings in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory Government Regulations. DO NOT burn empty containers or product.

SECTION 14. TRANSPORT INFORMATION

ADG

UN number	**3082**
Class	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICLOFOP-METHYL/SOLVENT NAPHTHA (PETROLEUM) HEAVY AROMATIC SOLUTION)
Hazchem Code	•3Z

According to AU01, Environmentally Hazardous Substances in packagings, IBC or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

IMDG

UN number	**3082**
Class	9
Subsidiary Risk	None
Packaging group	III
EmS	F-A , S-F
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICLOFOP-METHYL/SOLVENT NAPHTHA (PETROLEUM) HEAVY AROMATIC SOLUTION)

IATA

UN number	**3082**
Class	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICLOFOP-METHYL/SOLVENT NAPHTHA (PETROLEUM) HEAVY AROMATIC SOLUTION)

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 56166

See also Section 2.

SECTION 16. OTHER INFORMATION

Trademark information Decision® is a registered trademark of the Bayer Group.

This SDS 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.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

Further details on the Occupational Exposure Standards mentioned in Section 8:
CEILING: Ceiling Limit Value
OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.
SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

END OF SDS