

Safety Data Sheet



Precept® Selective Herbicide

Version 1 / AUS
102000017740

Revision Date: 29.10.2017
Print Date: 01.11.2017

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name Precept® Selective Herbicide
Product code (UVP) 79105894

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use Herbicide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer Cropscience Pty Ltd
ABN 87 000 226 022
Level 1, 8 Redfern Road
3123 Hawthorn East
Victoria
Australia

Telephone (03) 9248 6888
Telefax (03) 9248 6800
Responsible Department 1800 804 479 Technical Information Service
Website www.crop.bayer.com.au

1.4 Emergency telephone no.

Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Skin corrosion/irritation: Category 2

H315 Causes skin irritation.

Eye Damage/Irritation: Category 2A

H319 Causes serious eye irritation.

Carcinogenicity: Category 2

H351 Suspected of causing cancer.

Aspiration hazard: Category 1

H304 May be fatal if swallowed and enters airways.

Acute aquatic toxicity: Category 1

H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1

H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

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MCPA 2-ethylhexyl ester
Pyrasulfotole
Mefenpyr-diethyl

Signal word: Danger

Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H304 May be fatal if swallowed and enters airways.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician.
P331 Do NOT induce vomiting.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

MCPA as MCPA 2-Ethylhexyl Ester: Pyrasulfotole: Mefenpyr-Diethyl 125: 25: 6.25g/L
Emulsifiable concentrate (EC)

Chemical name	CAS-No.	Concentration [%]
MCPA 2-ethylhexyl ester	29450-45-1	19.32
Pyrasulfotole	365400-11-9	2.37
Mefenpyr-diethyl	135590-91-9	0.63
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	>= 25.00 - <= 30.00
Benzyl alcohol	100-51-6	> 10.00 - < 20.00
Propylene carbonate	108-32-7	> 10.00 - < 20.00
Naphthalene	91-20-3	>= 1.00 - <= 5.00
2-Ethylhexan-1-ol	104-76-7	< 2.00
Other ingredients (non-hazardous) to 100%		



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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.

4.1 Description of first aid measures

- Inhalation** Move the victim to fresh air and keep at rest. Oxygen or artificial respiration if needed. When symptoms persist or in all cases of doubt seek medical advice. Call a physician or poison control center immediately.
- 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. Call a physician or poison control center immediately.
- Ingestion** Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms** Local: Skin, eye and mucous membrane irritation, skin disorders. Systemic: Headache, vomiting, lethargy, muscle twitching, liver disorders, kidney disorders, hypotension, dizziness. Aspiration may cause pulmonary oedema and pneumonitis. If large amounts are ingested, the following symptoms may occur: Central nervous system depression, stupor, coma, respiratory failure.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment** Treat symptomatically. Monitor: respiratory, cardiac, kidney, liver and central nervous system. Monitor: blood picture. Monitor: red blood cell and plasma cholinesterase. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. Oxygen or artificial respiration if needed. Elimination by dialysis (forced alkaline diuresis). Anticonvulsant therapy with i.v. phenobarbital. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

- Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.



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5.2 Special hazards arising from the substance or mixture	In the event of fire the following may be released: Carbon monoxide (CO), Hydrogen cyanide (hydrocyanic acid), Chlorine, Hydrogen fluoride, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride (HCl)
5.3 Advice for firefighters	
Special protective equipment for firefighters	In the event of fire, wear self-contained breathing apparatus.
Further information	Avoid contact with spilled product or contaminated surfaces. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Evacuate personnel to safe areas. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth.
Hazchem Code	Not applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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.

6.2 Environmental precautions Contain contaminated water and fire fighting water. Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Clean contaminated floors and objects thoroughly, observing environmental regulations. 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. Decontaminate tools and equipment following cleanup.

6.4 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

7.1 Precautions for safe handling

Advice on safe handling Use only in area provided with appropriate exhaust ventilation.

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

Hygiene measures After each day's use, wash gloves, face shield or goggles and contaminated clothing. Avoid contact with skin, eyes and clothing. Keep away from food, drink and animal feedingstuffs. Wash hands thoroughly



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with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep out of the reach of children. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight.

Advice on common storage Do not store together with oxidizing agents. Do not store near acids. Do not store with alkalis. Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Pyrasulfotole	365400-11-9	0.3 mg/m ³ (TWA)		OES BCS*
Mefenpyr-diethyl	135590-91-9	10 mg/m ³ (TWA)		OES BCS*
Naphthalene	91-20-3	79 mg/m ³ /15 ppm (STEL)	12 2011	AU NOEL
Naphthalene	91-20-3	52 mg/m ³ /10 ppm (TWA)	12 2011	AU NOEL
Naphthalene	91-20-3	10 ppm (TLV)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 Exposure controls

Respiratory protection If product is handled while not enclosed, and if contact may occur: Wear respirator with a particle filter mask (protection factor 4) conforming to European norm EN149FFP1 or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection 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. Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0.4 mm
Protective index	Class 6

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	Directive	Protective gloves complying with EN 374.
Eye protection		Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
Skin and body protection		Wear standard coveralls and Category 3 Type 6 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
General protective measures		In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.
Engineering Controls		
Advice on safe handling		Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	Liquid, clear
Colour	dark red-brown
Odour	slight, naphthalene-like
pH	3.0 - 6.0 at 1 % (23 °C) (deionized water)
Flash point	96 °C
Density	ca. 1.05 g/cm ³ at 20 °C
Partition coefficient: n-octanol/water	MCPA-2-ethylhexyl ester: log Pow: 2.8 Pyrasulfotole: log Pow: -1.362 Mefenpyr-diethyl: log Pow: 3.83 at 21 °C

9.2 Other information Further safety related physical-chemical data are not known.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Thermal decomposition Stable under normal conditions.

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions Corrosive to metals



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- 10.4 Conditions to avoid** Extremes of temperature and direct sunlight.
Heat, flames and sparks.
- 10.5 Incompatible materials** Strong oxidizing agents, Strong acids, Strong bases
- 10.6 Hazardous decomposition products** Thermal decomposition can lead to release of:
Carbon oxides
Hydrogen chloride (HCl)
Chlorine
Hydrogen fluoride
Nitrogen oxides (NOx)
Sulphur oxides
Hydrogen cyanide (hydrocyanic acid)

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity LD50 (Rat) > 5,000 mg/kg

Acute inhalation toxicity LC50 (Rat) 4345mg/m³

Acute dermal toxicity LD50 (Rat) > 2,000 mg/kg

Skin irritation Irritating to skin.

Eye irritation Severe eye irritation.

Sensitisation Non-sensitizing (Mouse)

Assessment mutagenicity

MCPA-2-ethylhexyl ester was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Pyrasulfotole was not 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

MCPA-2-ethylhexyl ester was not carcinogenic in lifetime feeding studies in rats and mice.
Pyrasulfotole caused at high dose levels an increased incidence of tumours in the following organ(s):
Cornea, urinary bladder. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.
Mefenpyr-diethyl was not carcinogenic in lifetime feeding studies in rats and mice.
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

MCPA-2-ethylhexyl ester did not cause reproductive toxicity in a two-generation study in rats.
Pyrasulfotole 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

MCPA-2-ethylhexyl ester caused developmental toxicity only at dose levels toxic to the dams. MCPA-2-ethylhexyl ester caused a delayed foetal growth.
Pyrasulfotole did not cause developmental toxicity in rats and rabbits.

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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.

Assessment STOT Specific target organ toxicity – single exposure

Pyrasulfotole: Based on available data, the classification criteria are not met.

Mefenpyr-diethyl: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

MCPA-2-ethylhexyl ester did not cause specific target organ toxicity in experimental animal studies.

Pyrasulfotole did not cause specific target organ toxicity in experimental animal studies.

Mefenpyr-diethyl did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard

May be fatal if swallowed and enters airways.

Information on likely routes of exposure

High vapor/aerosol concentrations (greater than approximately 1,000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects. Harmful if inhaled.

Irritating to skin. Prolonged skin contact may cause skin irritation and/or dermatitis.

Severe eye irritation.

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. This product causes reversible cholinesterase inhibition without long term effects.

Early onset symptoms related to exposure

Refer to Section 4

Delayed health effects from exposure

Refer to Section 11

Exposure levels and health effects

Refer to Section 4

Interactive effects

Not known

When specific chemical data is not available

Not applicable

Mixture of chemicals

Refer to Section 2.1

Further information

No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 3.2 mg/l
Exposure time: 96 h



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	<p>The value mentioned relates to the active ingredient MCPA 2-ethylhexyl ester.</p> <p>LC50 (<i>Lepomis macrochirus</i> (Bluegill sunfish)) > 100 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient pyrasulfotole.</p> <p>LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)) > 100 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient pyrasulfotole.</p>
Toxicity to aquatic invertebrates	<p>EC50 (<i>Daphnia magna</i> (Water flea)) 0.28 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient MCPA 2-ethylhexyl ester.</p> <p>EC50 (<i>Daphnia magna</i> (Water flea)) > 100 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient pyrasulfotole.</p>
Toxicity to aquatic plants	<p>EC50 (<i>Lemna gibba</i> (gibbous duckweed)) 1 mg/l Exposure time: 7 d</p> <p>EC50 (<i>Navicula pelliculosa</i> (Freshwater diatom)) 1.2 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient MCPA 2-ethylhexyl ester.</p> <p>EC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)) 29.8 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient pyrasulfotole.</p>
Toxicity to other organisms	<p>LD50 (<i>Colinus virginianus</i> (Bobwhite quail)) 2,250 mg/kg The value mentioned relates to the active ingredient MCPA 2-ethylhexyl ester.</p>

12.2 Persistence and degradability

Biodegradability	<p>MCPA-2-ethylhexyl ester: rapidly biodegradable Pyrasulfotole: Not rapidly biodegradable Mefenpyr-diethyl: Not rapidly biodegradable</p>
Koc	<p>Pyrasulfotole: Koc: 20 - 213 Mefenpyr-diethyl: Koc: 625</p>

12.3 Bioaccumulative potential

Bioaccumulation	<p>MCPA-2-ethylhexyl ester: Bioconcentration factor (BCF) 1 Does not bioaccumulate. Pyrasulfotole: Does not bioaccumulate. Mefenpyr-diethyl: Bioconcentration factor (BCF) 232 Does not bioaccumulate.</p>
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12.4 Mobility in soil

Mobility in soil
MCPA-2-ethylhexyl ester: Mobile in soils
Pyrasulfotole: Moderately mobile in soils
Mefenpyr-diethyl: Slightly mobile in soils

12.5 Other adverse effects

Additional ecological information No other effects to be mentioned.

SECTION 13. DISPOSAL CONSIDERATIONS

Refillable containers:

If tamper evident seals are broken prior to initial use then the integrity of the contents cannot be assured. Empty container by pumping through dry-break connection system. Do not attempt to breach the valve system or the filling point, or contaminate the container with water or other products. Ensure that the coupler, pump, meter and hoses are disconnected, triple rinsed and drained after each use. When empty, or contents no longer required, return the container to the point of purchase. This container remains the property of Bayer CropScience Pty Ltd.

Metal drums and plastic 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 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.

Do not reuse container for any other purpose.

SECTION 14. TRANSPORT INFORMATION

According to national and international transport regulations not classified as dangerous goods.

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 60897

SUSMP classification (Poison Schedule)

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 16. OTHER INFORMATION

Trademark information Precept® is a Registered Trademark of the Bayer Group.

Abbreviations and acronyms

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

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ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
AU OEL	Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
CAS-Nr.	Chemical Abstracts Service number
CEILING	Ceiling Limit Value
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
OES BCS	OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"
PEAK	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.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SEN	Skin sensitiser
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL	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.
TWA	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.
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

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.

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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.

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