

Safety data sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier

PULSAR[®]

Use: crop protection product, herbicide

Company:

BASF New Zealand Ltd.
5E City Works Depot
77 Cook Street
Auckland Central, Auckland 1010
NEW ZEALAND
Telephone: +64 9 255-4300

Emergency information:

National Poisons Centre: 0800 764 766
BASF Emergency Advice Number: 0800 944 955 (24 hour advice in an emergency only)
BASF Emergency Advice Number: +61 3 8855 6666 (if calling from outside New Zealand)

2. Hazards Identification

Hazard Classification: 6.1E, 6.3B, 6.4A, 6.5B, 6.8B, 6.9B, 9.1B, 9.2B



Signal word: WARNING

Hazard statements:

Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1	May cause an allergic skin reaction.
Repr. 2	Suspected of damaging fertility or the unborn child from repeated oral exposure.
STOT Rep. Exp. 2	May cause damage to organs from repeated oral exposure at high doses.
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects.
Other	Hazardous to soil organisms

Precautionary statements (Prevention):

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe spray mist. Use personal protective equipment as required. Wash hands and exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Precautionary statements (Response):

If exposed or concerned: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Collect spillage.

Precautionary statements (Storage):

Store locked up.

Other hazards which do not result in classification:

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Mixtures

Chemical nature

Crop protection product, herbicide, Soluble concentrate (SL)

Hazardous ingredients

bentazone, sodium salt
Content (W/W): 17.25 %
CAS Number: 25057-89-0
EC-Number: 246-585-8

Hazard symbol(s): Xn
R-phrase(s): 22, 36, 43, 52/53

MCPB; 4-(4-chloro-o-tolyloxy) butyric acid
Content (W/W): 17.1 %
CAS Number: 94-81-5
EC-Number: 202-365-3
INDEX-Number: 607-053-00-4

Hazard symbol(s): N
R-phrase(s): 50/53

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture

carbon monoxide, carbon dioxide, hydrogen chloride, nitrogen oxides, chlorine compounds
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. Handling and Storage

Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

Storage stability:

Storage duration: 60 Months

Protect from temperatures below: 0 °C

The product can crystallize below the limit temperature.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

AGGREGATE STORAGE VOLUME THRESHOLDS:						
When stored with substances of the same hazard the aggregate quantity must be considered. For full details refer to the current standard NZS8409 Management of Agrichemicals or the HSNO Regulations.						
Location Certificate*:	Hazardous Atmosphere Zone*:	Fire Extinguishers:	Signage [Hazard Class & Emergency Action]:	Emergency Information:	Emergency Response Plan:	Secondary Containment:
NA	NA	NA	1000 litres	5 litres	1000 litres	1000 litres
* Note: Farms \geq 4 ha are exempt but with controls.						
DO NOT STORE OR LOAD WITH: Class 1 Explosive			SEGREGATE FROM: Foodstuffs or Food Containers			
Segregation: In store separate by at least 5 metres, on transport separate by at least 3 metres, in both cases horizontally. On vehicles a segregation device may be used: Check the Land Transport Rule Dangerous Goods, Rule 45001 for additional information. Sea transport may require additional segregation. Refer to NZS5433 Sea Segregation for details.						

NOTE: Storage, application and record keeping must be as described in the current version of the New Zealand Standard for the Management of Agrichemicals NZS8409.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with workplace control parameters

No exposure standard allocated

Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	liquid
Colour:	dark brown
Odour:	faintly aromatic
pH value:	approx. 7 – 9 (CIPAC standard water D, 1 % (m), 20 °C)
Crystallization temperature:	approx. -9 °C
Boiling point:	approx. 100 °C (information applies to the solvent)
Flash point:	No flash point - Measurement made up to the boiling point
Flammability:	not flammable
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use
Ignition temperature:	Based on the water content the product does not ignite
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing
Vapour pressure:	approx. 23 hPa (20 °C) (information applies to the solvent)
Density:	approx. 1.16 g/cm ³ (20 °C)
Relative vapour density (air):	not applicable
Solubility in water:	fully soluble

Information on: bentazone (ISO); 3-isopropyl-2,1,3-benzothiadiazine-4-one-2,2-dioxide

Partitioning coefficient n-octanol/water (log Kow):

-0.46 (22 °C; pH value: 7)

-0.08 (22 °C)

0.77 (22 °C; pH value: 5)

-0.55 (22 °C; pH value: 9)

Information on: MCPA TECHNICAL

Partitioning coefficient n-octanol/water (log Kow):

-0.71 (20 °C; pH value: 7)

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated
Viscosity, dynamic: 11.7 mPa.s (20 °C)

Other information

If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

See MSDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): > 5.5 mg/l 4 h (OECD Guideline 403)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. An aerosol was tested.

LD50 rat (dermal): > 4,000 mg/kg (OECD Guideline 402)

No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation

Assessment of irritating effects:

Skin contact causes irritation. Eye contact causes irritation. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)

Assessment other acute effects

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Remarks: The product has not been tested. The statement has been derived from the properties of the individual components.

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone (ISO); 3-isopropyl-2,1,3-benzothiadiazine-4-one-2,2-dioxide

Experimental/calculated data:

Guinea pig maximization test guinea pig: skin sensitizing (OECD Guideline 406)

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organ toxicity was observed after repeated administration to animals.

Genetic toxicity

Assessment of mutagenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Toxic to aquatic life with long lasting effects.

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone

Toxicity to fish:

LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss

Information on: MCPB

Toxicity to fish:

LC50 (96 h) 4.3 mg/l, Oncorhynchus mykiss

Information on: bentazone

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, Daphnia magna

Information on: MCPB

Aquatic invertebrates:

EC50 (48 h) 55 mg/l, Daphnia magna

Information on: bentazone

Aquatic plants:

EC50 (72 h) 33.3 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201)

EC50 (7 d) 25.3 mg/l (growth rate), Lemna gibba (OECD guideline 221)

EC10 (7 d) 3.9 mg/l (growth rate), Lemna gibba

Information on: MCPB

Aquatic plants:

EC50 0.21 mg/l, Lemna gibba

No observed effect concentration < 0.01 mg/l, Lemna gibba

Mobility in soil (and other compartments if available)

Assessment transport between environmental compartments:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone (ISO); 3-isopropyl-2,1,3-benzothiadiazine-4-one-2,2-dioxide

Assessment transport between environmental compartments:

Following exposure to soil, the product trickles away and can - dependent on degradation - be

transported to deeper soil areas with larger water loads.

Information on: MCPA (ISO); 4-chloro-o-tolyloxyacetic acid
Assessment transport between environmental compartments:
Following exposure to soil, the product trickles away and can - dependent on degradation - be transported to deeper soil areas with larger water loads.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone (ISO); 3-isopropyl-2,1,3-benzothiadiazine-4-one-2,2-dioxide
Assessment biodegradation and elimination (H₂O): Not readily biodegradable (by OECD criteria).

Information on: MCPB
Assessment biodegradation and elimination (H₂O): Not readily biodegradable (by OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential:
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone (ISO); 3-isopropyl-2,1,3-benzothiadiazine-4-one-2,2-dioxide
Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Information on: MCPA (ISO); 4-chloro-o-tolyloxyacetic acid
Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Results of PBT and vPvB assessment

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal Considerations

Container: Triple rinse empty container and add rinsate to the spray tank. Recycle through Agrecovery (0800 247 326, www.agrecovery.co.nz).

Product: Dispose of this product only by using according to the label or at an approved landfill, or other approved facility. Do NOT burn product. Do NOT contaminate any water supply with product or used container

Contaminated packaging: Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Classified as Dangerous Goods for Land/rail (ADR/RID), sea (IMDG) and air transport (ICAO/IATA):

UN number	UN3082
	UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains MCPB)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Marine pollutant:	YES
HAZCHEM:	2[Z]
Special precautions for user:	None known

Public transport:
 Do NOT carry this product on a passenger service vehicle.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
 To avoid risks to man and the environment, comply with the instructions for use.

Chemical Safety Assessment

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

NZ Regulations

Registered pursuant to the ACVM Act 1997, No. P004961.
 See www.foodsafety.govt.nz for registration conditions.

Approved pursuant to the HSNO Act 1996, Code HSR000374.
 See www.epa.govt.nz for approval controls.

Qualification requirements:	not required
Certified handler:	not required
Tracking:	not required
Record keeping:	not required

16. Other Information

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

Full text of hazard symbols and R-phrases if mentioned as hazardous components in section 3:

Xn	Harmful.
N	Dangerous for the environment.
22	Harmful if swallowed.
36	Irritating to eyes.
43	May cause sensitization by skin contact.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Vertical lines in the left hand margin indicate an amendment from the previous version

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.