

Safety data sheet

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

Product identifier

PULSAR®

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

Relevant identified uses: crop protection product, herbicide

Details of the supplier of the safety data sheet

Company:

BASF New Zealand Limited
3 Airpark Drive, Airport Oaks, Manukau 2022
P.O. Box 407, Auckland 1140.
Phone: + 64 9 255 4300
Fax: + 64 9 255 4307
E-mail address: reception.nz@basf.com

Emergency telephone number

National Poisons Centre: 0800 764 766

BASF Emergency Advice Number: 0800 944 955 (24 hour advice in an emergency only)

2. Hazards Identification

Classification of the substance or mixture

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

Label elements

Pictogram:



Priority Identifier:

Warning. Keep out of reach of children

Secondary Identifiers:

- 6.1E Harmful. This material may be harmful if swallowed, inhaled or absorbed through the skin.
- 6.3B, May cause mild skin irritation.
- 6.4A May cause eye irritation.
- 6.5B May cause sensitisation from prolonged skin contact.
- 6.8B May cause reproductive/development damage from repeated oral exposure.
- 6.9B May cause organ damage from repeated oral exposure at high doses.
- 9.1B Toxic to aquatic life with longlasting effects.
- 9.2B Toxic to the soil environment. Very toxic to some plant species (selective herbicide).

Hazard determining component(s) for labelling:

bentazone, MCPB

Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

See section 12 - Results of PBT and vPvB assessment.

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

MixturesChemical nature

Crop protection product, herbicide, Soluble concentrate (SL)

Contains: bentazone (ISO); 3-isopropyl-2,1,3-benzothiadiazine-4-one-2,2-dioxide, sodium salt

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

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

Content (W/W): 17.25 %

CAS Number: 25057-89-0

EC-Number: 246-585-8

Acute Tox. 4 (oral) Eye Dam./Irrit. 2

Skin Sens. 1

Aquatic Chronic 3

H319, H302, H317, H412

MCPB (ISO); 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

Aquatic Acute 1

Aquatic Chronic 1

H400, H410

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.

APPROVED HANDLER:

Approved handlers as defined under the HSNO Act 1996 are not required for this product.

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

| 50723-80-3: 3-Isopropyl-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide, sodium salt

Exposure controlsPersonal 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 |
| Odour threshold: | not determined |
| 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: | does not ignite |
| Lower explosion limit: | not determined |
| Upper explosion limit: | not determined |

| | |
|--------------------------------|---|
| Ignition temperature: | Based on the water content the product does not ignite. |
| 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 determined |
| 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 (ISO); 4-chloro-o-tolyloxyacetic acid

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

2.75 (20 °C; pH value: 1.0)

| | |
|----------------------------|---|
| Thermal decomposition: | not determined |
| Viscosity, dynamic: | 11.7 mPa.s (20 °C) |
| 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. |

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.

Possibility of 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.

Experimental/calculated data:

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.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404) Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405) 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)

Germ cell mutagenicity

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.

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.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information**Toxicity**

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

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

Information on: MCPA (ISO); 4-chloro-o-tolyloxyacetic acid

Assessment of aquatic toxicity:

EU-classification Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

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

Toxicity to fish:

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

Information on: MCPA (ISO); 4-chloro-o-tolyloxyacetic acid

Toxicity to fish:

LC50 > 100 mg/l, Lepomis macrochirus

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

Aquatic invertebrates:

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

Information on: MCPA (ISO); 4-chloro-o-tolyloxyacetic acid

Aquatic invertebrates:

EC50 (48 h) > 190 mg/l, Daphnia magna

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

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)

Information on: MCPA (ISO); 4-chloro-o-tolyloxyacetic acid

Aquatic plants:

EC50 (72 h) > 100 mg/l, algae

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: MCPA (ISO); 4-chloro-o-tolyloxyacetic acid

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.

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.

BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 21.09.2012

Product: **PULSAR**

Version: 3.0

(ID no. 30056681/SDS_CPA_EU/EN)

Date of print 22.09.2012

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

Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

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 17%) |
| 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

For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use. (Directive 1999/45/EC, Article 10, No. 1.2)

Chemical Safety Assessment

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

NZ Regulations

Approved pursuant to the HSNO Act 1996, Code HSR000374.

See www.epa.govt.nz for approval controls.

Registered pursuant to the ACVM Act 1997, No. P4961.

See www.foodsafety.govt.nz for registration conditions.

16. Other Information

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

| | |
|-------------------|---|
| Skin Corr./Irrit. | Skin corrosion/irritation |
| Eye Dam./Irrit. | Serious eye damage/eye irritation |
| Skin Sens. | Skin sensitization |
| Aquatic Chronic | Hazardous to the aquatic environment - chronic |
| Acute Tox. | Acute toxicity |
| Aquatic Acute | Hazardous to the aquatic environment - acute |
| H319 | Causes serious eye irritation. H302 Harmful if swallowed. |
| H317 | May cause an allergic skin reaction. |
| H412 | Harmful to aquatic life with long lasting effects. H400 Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

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

DISCLAIMER: 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. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.