

Safety data sheet

BASF Safety Data Sheet
Date / Revised: 17.02.2014
Product: **TERPAL**[®]

(ID no. 30035202/SDS_CPA_EU/EN; Version 4.1; 17.02.2014)

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

Product identifier

TERPAL[®]

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

Relevant identified uses: crop protection product, growth regulator.

Details of the supplier of the safety data sheet

Company:

BASF New Zealand Limited
Level 4, 4 Leonard Isitt Drive, Auckland Airport, Auckland 2022
P.O. Box 407, Auckland 1140
Phone: + 64 9 255 4300
Fax: + 64 9 255 4307
E-mail address: reception@basf-nz.co.nz

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

Hazard Classification:

6.1D, 6.9B, 8.1A, 9.1C, 9.2B, 9.3B



Priority Identifier:

WARNING. Keep out of reach of children

Secondary Identifiers:

- 6.1D HARMFUL. Harmful if swallowed.
6.9B TOXIC. May cause kidney and nervous system damage through prolonged or repeated oral exposure at high doses.
8.1A CORROSIVE. May be corrosive to metals.
9.1C HARMFUL TO AQUATIC LIFE. May cause long lasting harmful effects to aquatic life.
9.2B TOXIC TO THE SOIL ENVIRONMENT. Plant growth regulator. Certain plants may be damaged through uptake of this product.
9.3B TOXIC TO TERRESTRIAL VERTEBRATES.

To avoid risks to human health and the environment, comply with the instructions for use.

Hazard determining component(s) for labelling: CHLORETHEPHON, MEPIQUAT-CHLORIDE

3. Composition/Information on Ingredients

Mixtures

Chemical nature

Crop protection product, growth regulator, Soluble concentrate (SL).

Hazardous ingredients

1,1-dimethylpiperidinium chloride; mepiquat chloride

Content (W/W): 28 %

CAS Number: 24307-26-4

EC-Number: 246-147-6

INDEX-Number: 613-127-00-7

2-chloroethylphosphonic acid; ethephon

Content (W/W): 14.2 %

CAS Number: 16672-87-0

EC-Number: 240-718-3

4. First-Aid Measures

4.1 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.

4.2. Most important symptoms and effects, both acute and delayed

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

4.3. 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

5.1. Extinguishing media

Suitable extinguishing media:
Water spray, foam, dry powder, carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Carbon monoxide, hydrogen chloride, carbon dioxide, nitrogen oxides, phosphorus compounds, organochloric compounds.

The substances/groups of substances mentioned can be released in case of fire.

5.3. 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

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

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

6.3 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 labelled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

6.4 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

7.1 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. Remove contaminated clothing and protective equipment before entering eating areas.

Protection against fire and explosion:

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

7.2 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.

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Storage stability:
Storage duration: 48 Months

Protect from temperatures below: -10 °C
Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.
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 | 1 litre | 1000 litres | 1000 litres |
| * Note: Farms \geq 4 ha are exempt but with controls | | | | | | |
| DO NOT STORE OR LOAD WITH: Class 1 Explosive Class 7 Radioactive | | | SEGREGATE FROM: Class 4.3 Dangerous When Wet Class 5.1 Oxidizing Agent Class 5.2 Organic Peroxide 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.

7.3 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

8.1 Control parameters

Components with workplace control parameters

No occupational exposure limits known.

8.2 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). (Combination filter EN 14387 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) 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.

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

9.1 Information on basic physical and chemical properties

| | |
|--------------------------------|--|
| Form: | liquid |
| Colour: | colourless, clear |
| Odour: | aromatic |
| Odour threshold: | Not determined due to potential health hazard by inhalation. |
| pH value: | approx. 0.5 – 1 (20 °C) (measured with the undiluted substance) |
| Crystallization temperature: | approx. -14.9 °C |
| Boiling point: | approx. 100 °C |
| Flash point: | No flash point - Measurement made up to the boiling point. (DIN EN 22719; ISO 2719) |
| Evaporation rate: | not applicable |
| Flammability: | Based on the structure or composition there is no indication of flammability |
| 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: | approx. 415 °C (Directive 92/69/EEC, A.15) |
| Vapour pressure: | approx. 23 hPa (20 °C) Information applies to the solvent. |
| Density: | approx. 1.09 g/cm ³ (20 °C) |
| Relative vapour density (air): | not determined |
| Solubility in water: | fully soluble |

Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride

Partitioning coefficient n-octanol/water (log Kow): -3.55 (pH value: 7) (OECD Guideline 107)

Information on: 2-chloroethylphosphonic acid; ethephon

Partitioning coefficient n-octanol/water (log Kow): 0.05 (25 °C) (calculated)

| | |
|----------------------------|---|
| Thermal decomposition: | No decomposition if correctly stored and handled. |
| Viscosity, dynamic: | approx. 4.1 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. |

9.2 Other information

Other Information:

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

10. Stability and Reactivity

10.1 Reactivity

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

Corrosion to metals:

Corrosive effect on: aluminium.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

See SDS section 7 - Handling and storage.

10.5 Incompatible materials

Substances to avoid:

Strong acids, strong bases, strong oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products:

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

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral): > 500 - < 2,000 mg/kg (OECD Guideline 423)

LC50 rat (by inhalation): > 5.3 mg/l 4 h (OECD Guideline 403). An aerosol was tested.

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

LD50 rabbit (dermal): 1,250 mg/kg

Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Skin sensitizing effects were not observed in animal studies.

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.

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 organotoxicity was observed after repeated administration to animals.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

12.1 Toxicity

Assessment of aquatic toxicity:

May cause long-term adverse effects in the aquatic environment.

Toxicity to fish:

LC50 (96 h) > 100 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1, static)

Aquatic invertebrates:

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

Aquatic plants:

EC10 (72 h) > 1,000 mg/l, *Pseudokirchneriella subcapitata*

EC50 (7 d) > 100 mg/l (growth rate), *Lemna gibba* (OECD guideline 221)

12.2 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: 1,1-dimethylpiperidinium chloride; mepiquat chloride

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Information on: 2-chloroethylphosphonic acid; ethephon

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

12.3 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: 1,1-dimethylpiperidinium chloride; mepiquat chloride

Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Information on: 2-chloroethylphosphonic acid; ethephon

Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

12.4 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: 1,1-dimethylpiperidinium chloride; mepiquat chloride

Assessment transport between environmental compartments:

Following exposure to soil, the product trickles away and can - dependant on degradation – be transported to deeper soil areas with larger water loads.

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Information on: 2-chloroethylphosphonic acid; ethephon
Assessment transport between environmental compartments:
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5 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.

12.6 Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7 Additional information

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

13. Disposal Considerations

Container:

Triple rinse empty container and add residue to the spray tank. Recycle through Agrecovery (0800 247 326, www.agrecovery.co.nz). Do NOT reuse the container for any other purpose.

Contaminated packaging:

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

Product:

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

13.1. Waste treatment methods

Waste product/packaging may be sent to a suitable incineration plant, observing local regulations.

14. Transport Information

Commercial transport:

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

| | |
|-----------------------------|--|
| UN number: | UN3265 |
| UN proper shipping name: | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains ETHEPHON) CORROSIVE ON ALUMINIUM |
| Transport hazard class(es): | 8 |
| Packing group: | III |
| Marine pollutant: | No |
| HAZCHEM: | 2[Z] |

15. Regulatory Information

15.1 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)

15.2 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 HSR000806.
See www.epa.govt.nz for approval conditions.

Registered pursuant to the ACVM Act 1997, Nos. P3483.
See www.foodsafety.govt.nz/acvm 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.

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 products 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.

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