

Safety data sheet

BASF Safety Data Sheet
Date / Revised: 20.12.2019
Product: **FRONTIER®-P**

Ref. ID no. 30782804/SDS_CPA_00/EN. Version: 3.1

1. Identification

Product identifier

FRONTIER®-P

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
5E City Works Depot, 77 Cook Street, Auckland Central, Auckland 1010
P.O. Box 407, Auckland 1140
Phone: 0800 932 273

Emergency telephone number

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:

6.1D, 6.3B, 6.4A, 6.5B, 6.7B, 9.1A, 9.2A, 9.3C



Priority Identifier: WARNING

Hazard Statements:

Harmful if swallowed, inhaled, or absorbed through the skin. Causes mild skin irritation. Causes eye irritation. May cause an allergic skin reaction. Suspected of causing cancer through prolonged or repeated exposure at high doses. Very toxic to aquatic life with long lasting effects. Very toxic to the soil environment. Harmful to terrestrial vertebrates.

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Prevention:

Keep out of reach of children. Read label before use. Do not handle until all safety precautions have been read and understood. Wash splashes of concentrate from skin and eyes immediately. Do not eat, drink, or smoke while using this product. Remove protective clothing and wash hands and exposed skin thoroughly with soap and water after handling. Avoid contact with eyes, skin or clothing and inhalation of spray mist. Contaminated work clothing should not be allowed out of the workplace. When mixing or applying, wear cotton overalls buttoned to the neck and wrist, washable hat, impervious gloves, and goggles.

Response:

If medical advice is needed, have product container or label at hand. IF SWALLOWED: Rinse mouth. Call a POISON CENTRE or doctor/physician if you feel unwell. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell. 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.

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

Hazard determining component(s) for labelling: Dimethenamid-P, SOLVENT NAPHTHA.

Other hazards

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

Substances

Not applicable

Mixtures

Chemical nature

Crop protection product, herbicide, emulsifiable concentrate (EC)

Hazardous ingredients

Dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide	
Content (W/W): 63.9 %	Acute Tox. 4 (oral)
CAS Number: 163515-14-8	Skin Sens. 1
	Aquatic Acute 1
	Aquatic Chronic 1
	M-factor acute: 10
	M-factor chronic: 10
	H302, H317, H400, H410

Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified

Content (W/W): < 30 %

CAS Number: 64742-94-5

Asp. Tox. 1
Aquatic Acute 2
Aquatic Chronic 2
H304, H401, H411

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2-Methylnaphthalene Content (W/W): < 10 % CAS Number: 91-57-6	Acute Tox. 4 (oral) Aquatic Chronic 2 H302, H411
1-Methylnaphthalene Content (W/W): < 10 % CAS Number: 90-12-0	Acute Tox. 4 (oral) Aquatic Chronic 2 H302, H411
Polymeraminphosphat Content (W/W): < 5 % CAS Number: 9038-95-3	Skin Corr./Irrit. 2 Eye Dam./Irrit. 2A H319, H315
Biphenyl Content (W/W): < 3 % CAS Number: 92-52-4	Acute Tox. 5 (oral) Skin Corr./Irrit. 2 Eye Dam./Irrit. 2A STOT SE 3 (irr. to respiratory syst.) Aquatic Acute 1 Aquatic Chronic 3 M-factor acute: 1 M-factor chronic: 1 H319, H315, H303, H335, H412, H400
Naphthalene Content (W/W): < 1 % CAS Number: 91-20-3	Flam. Sol. 2 Acute Tox. 4 (oral) Carc. 2 Aquatic Acute 1 Aquatic Chronic 1 M-factor acute: 1 M-factor chronic: 1 H228, H302, H351, H400, H410
Phenanthrene Content (W/W): < 1 % CAS Number: 85-01-8	Acute Tox. 4 (oral) Aquatic Acute 1 Aquatic Chronic 1 M-factor acute: 10 M-factor chronic: 1 H302, H400, H410

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

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

On skin contact:

Immediately 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. Do not induce vomiting due to aspiration hazard.

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.

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:

Foam, dry powder, carbon dioxide, water spray.

Special hazards arising from the substance or mixture

Carbon monoxide, Hydrogen chloride, Carbon dioxide, nitrogen oxides, organochloric 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:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. 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.

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 local 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. Wear suitable protective equipment.

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

Protection against fire and explosion:

Vapours may form ignitable mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Storage stability:

Storage duration: 60 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.

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.

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	100 litres	1 litre	100 litres	100 litres

* Note: Farms \geq 4 ha are exempt but with controls

DO NOT STORE OR LOAD WITH:

Class 1 Explosive

SEGREGATE FROM:

Foodstuffs and 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.

CERTIFIED HANDLER:

Not required.

QUALIFICATION REQUIREMENTS:

Any person mixing, loading, or handling this product must be suitably qualified.

TRACKING:

Not required.

RECORD KEEPING:

Records of use must be kept if 3 litres or more of the substance is applied within 24 hours.

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 (NZ)

Substance	CAS#	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Naphthalene	91-20-3	0.5	2.6	2	10
Biphenyl	92-52-4	0.2	1.3		

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, alkaline compounds and toxic particles (e. g. EN 14387 Type ABEK-P3)

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) etc.

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:	brown
Odour:	aromatic
Odour threshold:	not determined due to potential health hazard by inhalation
pH value:	approx. 2 – 4 (water, 1 %(m), approx. 25 °C)
Melting point:	the product has not been tested
Boiling point:	approx. 122,6 °C (9,3 Pa). Information based on the main components.
Flash point:	non-flammable
Evaporation rate:	not applicable
Flammability:	not applicable
Lower explosion limit:	approx. 0,6 %(V) Information applies to the solvent.
Upper explosion limit:	approx. 7,0 %(V) Information applies to the solvent.
Ignition temperature:	approx. 391 °C (Directive 440/2008/EC, A.15)
Vapour pressure:	< 1 mmHg (25 °C)

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Density: approx. 1.13 g/cm³ (approx. 20 °C) (OECD Guideline 109)
Relative vapour density (air): not determined
Solubility in water: emulsifiable, insoluble

Information on: dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide

Partitioning coefficient n-octanol/water (log Kow): 1.89

Thermal decomposition: 230 °C, 370 kJ/kg (DSC (OECD 113))
380 °C, > 230 kJ/kg (DSC (OECD 113))
Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.
Viscosity, dynamic: approx. 43,6 mPa.s (20 °C)
Viscosity, kinematic: 22 mm²/s (40 °C)
Explosion hazard: not explosive (Regulation 440/2008/EC, A.14)
Fire promoting properties: not fire-propagating (Regulation 440/2008/EC, A.21)

Other information

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 SDS 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 moderate 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 products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): > 500 mg/kg (OECD Guideline 423)

LC50 rat (by inhalation): > 5,6 mg/l 4 h (OECD Guideline 403)
No mortality was observed.

LD50 rat (dermal): > 5.000 mg/kg (OECD Guideline 402)
No mortality was observed.

Irritation

Assessment of irritating effects:

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

Experimental/calculated data:

modified Buehler test guinea pig: Caused skin sensitization in animal studies. (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.

Information on: Naphthalene

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. The substance was mutagenic in a mammalian cell culture test system. The substance was not mutagenic in a test with mammals. Literature data.

Carcinogenicity

Assessment of carcinogenicity:

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

Information on: naphthalene

Assessment of carcinogenicity:

In long-term studies in rats and mice in which the substance was given by inhalation, a carcinogenic effect was observed. EU-classification: The substance was classified as a group 3 carcinogen by the German MAK-Commission (substances for which a suspicion of a carcinogenic potential exists). IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans).

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.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

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

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.

Information on: dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide

Assessment of repeated dose toxicity:

Adaptive effects were observed after repeated exposure in animal studies.

Information on: Biphenyl

Assessment of repeated dose toxicity:

The substance may cause damage to the kidney after repeated ingestion of high doses, as shown in animal studies.

Information on: Naphthalene

Assessment of repeated dose toxicity:

The substance may cause damage to the olfactory epithelium after repeated inhalation.

Aspiration hazard

No aspiration hazard expected.

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

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

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

Toxicity to fish:

LC50 (96 h) 8,32 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203)

Aquatic invertebrates:

EC50 (48 h) 17,1 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants:

EC50 (72 h) 0,1327 mg/l, *Scenedesmus subspicatus* (OECD Guideline 201)

EC50 (7 d) 0,054 mg/l, *Lemna gibba*

Information on: dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide

Chronic toxicity to fish:

No observed effect concentration (90 d) 0,120 mg/l, *Oncorhynchus mykiss*

Information on: dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) 0,680 mg/l, *Daphnia magna*

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: dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide

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: dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide

Bioaccumulation potential:

No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

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: Information on: dimethenamid-P (ISO); (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide

Assessment transport between environmental compartments:

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

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 the Montreal Protocol 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:

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

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.

14. Transport Information

Commercial transport:

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

UN number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains SOLVENT NAPHTHA, DIMETHENAMID-P)
Transport hazard class(es):	9, EHSM
Packing group:	III
Marine pollutant:	YES
HAZCHEM:	2[Z]

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

Approved pursuant to the HSNO Act 1996, Code HSR100030.
 See www.epa.govt.nz for approval conditions.

Registered pursuant to the ACVM Act 1997, Nos. P7979.
 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.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
STOT SE	Specific target organ toxicity — single exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Asp. Tox.	Aspiration hazard
Flam. Sol.	Flammable solids
Carc.	Carcinogenicity
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H304	May be fatal if swallowed and enters airways.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H303	May be harmful if swallowed.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
H228	Flammable solid.
H351	Suspected of causing cancer.

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.

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