

# Safety data sheet

BASF Safety Data Sheet  
Date / Revised: 19.04.2012  
Product: **FRONTIER<sup>®</sup>-P**

(ID no. 30585730/SDS\_CPA\_EU/EN; Version 1.0; 19.04.2012)

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

### Product identifier

**FRONTIER<sup>®</sup>-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  
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: 0800764 766**

BASF Emergency Advice Number: 0800 944 955 (24 Hour Advice in an Emergency Only)

## 2. Hazards Identification

Hazard Classification:

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



Priority Identifier:

WARNING. Keep out of reach of children

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Secondary Identifiers:

- 6.1D HARMFUL. May be harmful if swallowed.
- 6.3B HARMFUL. May cause mild skin irritation.
- 6.4A HARMFUL. May cause eye irritation.
- 6.5B HARMFUL. May cause sensitization from prolonged skin contact. Repeated exposure may cause skin dryness or cracking.
- 6.7B HARMFUL. Suspected carcinogen.
- 9.1A VERY TOXIC TO AQUATIC LIFE. May cause long-term adverse effects in the aquatic environment. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites.
- 9.2A VERY TOXIC TO THE SOIL ENVIRONMENT. Selective herbicide - very toxic to some plant species (certain plants may be killed or damaged from root uptake of this product).
- 9.3C HARMFUL TO Terrestrial vertebrates.

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.

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### 3. Composition/Information on Ingredients

#### Mixtures

##### Chemical nature

Crop protection product, herbicide, emulsifiable concentrate (EC)

##### Hazardous ingredients

Dimethenamid-P

Content (W/W): 63.9 %

CAS Number: 163515-14-8

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

Content (W/W): < 30 %

CAS Number: 64742-94-5

EC-Number: 265-198-5

REACH registration number: 01-2119463583-34

INDEX-Number: 649-424-00-3

Naphthalene

Content (W/W): < 5 %

CAS Number: 91-20-3

EC-Number: 202-049-5

INDEX-Number: 601-052-00-2

Polymeric amine phosphate prepn.

Content (W/W): < 15 %

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### 4. First-Aid Measures

#### 4.1 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, seek medical attention.

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.

#### **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.

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## **5. Fire-Fighting Measures**

### **5.1. Extinguishing media**

Suitable extinguishing media:

Foam, dry powder, carbon dioxide, water spray.

### **5.2. Special hazards arising from the substance or mixture**

Carbon monoxide, Carbon dioxide, hydrogen chloride, sulphur oxides, nitrogen oxides, 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:

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.

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## **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 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.

## 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.

#### APPROVED HANDLER:

Approved handlers are not required for this product except for use.

This product must be under the personal control of an APPROVED HANDLER when applied in a wide dispersive manner or used by a commercial contractor.

#### 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: 24 Months

### 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.

**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.

### RECORD KEEPING

Written records of use should be kept.

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 (NZ)

Substance	CAS#	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Naphthalene	91-20-3	10	52	15	79

### 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).

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

### 9.1 Information on basic physical and chemical properties

Form:	liquid
Colour:	dark brown
Odour:	aromatic
Odour threshold:	not determined
pH value:	approx. 2 – 4 (water, 1 %(m), approx. 25 °C)
Cloud point:	approx. -1.2 °C
Boiling point:	approx. 204 °C (1,013 hPa) Information applies to the solvent.
Flash point:	approx. 105 °C (Directive 92/69/EEC, A.9)
Evaporation rate:	not applicable
Flammability:	not highly flammable (Directive 92/69/EEC, A.12)
Lower explosion limit:	not determined
Upper explosion limit:	not determined
Ignition temperature:	approx. 425 °C (Directive 92/69/EEC, A.15)

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Vapour pressure: approx. 0.05 hPa (approx. 20 °C)  
Information applies to the solvent.  
Density: approx. 1.13 g/cm<sup>3</sup> (approx. 20 °C) (OECD Guideline 109)  
Relative vapour density (air): not determined  
Solubility in water: emulsifiable

*Information on: Dimethenamid-P*

*Partitioning coefficient n-octanol/water (log Kow): 2.58 (21 °C)*

Thermal decomposition: not determined  
Viscosity, dynamic: approx. 16.3 mPa.s (approx. 40 °C, 100 1/s)  
Viscosity, kinematic: approx. 14.7 mm<sup>2</sup>/s (40 °C)  
Explosion hazard: Based on the chemical structure there is no indicating of explosive properties. (Directive 92/69/EEC, A.14)  
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.

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## 10. Stability and Reactivity

### 10.1 Reactivity

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

### 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.

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## 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. 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 - < 2,000 mg/kg (OECD Guideline 423)

LC50 rat (by inhalation): > 5.6 mg/l 4 h (OECD Guideline 403)

LD50 rat (dermal): > 5,000 mg/kg (OECD Guideline 402)

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. 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.

*Information on: naphthalene*

*Assessment of carcinogenicity:*

*Indication of possible carcinogenic effect in animal tests.*

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 of high doses to animals.

Aspiration hazard

May also damage the lung at swallowing (aspiration hazard).

Other relevant toxicity information

Misuse can be harmful to health.

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## 12. Ecological Information

### 12.1 Toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. The product has not been tested. The statement has been derived from products of a similar structure or composition.

Aquatic invertebrates:

EC50 (48 h) 8.85 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants:

EC50 (72 h) 0.63 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

*Information on: Dimethenamid-P*

*Toxicity to fish:*

*LC50 (96 h) 10 mg/l, *Lepomis macrochirus**

*LC50 (96 h) 6.3 mg/l, *Oncorhynchus mykiss**

### 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: Dimethenamid-P*

*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: Dimethenamid-P*

*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: Dimethenamid-P*

*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.

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## 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](http://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.

### 13.1. Waste treatment methods

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

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## 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 DIMETHENAMID-P)
Transport hazard class(es):	9, EHSM
Packing group:	III
Marine pollutant:	YES
HAZCHEM:	2[Z]

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## 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 HSR100030.  
See [www.epa.govt.nz](http://www.epa.govt.nz) for approval conditions.

Registered pursuant to the ACVM Act 1997, Nos. P7979.  
See [www.foodsafety.govt.nz/acvm](http://www.foodsafety.govt.nz/acvm) for registration conditions.

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## 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.

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