We create chemistry

Safety data sheet

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

Product identifier

POLYRAM® DF

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

Relevant identified uses: crop protection product, fungicide.

Details of the supplier of the safety data sheet

Company:
BASF New Zealand Limited
Level 1, Quad 7, 6 Leonard Isitt Drive, Auckland Airport, Auckland 2022
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:

6.1E, 6.3B, 6.4A, 6.5A, 6.5B, 6.9B, 9.1A, 9.3C

Signal Word: DANGER

Hazard Statements:
H303 May be harmful if swallowed
H316 May cause mild skin irritation
H319 May cause serious eye irritation
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317 May cause an allergic skin reaction
H373 May cause organ damage through prolonged or repeated oral exposure at high doses
H410 Very toxic to aquatic life with long lasting effects
H433 Harmful to terrestrial vertebrates

Precautionary Statements (Prevention):
P102 Keep out of reach of children
P280 Wear protective gloves/protective clothing/eye protection/face protection
P281 Use personal protective equipment as required
P260 Do not breathe dust/fume/gas/mist/vapours/spray
P264 Wash contaminated body parts thoroughly after handling
P272 Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements (Response):
If medical advice is needed, have product container or label at hand.
Call a POISON CENTER or doctor/physician if you feel unwell
To avoid risks to human health and the environment, comply with the instructions for use.

According to UN GHS criteria

Hazard determining component(s) for labelling: METIRAM.

Other hazards

According to UN GHS criteria

See section 12 - Results of PBT and vPvB assessment.

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

3. Composition/Information on Ingredients

Mixtures

Chemical nature

Crop protection product, herbicide, water dispersible granules (WG).

Hazardous ingredients

Metiram
Content (W/W): 70 %
CAS Number: 9006-42-2

Skin Sens. 1
STOT RE (Skeletal muscle) 2
Aquatic Acute 1
Aquatic Chronic 1
H317, H373, H400, H410

Sodium diisobutyl naphthalene sulphonate
Content (W/W): < 5 %
CAS Number: 27213-90-7
EC-Number: 248-326-4

Acute Tox. 4 (Inhalation - dust)
Acute Tox. 4 (oral)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
STOT SE 3 (irr. to respiratory syst.)
Aquatic Acute 3
Aquatic Chronic 3
H318, H315, H332, H302, H335, H402, H412

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

4. First-Aid Measures

4.1 Description of first aid measures

If inhaled:
Keep patient calm, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms, call a POISON CENTER or doctor/physician.

On skin contact:
Remove contaminated clothing. Wash thoroughly with soap and water. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing before reuse.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

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.

Unsuitable extinguishing media for safety reasons:
Carbon dioxide.

5.2. Special hazards arising from the substance or mixture
Carbon monoxide, hydrogen sulphide, carbon dioxide, nitrogen oxides, sulphur oxides.
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:
Keep containers cool by spraying with water if exposed to fire. In case of fire and/or explosion do not breathe fumes. 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

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. 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: Contain with dust binding material and dispose of.
For large amounts: Sweep/shovel up.
Avoid raising dust. 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.

Qualification Requirements:
Any person mixing, loading or handling this product must be a qualified person.
Refer to the product label for handling precautions and directions for use.

Protection against fire and explosion:
Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

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 against moisture. Protect from direct sunlight.

Storage stability:
Storage duration: 24 Months

Protect from temperatures above: 30 °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	100 kg	1 kg	100 kg	100 kg

DO NOT STORE OR LOAD WITH:	SEGREGATE FROM:
Class 1 Explosive	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
Records of use must be kept if more than 3 kg 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.

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: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2).

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:	solid
Colour:	brown
Odour:	moderate odour, smoky
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 5 – 7 (CIPAC standard water D, 10 g/l, 20 °C)
Melting temperature:	approx. 156 °C The data given are those of the active ingredient.
Boiling point:	The substance / product decomposes therefore not determined.
Flash point:	not applicable
Evaporation rate:	not applicable
Flammability:	not highly flammable (Regulation 440/2008/EC, A.10)
Lower explosion limit:	150 g/m3 (VDI 2263)
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.
Vapour pressure:	The value has not be determined because of the high melting point.
Relative vapour density (air):	not applicable
Solubility in water:	dispersible

Information on: metiram
Partitioning coefficient n-octanol/water (log Kow): *0.33 (pH value: 7)*
1.9 (pH value: 5)
-0.37 (pH value: 9)

Self-ignition:	not self-igniting (Method: Regulation 440/2008/EC, A.16)
Thermal decomposition:	150 °C, 20 kJ/kg (DSC (OECD 113)) 235 °C, 20 kJ/kg (DSC (OECD 113)) 325 °C, > 830 kJ/kg (DSC (OECD 113)) No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	not applicable, the product is a solid
Explosion hazard:	not explosive (Regulation 440/2008/EC, A.14)
Fire promoting properties:	not fire-propagating (Regulation 440/2008/EC, A.17)

9.2 Other information

Self heating ability:	It is not a substance capable of spontaneous heating.
Bulk density:	approx. 603 kg/m3 (20 °C).

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.

11. Toxicological Information

11.1 Information on toxicological effects

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Experimental/calculated data:
LD50 rat (oral): > 5,000 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): > 2.71 mg/l 4 h (OECD Guideline 403)
No mortality was observed. An aerosol was tested.

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)
No mortality was observed.

Irritation
Assessment of irritating effects:
Not irritating to the eyes. Not irritating to the skin.

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:
Sensitization after skin contact possible.

Experimental/calculated data:
Modified Buehler test guinea pig: 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.

Specific target organ toxicity (single exposure)
Assessment of STOT single:
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.

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: metiram
Assessment of repeated dose toxicity:
Damages the skeletal muscle.

Aspiration hazard
No aspiration hazard expected.

Other relevant toxicity information
Misuse can be harmful to health.

12. Ecological Information

12.1 Ecotoxicity

Assessment of aquatic toxicity:
Very toxic to aquatic organisms with long lasting effects.

Toxicity to fish:
LC50 (96 h) 0.473 mg/l, *Oncorhynchus mykiss* (OPP 72-1 (EPA-Guideline), Flow through.)

Aquatic invertebrates:
EC50 (48 h) 0.821 mg/l, *Daphnia magna* (Directive 79/831/EEC, semistatic)

Aquatic plants:
EC50 (72 h) 0.157 mg/l (growth rate), algae (OECD Guideline 201, static)
No observed effect concentration (72 h) 0,002 mg/l (growth rate), algae (OECD Guideline 201)

Chronic toxicity to fish:
No observed effect concentration (28 d) 0,0236 mg/l, Oncorhynchus mykiss

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (21 d) 0,00437 mg/l, Daphnia magna

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: metiram
Assessment biodegradation and elimination (H2O):
According to OECD criteria the product is not readily biodegradable but inherently biodegradable).

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: metiram
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

Assessment transport between environmental compartments:
Adsorption in soil: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: metiram
Assessment transport between environmental compartments:
Adsorption in soil: 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:
Empty bag completely into the spray tank. Crush and bury in suitable landfill.

Contaminated packaging:
Contaminated packaging should be emptied 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:	UN 3077
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains METIRAM)
Transport hazard class(es):	9, EHSM
Packing group:	III
Marine pollutant:	YES
HAZCHEM:	2[Z]

15. Regulatory Information

15.1 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.

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 HSR000482.
See www.epa.govt.nz for approval conditions.

Registered pursuant to the ACVM Act 1997, Nos. P2062.
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:

Skin Sens.	Skin sensitization
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT SE	Specific target organ toxicity — single exposure
H317	May cause an allergic skin reaction.
H373	May cause damage to organs (Skeletal muscle) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

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.

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