

Rovral® WG

A protectant fungicide for the control of a wide range of fungal diseases in agricultural and horticultural crops

A water dispersible granule containing 750 g/kg iprodione.

Risk and Safety Information

Warning:

Causes serious eye irritation.

Very toxic to aquatic life with long lasting effects.

Suspected of causing cancer.

Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: get medical advice/attention. Collect spillage.

This material and its container must be disposed of in a safe way.

Dispose of contents/container to a licensed waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste.

Conventional Sprayer:

To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

Air Assisted Sprayer:

To protect aquatic organisms respect an unsprayed buffer zone of 15m to surface water bodies.

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

Authorization holder:

BASF plc, P O Box 4,
Earl Road, Cheadle Hulme,
Cheshire, SK8 6QG, UK

1 kg



Supplied by:

BASF Ireland Limited
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PCS No.: 02729

UN 3077

Packing Group III

Environmentally hazardous substance,
Solid, N.O.S. (contains iprodione 75%)

BASF
The Chemical Company

® = Registered trademark of BASF

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FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL FUNGICIDE, as directed below:

CROPS	MAXIMUM INDIVIDUAL DOSE	MAXIMUM NUMBER OF TREATMENTS PER CROP	LATEST TIME OF APPLICATION
Winter and spring oilseed rape	0.67 kg/ha	1	7 weeks before harvest
Brussels sprout and cauliflower	0.67 kg/ha	3	14 days before harvest
Bulb onions	0.67 kg/ha	4	21 days before harvest
Salad onions	0.67 kg/ha	4	7 days before harvest
Tomato (protected)	67g per 100 litres water	5	2 days before harvest
Lettuce (protected)	33g per 100 litres water*	3	14 days before harvest
Lettuce (outdoor)	33g per 100 litres water*	3	21 days before harvest
Strawberry (outdoor and protected)	1 kg/ha	4	2 days before harvest
Raspberry (outdoor)	1 kg/ha	4	7 days before harvest
Brassica seed production crops**	0.67 kg/ha	3	14 days before harvest
Ornamental pot plants	67g per 100 litres water	5	Not applicable

Other specific restriction:

Cherry tomatoes must not be treated

*Lettuce (outdoor and protected): Do not exceed a volume of 1000 litres per hectare.

** Crops intended for sowing: cabbage, cauliflower, broccoli, mustard, fodder rape, turnip, swede, kohlrabi, stubble turnip and Chinese cabbage. Treated crop must not be used for human or animal consumption.

Use on raspberry must only be applied via broadcast air-assisted sprayers with the relevant buffer zone as detailed in the Precautions section.

The following minimum intervals between applications must be observed:

Strawberry	10 days	Raspberry	10 days
Tomato (protected)	14 days	Lettuce	14 days
Brassica seed production crops	21 days		

READ ALL PRECAUTIONS BEFORE USE

PCS No.: 02729

PRECAUTIONS

WEAR SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the product.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with plenty of water and seek medical advice.

WASH HANDS AND EXPOSED SKIN before meals and after work.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

VERY TOXIC TO AQUATIC ORGANISMS, may cause long-term adverse effects in the aquatic environment. Do not contaminate surface waters or ditches with chemical or used container.

Do not contaminate water with the product or its container. (Do not clean application equipment near surface water / Avoid contamination via drains from farmyards and roads).

DO NOT ALLOW DIRECT SPRAY from ground crop sprayers to fall within 5m of the top of the bank of a static or flowing waterbody. Direct spray away from water.

DO NOT ALLOW DIRECT SPRAY from broadcast air-assisted sprayers for use on raspberry to fall within 15m of the top of the bank of a static or flowing waterbody, or within 5m of the top of a ditch which is dry at the time of application. Aim spray away from water.

IF SWALLOWED, seek medical advice immediately and show this container or label.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

EMPTY CONTAINER THOROUGHLY and dispose of safely.

STORAGE

Store in a suitable pesticide store, keep dry and protect from frost.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

Rovral WG is a protectant fungicide for use on a range of horticultural and agricultural crops.

1. Restrictions/Warnings

Consult processors before using on crops intended for processing.
Avoid spray drift onto neighbouring crops, especially oats.

For professional use only.

2. Disease Control

Rovral WG is protectant and contact fungicide for the control of *Botrytis cinerea* in protected tomatoes, lettuce and strawberries, ornamental pot plants, raspberries, oilseed rape, salad and bulb onions (including *B. squamosa*), and control of *Alternaria brassicae* and *Alternaria brassicicola*, in brassica seed production crops, oilseed rape, Brussels sprout and cauliflower.

2.1 Resistance

Strains of several diseases including *Botrytis cinerea* resistant to dicarboximide fungicides are known in various crops. Where strains of fungi resistant to dicarboximide fungicides (such as iprodione) occur, Rovral WG may not be effective. In order to minimise the risk of resistance development, Rovral WG should be used in accordance with FRAC resistance management advice for dicarboximide fungicides:

Recommendations for use of Dicarboximides

- Rovral WG contains a dicarboximide fungicide
- To reduce the risk of resistant strains adversely affecting control
 - Avoid the use of consecutive applications of dicarboximide fungicides whether applied alone or in tank mix.
 - Restrict applications to those times when *Botrytis* infection pressure is high.
 - Maintain regular prolonged times when dicarboximides are not used.
- Where resistance is suspected, use Rovral WG in mixture with other fungicides with a different mode of action effective against the same diseases.

3. Crop specific information

3.1 Tomatoes (Protected)

Time and rate of Application

For the control of *Botrytis cinerea*, apply Rovral WG at a rate of 67 g per 100 litres of water and apply to run off. Apply Rovral WG from when the second truss is in flower; repeat at 14 day intervals or when conditions favour the spread of *Botrytis* (such as at trimming or de leafing).

The programme described above helps to reduce the levels of inoculum within the house and hence assists in preventing 'ghost spotting'.

A maximum of 5 applications may be made. A minimum spray interval of 14 days must be observed.

3.2 Lettuce (Protected and Outdoor) *Botrytis cinerea*

Time and rate of Application

For the control of *Botrytis cinerea*, apply Rovral WG at a rate of 33 g per 100 litres of water. Do not exceed a volume of 1000 litres per hectare (equivalent to a maximum of 0.33 Kg/ha).

As a guide for protected lettuce, newly planted lettuce with three leaves require 5 litres of spray to 22,000 plants. At a later stage of growth, e.g. up to six to eight leaves, 5 litres should treat about 5000 plants. The final spray, before cutting, will require 5 litres of spray to approximately 1100 plants. For outdoor and protected lettuce a maximum of 3 applications may be made. A minimum spray interval of 14 days must be observed between treatments.

3.3 Ornamental Pot Plants

Time and rate of Application

For the control of *Botrytis cinerea*, apply Rovral WG at a rate of 67 g per 100 litres of water. Apply at the onset of disease, then repeat at 21 day intervals as necessary. Apply to the point of run-off, ensuring good coverage of the plants. Good tolerance to Rovral WG has been shown by the following pot plant species:

Aralia sieboldii

Azalea spp.

Begonia rex (cv Fireglow)

Chrysanthemum (all year round cultivars)

Cineraria (*Senecio* sp.)

Croton (*Codiaeum* sp. cv Bravo)

Cyclamen spp.

Dracaena sp. (cv Redege)

Ficus robusta
Fuchsia spp.
Hedera minor
Hedera major
Impatiens parviflora
Kalanchoe spp.
Neanthe bella
Pelargonium sp.
Philodendron scandens
Pilea cadierei (cv Nana)
Poinsettia (Euphorbia pulcherrima)
Senecio macroglossus variegatus
Sinningia spp. (*Gloxinia*)

Tolerance of other species should be checked before making large-scale applications.

3.4 Strawberries (Protected and Outdoor)

Time and rate of Application

For the control of *Botrytis cinerea*, apply 1.0 kg of Rovral WG in 2000 litres of water per hectare. Lower volume rates may not be sufficient to give good coverage on dense crops. Ensure thorough blossom coverage from above and from the sides. Directed nozzles and a ruffler bar will help achieve this.

The first application should be made at the white bud stage with subsequent treatments at 10–14 day intervals during the flowering period, up to a maximum of four applications per year.

3.5 Raspberries

Time and rate of Application

For the control of *Botrytis cinerea*, apply 1.0 kg of Rovral WG in 1000 litres of water per hectare.

A minimum of three sprays over the flowering period is recommended, starting at early flowering and repeating at 14 day intervals. A maximum of 4 sprays may be made per year.

A minimum spray interval of 10 days must be observed between treatments.

3.6 Brassica Seed Production Crops (crops intended for sowing): cabbage, cauliflower, broccoli, mustard, fodder rape, turnip, swede, kohl rabi, stubble turnip and Chinese cabbage (not oilseed rape)

Time and rate of Application

For the control of *Alternaria brassicae* and *A. brassicicola*, spray at the end of flowering at a rate of 0.67 kg Rovral WG in 600 to 1000 litres of water per hectare. A total of 3 applications may be made. A minimum spray interval of 21 days must be observed between treatments.

Treated crop must not be used for human or animal consumption

3.7 Winter and spring oilseed rape.

Time and rate of Application

Apply Rovral WG at a rate of 0.67 kg per hectare. A maximum of 1 spray may be made to each crop.

Rovral WG should be applied in 200–400 litres per hectare of water as a fine spray (BCPC category), except where drift is a hazard when a medium spray should be used. Use the higher volume if the crop is very dense.

Dark leaf spot and pod spot: *Alternaria* spp

Protectant applications

Apply 0.67 kg per hectare Rovral WG between mid flower, i.e. when 20 pods that are 2.5 cm in length have formed on the main raceme, and the end of flowering.

Disease onset applications

Treat with 0.67 kg per hectare Rovral WG when black pin head spots first appear on the pods. Pod infections are most likely to occur on those crops where *Alternaria* spp spots can be detected on the uppermost leaves (bracts).

Grey mould: *Botrytis cinerea*

When applying a protectant spray of Rovral WG at 0.67 kg per hectare at mid flower for the control of *Alternaria* spp., application will also control grey mould. Application at the end of flowering will be unsatisfactory.

3.8 Brussel sprouts and cauliflower

Time and rate of Application

For the control of *Alternaria brassicae* and *A. brassicicola*, apply Rovral WG at 0.67 kg per hectare. A maximum of 3 applications of Rovral WG may be made. A programme of applications may be required. The first treatment should be applied at the onset of disease on the foliage.

Apply in at least 200–600 litres per hectare of water ensuring good coverage of the plants.

A minimum spray interval of 21 days must be observed between treatments.

3.9 Salad and bulb onions

Time and rate of Application

For the control of leaf spot (*Botrytis squamosa*) and collar rot (*Botrytis cinerea*) apply Rovral WG at a rate of 0.67 kg per hectare. A programme of applications is required.

Apply in 300–600 litres per hectare of water ensuring good coverage of the foliage.

Salad Onions

Over wintered: Treat at monthly intervals starting at the crook stage. A maximum of 4 applications may be made.

Spring and summer sown: Treat at 14 day intervals starting at the crook stage. A maximum of 4 applications may be made.

Bulb Onions

Over wintered: Treat at monthly intervals from the crook stage until January. Further treatments at monthly intervals starting in March may be necessary to control late season infections. A maximum of 4 applications may be made.

4. Mixing and Spraying

Foliar application:

Apply as a FINE-MEDIUM spray, as defined by BCPC.

Half fill the tank with clean water and start the agitation. Add the required amount of Rovral WG to the spray tank while re-circulating. Add the remainder of the water and continue agitation until spraying is complete.

When tank mixes are to be used, each product should be added separately.

On emptying the container, rinse container thoroughly by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of container safely.

5. Trademark Acknowledgements

Rovral WG is a trademark of BASF.

The following does not form part of the product label under S.I. No. 159 of 2012:

With many products there is a general risk of resistance developing to the active ingredients. For this reason a change in activity cannot be ruled out. It is generally impossible to predict with certainty how resistance may develop because there are so many crop and use connected ways of influencing this. We therefore have to exclude liability for damage or loss attributable to any such resistance that may develop. To help minimise any loss in activity the BASF recommended rate should in all events be adhered to.

Numerous, particularly regional or regionally attributable, factors can influence the activity of the product. Examples include weather and soil conditions, crop plant varieties, crop rotation, treatment times, application amounts, admixture with other products, appearance of organisms resistant to active ingredients and spraying techniques. Under particular conditions a change in activity or damage to plants cannot be ruled out. The manufacturer or supplier is therefore unable to accept any liability in such circumstances. All goods supplied by us are of high grade and we believe them to be suitable, but as we cannot exercise control over their mixing or use or the weather conditions during and after application, which may affect the performance of the material, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded and no responsibility will be accepted by us for any damage or injury whatsoever arising from their storage, handling, application or use; but nothing should be deemed to exclude or restrict any liability upon us which cannot be excluded or restricted under the provisions of any applicable law.

Safety data sheet

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

Product identifier

ROVRAL WG

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 SE, 67056 Ludwigshafen, GERMANY

Contact address: BASF Ireland Ltd, PO Box 4, Earl Road,
Cheadle Hulme, Cheadle, Cheshire, SK8 6GG, UNITED KINGDOM

Telephone: +44 161 485-6222

E-mail address: product-safety-north@basf.com

Emergency telephone number

International emergency number: Telephone: +49 180 2273-112

2. Hazards Identification

Label elements

Globally Harmonized System, EU (GHS)

Pictogram:

Signal Word: Warning



Hazard Statement:

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H351 Suspected of causing cancer.

Precautionary Statements (Prevention):

P201 Obtain special instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P391 Collect spillage.

Precautionary Statements (Storage):

P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

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

Hazard determining component(s) for labelling: IPRDIONE, sodium diisopropylnaphthalene sulphonate

According to Directive 67/548/EEC or 1999/45/EC

Classification/labelling in accordance with Irish regulations.

Hazard symbol(s)

Xn Harmful.

N Dangerous for the environment.

R-phrases(s)

R36

Irritating to eyes.

R40

Limited evidence of a carcinogenic effect.

R50/53

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S2

Keep out of the reach of children.

S13

Keep away from food, drink and animal feeding stuffs.

S20/21

When using do not eat, drink or smoke.

S23.1

Do not breathe spray.

S26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S35

This material and its container must be disposed of in a safe way.

S36/37

Wear suitable protective clothing and gloves.

S46

If swallowed, seek medical advice immediately and show this container or label.

S51

Use only in well-ventilated areas.

S57

Use appropriate container to avoid environmental contamination.

Hazard determining component(s) for labelling: IPRDIONE, sodium diisopropylnaphthalene sulphonate

Classification of the substance or mixture

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

Eye Dam./Irrit. 2

Carc. 2

Aquatic Acute 1

Aquatic Chronic 1

According to Directive 67/548/EEC or 1999/45/EC

Carc. Cat. 3

Possible Hazards: Irritating to eyes.

Limited evidence of a carcinogenic effect.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. For the classifications not written out in full in this section the full text can be found in section 16.



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

Mixtures

Chemical nature

crop protection product, fungicide, water dispersible granules

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

IPRODIONE TECH 97.5-98%

Content (W/W): 75 %

CAS Number: 36734-19-7

EC-Number: 253-178-9

INDEX-Number: 616-054-00-9

Carc. 2

Aquatic Acute 1

Aquatic Chronic 1

H400, H410, H351

sodium diisopropyl naphthalene sulphonate

Content (W/W): < 5 %

EC-Number: 215-343-3

Acute Tox. 4 (oral)

Acute Tox. 4 (Inhalation - dust)

Eye Dam. Irrit. 2A

STOT SE 3 (irr. to respiratory syst.)

H319, H332, H302, H335

Calcium carbonate

Content (W/W): < 10 %

CAS Number: 471-34-1

EC-Number: 207-439-9

REACH registration number: 01-2119486795-18

Sodium sulphate

Content (W/W): < 5 %

CAS Number: 7757-82-6

EC-Number: 231-820-9

REACH registration number: 01-2119519226-43

Hazardous ingredients

according to Directive 1999/45/EC

IPRODIONE TECH 97.5-98%

Content (W/W): 75 %

CAS Number: 36734-19-7

EC-Number: 253-178-9

INDEX-Number: 616-054-00-9

Hazard symbol(s): Xn, N

R-phrases(s): 40, 50/53

Carc. Cat. 3

sodium diisopropylnaphthalene sulphonate

Content (W/W): < 5 %

EC-Number: 215-343-3

Hazard symbol(s): Xn

R-phrases(s): 20/22, 36/37

Calcium carbonate

Content (W/W): < 10 %

CAS Number: 471-34-1

EC-Number: 207-439-9

REACH registration number: 01-2119486795-18

Sodium sulphate

Content (W/W): < 5 %

CAS Number: 7757-82-6

EC-Number: 231-820-9

REACH registration number: 01-2119519226-43

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 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: dry powder, foam, water spray

Unsuitable extinguishing media for safety reasons: carbon dioxide

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**

Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Avoid dust formation.

Environmental precautions

Do not allow contamination of public drains or surface or ground waters. Inform local water plc if spillage enters drains and the Environmental Protection Agency if it enters surface or ground waters.

Keep people and animals away.

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 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.

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

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Protect against moisture. Keep away from heat. Protect from direct sunlight.

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

471-34-1: Calcium carbonate

TWA value 4 mg/m³ (OEL (IE)), Respirable dust

TWA value 10 mg/m³ (OEL (IE)), Total inhalable dust

For normal use and handling refer to the product label/leaflet. In all other cases the following apply. Refer to the current schedule of occupational exposure standards published by the Irish HSA.

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

Information on basic physical and chemical properties

Form: granules

Colour: beige

Odour: odourless

Odour threshold: not determined

pH value: approx. 9 - 11

(10 g/l, 24 °C)

Melting point: approx. 136 °C

(measured)

Information based on the main components.

Boiling point: not determined

Flash point: not applicable

Evaporation rate: not applicable

Flammability: not highly flammable

(Directive 92/69/
EEC, A.10)

Lower explosion limit: not determined

Upper explosion limit:	not determined	
Ignition temperature:	> 350 °C	
Vapour pressure:	The product has not been tested.	
Relative vapour density (air):	not determined	
Solubility in water:	dispersible	
Partitioning coefficient n-octanol/water (log Kow):	not applicable	
Self ignition:	not self-igniting	(Method: Directive 92/69/EEC, A.16)
Thermal decomposition:	not determined	
Viscosity, dynamic:	not applicable	(Directive 92/69/EEC, A.14)
Explosion hazard:	not explosive	(Directive 92/69/EEC, A.17)
Fire promoting properties:	not fire-propagating	

Other information

Bulk density: approx. 640 kg/m³
 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. The product is chemically stable.

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

11. Toxicological Information

Information on toxicological effects

Acute toxicity

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): > 2,000 mg/kg

LC50 rat (by inhalation): 5.2 mg/l 4 h (OECD Guideline 403) No mortality was observed. Tested as dust aerosol.

LD50 rat (dermal): > 2,000 mg/kg

Irritation

Assessment of irritating effects: Eye contact causes irritation. Not irritating to the skin.

Experimental/calculated data: Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: Irritant.

Respiratory/Skin sensitization

Assessment of sensitization: There is no evidence of a skin-sensitizing potential. Experimental/calculated data: Buehler 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.

Information on: IPRADIONE TECH 97.5-98%

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.

Information on: IPRADIONE TECH 97.5-98%

Assessment of repeated dose toxicity:

Repeated exposure to large quantities may affect certain organs.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity: Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish: LC50 (96 h) 35 mg/l, *Oncorhynchus mykiss*

Aquatic invertebrates: LC50 (48 h) 0.40 mg/l, *Daphnia magna*

Aquatic plants: EC50 (72 h) 9.1 mg/l (growth rate), *Scenedesmus subspicatus*

Persistence and degradability

Assessment biodegradation and elimination (H20): The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: IPRODIONE TECH 97.5-98%

Assessment biodegradation and elimination (H20):

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: IPRODIONE TECH 97.5-98%

Bioaccumulation potential:

Bioconcentration factor: 34.8 - 70.4

Does not accumulate in organisms.

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: IPRODIONE TECH 97.5-98%

Assessment transport between environmental compartments:

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

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.

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**Land transport**

ADR

Hazard class: 9

Packing group: III

ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (contains IPRODIONE)

RID
Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (contains IPRODIONE)

Inland waterway transport

ADN
Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (contains IPRODIONE)

Sea transport

IMDG
Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM Marine pollutant: YES
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (contains IPRODIONE)

Air transport

IATA/ICAO
Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (contains IPRODIONE)

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)

This product may be subject to the Seveso II Directive and amendments if specific threshold tonnages are exceeded.

For further medical advice Doctors should contact the National Poison Information Centre at Beaumont Hospital, Dublin.

Chemical Safety Assessment

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

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 the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn	Harmful.
N	Dangerous for the environment.
40	Limited evidence of a carcinogenic effect.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
20/22	Harmful by inhalation and if swallowed.
36/37	Irritating to eyes and respiratory system.
Eye Dam./Irrit.	Serious eye damage/eye irritation
Carc.	Carcinogenicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Acute Tox.	Acute toxicity
STOT SE	Specific target organ toxicity — single exposure
Carc. Cat. 3	Carcinogenic substances Category 3: Substances which cause concern for man owing to possible carcinogenic effects.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H351	Suspected of causing cancer.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H335	May cause respiratory irritation.

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.