

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 02.11.2012

Version: 4.0

Product: **DITHIANON WG**

(ID no. 30265868/SDS_CPA_GB/EN)

Date of print 02.11.2012

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

Product identifier

DITHIANON 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 plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, 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

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

Classification/labelling in accordance with UK regulations.

Hazard symbol(s)
Xn Harmful.



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N Dangerous for the environment.



R-phrases(s)

R22	Harmful if swallowed.
R40	Limited evidence of a carcinogenic effect.
R41	Risk of serious damage to eyes.
R50	Very toxic to aquatic organisms.

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.
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.
S39	Wear eye/face protection.
S46	If swallowed, seek medical advice immediately and show this container or label.
S57	Use appropriate container to avoid environmental contamination.

Hazard determining component(s) for labelling: DITHIANON

Classification of the substance or mixtureAccording to Directive 67/548/EEC or 1999/45/EC

Carc. Cat. 3

(as in Annex I of Directive 67/548/EEC)

Possible Hazards:

Harmful if swallowed.
Limited evidence of a carcinogenic effect.
Risk of serious damage to eyes.
Very toxic to aquatic organisms.

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

Other hazardsAccording 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.

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3. Composition/Information on Ingredients

Mixtures

Chemical nature

crop protection product, fungicide, water dispersible granules
> 75 µm

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile	Content (W/W): 70 %	Acute Tox. 2 (Inhalation - dust)
	CAS Number: 3347-22-6	Acute Tox. 4 (oral)
Kaolin	EC-Number: 222-098-6	Eye Dam./Irrit. 1
		Skin Sens. 1
Ammonium sulphate		Carc. 2
		Aquatic Acute 1
		Aquatic Chronic 1
		H318, H330, H302, H317, H351, H400, H410
Kaolin	Content (W/W): < 25 %	Eye Dam./Irrit. 2
	CAS Number: 1332-58-7	H319
Ammonium sulphate	EC-Number: 310-194-1	
Ammonium sulphate	Content (W/W): < 25 %	
	CAS Number: 7783-20-2	
Ammonium sulphate	EC-Number: 231-984-1	
	REACH registration number: 01-2119455044-46	

Hazardous ingredients

according to Directive 1999/45/EC

dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile
 Content (W/W): 70 %
 CAS Number: 3347-22-6
 EC-Number: 222-098-6
 Hazard symbol(s): T, N
 R-phrases(s): 22, 23, 41, 43, 40, 50/53
 Carc. Cat. 3

Kaolin

Content (W/W): < 25 %
CAS Number: 1332-58-7
EC-Number: 310-194-1

Ammonium sulphate

Content (W/W): < 25 %
CAS Number: 7783-20-2
EC-Number: 231-984-1
REACH registration number: 01-2119455044-46

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

Show container, label and/or safety data sheet to physician.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately inhale corticosteroid dose aerosol.

On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately 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: Symptomatic treatment (decontamination, vital functions).

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, Carbon dioxide, nitrogen oxides, sulfur oxides

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 Environment Agency (England & Wales), the Scottish Environmental Protection Agency (Scotland), or the Environment and Heritage Service (Northern Ireland) 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: Keep away from heat. Protect against moisture. Protect from direct sunlight.

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.

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 parametersComponents with occupational exposure limits

1332-58-7: Kaolin

TWA value 2 mg/m³ (WEL/EH 40 (UK)), Respirable dust

Refer to the current edition of HSE Guidance Note EH40 Occupational Exposure Limits (United Kingdom). For normal use and handling refer to the product label/leaflet. In all other cases the following apply.

Exposure controlsPersonal 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:

Tightly fitting safety goggles (splash 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:	brown	
Odour:	characteristic	
Odour threshold:	not determined	
pH value:	approx. 3 - 5 (1 %(m), approx. 20 °C) (as suspension)	
Melting point:	The product has not been tested.	
Boiling point:	The product has not been tested.	
Flash point:	not applicable	
Evaporation rate:	not applicable	
Flammability:	not highly flammable	(Directive 84/449/EEC, A.10)
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Vapour pressure:	The product has not been tested.	
Relative vapour density (air):	negligible, Information based on the main components.	
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)

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Thermal decomposition: not determined

Viscosity, dynamic:

not applicable

Explosion hazard: not explosive

(Directive 92/69/EEC, A.14)

Fire promoting properties: not fire-propagating

Other informationBulk density: 528 - 600 kg/m³

Grain size distribution > 50 µm (Counted Distribution)

particles 100 %

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 MSDS 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:

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

Experimental/calculated data:

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LD50 rat (oral): 273 mg/kg (Directive 84/449/EEC, B.1)

LC50 rat (by inhalation):

Not inhalable due to the physico-chemical properties of the product.

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

No mortality was observed.

Irritation

Assessment of irritating effects:

May cause severe damage to the eyes. Not irritating to the skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (Directive 84/449/EEC, B.4)

Serious eye damage/irritation rabbit: Risk of serious damage to eyes. (Directive 84/449/EEC, B.5)

Respiratory/Skin sensitization

Assessment of sensitization:

The product has not been tested. The statement has been derived from the properties of the individual components. Sensitization after skin contact possible.

Information on: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

*Experimental/calculated data:**Guinea pig maximization test guinea pig: skin sensitizing (OECD Guideline 406)**An aqueous solution was tested.*

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: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

*Assessment of carcinogenicity:**Long term administration of organotoxic doses revealed a carcinogenic effect. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.*

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.

Information on: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

Assessment of teratogenicity:

The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses which impaired body weight gain in 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: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

Assessment of repeated dose toxicity:

Repeated exposure may affect certain organs. Damages the kidneys.

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.

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

Information on: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

Toxicity to fish:

LC50 (96 h) 0.044 mg/l, Oncorhynchus mykiss (Directive 84/449/EEC, C.1)

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Information on: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

Aquatic invertebrates:

EC50 (48 h) 0.26 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Information on: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

Aquatic plants:

EC50 (72 h) 0.298 mg/l (growth rate), *Selenastrum capricornutum* (Guideline 92/69/EEC, C.3)

No observed effect concentration (72 h) 0.025 mg/l (growth rate), *Pseudokirchneriella subcapitata* (Guideline 92/69/EEC, C.3)

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: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

Assessment biodegradation and elimination (H₂O):

According to OECD criteria the product is not readily biodegradable but inherently biodegradable.

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: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

Bioaccumulation potential:

Bioconcentration factor: 28 (3 d), *Oncorhynchus mykiss* (OECD Guideline 305 E)

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: dithianon (ISO); 5,10-dihydro-5,10-dioxonaphtho(2,3-b)(1,4)dithiazine-2,3-dicarbonitrile

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.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).

This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

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

UN number	UN2588
UN proper shipping name:	PESTICIDE, SOLID, TOXIC, N.O.S. (contains DITHIANON)
Transport hazard class(es):	6.1, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN2588
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UN proper shipping name:	PESTICIDE, SOLID, TOXIC, N.O.S. (contains DITHIANON)
Transport hazard class(es):	6.1, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN2588
UN proper shipping name:	PESTICIDE, SOLID, TOXIC, N.O.S. (contains DITHIANON)
Transport hazard class(es):	6.1, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

UN number:	UN 2588
UN proper shipping name:	PESTICIDE, SOLID, TOXIC, N.O.S. (contains DITHIANON)
Transport hazard class(es):	6.1, EHSM
Packing group:	III
Environmental hazards:	yes
	Marine pollutant: YES
Special precautions for user:	None known

Air transport

IATA/ICAO

UN number:	UN 2588
UN proper shipping name:	PESTICIDE, SOLID, TOXIC, N.O.S. (contains DITHIANON)
Transport hazard class(es):	6.1
Packing group:	III
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

Further information

This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

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.

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).

This product may be subject to the Control of Major Accident Hazards Regulations (COMAH), and amendments if specific threshold tonnages are exceeded (United Kingdom).

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:

T	Toxic.
N	Dangerous for the environment.
22	Harmful if swallowed.
23	Toxic by inhalation.
41	Risk of serious damage to eyes.
43	May cause sensitization by skin contact.
40	Limited evidence of a carcinogenic effect.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Acute Tox.	Acute toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Carc.	Carcinogenicity

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Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Carc. Cat. 3	Carcinogenic substances Category 3: Substances which cause concern for man owing to possible carcinogenic effects.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H319	Causes serious eye irritation.

If you have any queries relating to this MSDS, its contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

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.

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