

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 02.10.2015

Version: 7.0

Product: **CABRIO DUO**

(ID no. 30661244/SDS_CPA_EU/EN)

Date of print 01.06.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

CABRIO DUO

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

Relevant identified uses: crop protection product, fungicide

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Crop Protection

Telephone: +49 621 60-27777

E-mail address: Produktinformation-Pflanzenschutz@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4 (oral)

Skin Corr./Irrit. 2

STOT RE (Skeletal muscle) 2

Aquatic Acute 1
Aquatic Chronic 1

H315, H302, H373, H400, H410, EUH401

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

2.2. Label elements

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

Pictogram:



Signal Word:
Warning

Hazard Statement:

H315	Causes skin irritation.
H302	Harmful if swallowed.
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.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary Statement:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P260	Do not breathe dust/gas/mist/vapours.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P311	Call a POISON CENTER or doctor/physician.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P301 + P330	IF SWALLOWED: rinse mouth.
P391	Collect spillage.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before reuse.

Precautionary Statements (Disposal):

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

Labeling of special preparations (GHS):

EUH208: May produce an allergic reaction. Contains: METIRAM, HEXAMETHYLENETETRAMINE (METHENAMINE)

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

Hazard determining component(s) for labelling: METIRAM, PYRACLOSTROBIN

2.3. 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.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

crop protection product, fungicide, water dispersible granules

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

metiram

Content (W/W): 55 %
CAS Number: 9006-42-2

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

pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yloxymethyl]phenyl}(N-methoxy)carbamate

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Content (W/W): 5 %
CAS Number: 175013-18-0
INDEX-Number: 613-272-00-6

Acute Tox. 3 (Inhalation - mist)
Skin Corr./Irrit. 2
STOT SE 3 (irr. to respiratory syst.)
Aquatic Acute 1
Aquatic Chronic 1
M-factor acute: 100
M-factor chronic: 10
H315, H331, H335, H400, H410

Sodium diisobutyl-naphthalenesulphonate

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 Chronic 3
H318, H315, H332, H302, H335, H412

methenamine; hexamethylenetetramine

Content (W/W): < 5 %
CAS Number: 100-97-0
EC-Number: 202-905-8

Flam. Sol. 2
Skin Sens. 1
H228, H317

Silicon dioxide

Content (W/W): < 10 %
CAS Number: 7631-86-9
EC-Number: 231-545-4
REACH registration number: 01-2119379499-16

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 hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. 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.

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.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
dry powder, foam, water spray

Unsuitable extinguishing media for safety reasons:
carbon dioxide

5.2. Special hazards arising from the substance or mixture

carbon monoxide, hydrogen chloride, Carbon dioxide, nitrogen oxides, sulfur 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:

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

SECTION 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 drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

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 labeled 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.

SECTION 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.

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.

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.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

100-97-0: methenamine; hexamethylenetetramine

7631-86-9: Silicon dioxide

7757-82-6: Sodium sulphate

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) etc.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	granules
Colour:	brown
Odour:	aromatic
Odour threshold:	Not determined due to potential health hazard by inhalation.

pH value:	approx. 5 - 7 (CIPAC standard water D, 1 %(m), 20 °C) (as suspension)	
onset of melting:	> 120 °C	
Boiling point:	The product is a non-volatile solid.	
Flash point:	not applicable	
Evaporation rate:	not applicable	
Flammability:	not highly flammable	(Directive 92/69/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:	not applicable	
Density:	approx. 1.67 g/cm ³ (20 °C) approx. 1.663 g/cm ³ (55 °C)	(Directive 92/69/EEC, A.3) (calculated)
Relative vapour density (air):	not applicable	
Solubility in water:	dispersible	
<i>Information on: metiram</i>		
<i>Partitioning coefficient n-octanol/water (log Kow): 0.33</i>		
	(pH value: 7)	
	1.9	
	(pH value: 5)	
	-0.37	
	(pH value: 9)	

Self ignition:	Temperature: approx. 199 °C	(Method: Directive 92/69/EEC, A.16)
Thermal decomposition:	150 °C, 150 kJ/kg, (DSC (OECD 113)) Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
Viscosity, dynamic:	not applicable, the product is a solid	
Explosion hazard:	not explosive	(Directive 92/69/EEC, A.14)

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(Directive 92/69/EEC, A.17)

Fire promoting properties: not fire-propagating

9.2. Other information

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 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 MSDS 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.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

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

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): > 2,000 mg/kg (OECD Guideline 402)

No mortality was observed.

Irritation

Assessment of irritating effects:

Skin contact causes irritation. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:

modified Buehler test guinea pig: Non-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:

Repeated oral exposure may affect certain organs.

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-ylloxymethyl]phenyl}(N-methoxy)carbamate

Assessment of repeated dose toxicity:

After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Information on: Silicon dioxide

Assessment of repeated dose toxicity:

Repeated inhalative uptake of particles/dust reaching the alveoli may cause damage to the lungs.

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

Misuse can be harmful to health.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

Toxicity to fish:

LC50 (96 h) 0.149 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203, static)

Aquatic invertebrates:

EC50 (48 h) 0.41 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

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

Aquatic plants:

EC50 (72 h) 0.25 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

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.

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yl]oxymethyl}phenyl}(N-methoxy)carbamate

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: metiram

Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yl]oxymethyl}phenyl}(N-methoxy)carbamate

Bioaccumulation potential:

Bioconcentration factor: 379 - 507, Oncorhynchus mykiss (OECD-Guideline 305)

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.

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yl]oxymethyl}phenyl}(N-methoxy)carbamate

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.

SECTION 13: Disposal Considerations

13.1. 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.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN3077
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains METIRAM, PYRACLOSTROBIN)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

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UN number: UN3077
 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (contains METIRAM, PYRACLOSTROBIN)
 Transport hazard class(es): 9, EHSM
 Packing group: III
 Environmental hazards: yes
 Special precautions for user: None known

Inland waterway transport

ADN

UN number: UN3077
 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (contains METIRAM, PYRACLOSTROBIN)
 Transport hazard class(es): 9, 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 3077
 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (contains METIRAM, PYRACLOSTROBIN)
 Transport hazard class(es): 9, EHSM
 Packing group: III
 Environmental hazards: yes
 Marine pollutant: YES
 Special precautions for user: None known

Air transport

IATA/ICAO

UN number: UN 3077
 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (contains METIRAM, PYRACLOSTROBIN)
 Transport hazard class(es): 9, EHSM
 Packing group: III
 Environmental hazards: yes

Special precautions for user: None known

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

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

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

SECTION 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.

SECTION 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 hazard classes and the hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Skin Sens.	Skin sensitization
STOT SE	Specific target organ toxicity — single exposure
Eye Dam./Irrit.	Serious eye damage/eye irritation
Flam. Sol.	Flammable solids
H315	Causes skin irritation.
H302	Harmful if swallowed.
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.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
H228	Flammable solid.

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.