

Safety data sheet

Page: 1/21

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

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

1.1. Product identifier

BRUTUS

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
GERMANYContact 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

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]

Skin Sens. 1

Carc. 2

Repr. 1B

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

Aquatic Acute 1
Aquatic Chronic 1

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

Carc. Cat. 3
Repr. Cat. 2

Possible Hazards:

Limited evidence of a carcinogenic effect.

May cause sensitization by skin contact.

May cause harm to the unborn child.

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

Limited evidence of a carcinogenic effect.

May cause sensitization by skin contact.

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.

2.2. Label elements

Globally Harmonized System (GHS) in accordance with UK regulations.

Pictogram:



Signal Word:
Danger

Hazard Statement:

H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H360Df	May damage the unborn child. Suspected of damaging fertility.
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 Statements (Prevention):

P280	Wear protective gloves/clothing.
P261	Avoid breathing mist.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

Precautionary Statements (Response):

P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.
 P303 + P352 IF ON SKIN (on hair): Wash with plenty of soap and water.
 P333 + P311 If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
 P391 Collect spillage.
 P362 + P364 Take off contaminated clothing and wash before reuse.

Precautionary Statements (Storage):

P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

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

Hazard determining component(s) for labelling: EPOXICONAZOLE, METCONAZOLE, (2S)-2-HYDROXY-PROPANOIC ACID 2-ETHYLHEXYL ESTER

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

EEC Directives

Hazard symbol(s)

T Toxic.



N Dangerous for the environment.



R-phrases(s)

R40 Limited evidence of a carcinogenic effect.
 R43 May cause sensitization by skin contact.
 R61 May cause harm to the unborn child.
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S1/2 Keep locked-up and out of reach of children.
 S13 Keep away from food, drink and animal feeding stuffs.
 S20/21 When using do not eat, drink or smoke.
 S29/35 Do not empty into drains, this material and its container must be disposed of in a safe way.
 S36/37 Wear suitable protective clothing and gloves.
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 S53 Avoid exposure - obtain special instructions before use.
 S57 Use appropriate container to avoid environmental contamination.

BASF Safety data sheet according to Regulation (EC) No. 1907/2006
 Date / Revised: 29.08.2014
 Product: **BRUTUS**

Version: 8.0

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

Hazard determining component(s) for labelling: EPOXICONAZOLE, METCONAZOLE, (2S)-2-HYDROXY-PROPANOIC ACID 2-ETHYLHEXYL ESTER

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, Emulsifiable concentrate (EC)

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Content (W/W): 3.7 %	Carc. 2
CAS Number: 133855-98-8	Repr. 1B
EC-Number: 406-850-2	Aquatic Chronic 2
INDEX-Number: 613-175-00-9	H351, H360Df, H411

metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

Content (W/W): 2.7 %	Acute Tox. 4 (oral)
CAS Number: 125116-23-6	Repr. 2 (unborn child)
INDEX-Number: 613-284-00-1	Aquatic Chronic 2
	H302, H361d, H411

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

Content (W/W): < 40 %	Skin Corr./Irrit. 2
CAS Number: 186817-80-1	Eye Dam./Irrit. 2
REACH registration number: 01-2119516238-41	Skin Sens. 1B
	H319, H315, H317

Oxirane, methyl-, polymer with oxirane, monoisotridecyl ether, block

Content (W/W): < 30 %	Eye Dam./Irrit. 2
CAS Number: 196823-11-7	H319

benzyl alcohol

Content (W/W): < 22 %	Acute Tox. 4 (oral)
CAS Number: 100-51-6	Acute Tox. 4 (Inhalation - mist)
EC-Number: 202-859-9	Acute Tox. 4 (dermal)
REACH registration number: 01-2119492630-38	Eye Dam./Irrit. 2
INDEX-Number: 603-057-00-5	H319, H312, H332, H302

Polyarylphenol ethoxylate

Content (W/W): < 10 %	H402, H412
CAS Number: 99734-09-5	

solvent naphtha

Content (W/W): < 5 %	Asp. Tox. 1
CAS Number: 64742-94-5	Carc. 2
REACH registration number: 01-2119451151-53	Aquatic Chronic 2
	H304, H351, H411

Fatty alcohol polyglycoether

Content (W/W): < 5 %	Acute Tox. 4 (oral)
	Eye Dam./Irrit. 1
	Aquatic Chronic 2
	H318, H302, H411

Isotridecan-1-ol

Content (W/W): < 0.3 %	Skin Corr./Irrit. 2
CAS Number: 27458-92-0	Aquatic Acute 1
EC-Number: 248-469-2	Aquatic Chronic 1
REACH registration number: 01-2119488528-21	H315, H400, H410
	M-factor acute: 1
	M-factor chronic: 1

naphthalene

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

Content (W/W): < 0.05 %	Acute Tox. 4 (oral)
CAS Number: 91-20-3	Carc. 2
EC-Number: 202-049-5	Aquatic Acute 1
INDEX-Number: 601-052-00-2	Aquatic Chronic 1
	H302, H351, H400, H410
	M-factor acute: 1
	M-factor chronic: 1

Hazardous ingredients

according to Directive 1999/45/EC

Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Content (W/W): 3.7 %
 CAS Number: 133855-98-8
 EC-Number: 406-850-2
 INDEX-Number: 613-175-00-9
 Hazard symbol(s): T, N
 R-phrases(s): 40, 61, 62, 51/53
 Carc. Cat. 3
 Repr. Cat. 2
 Repr. Cat. 3

metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

Content (W/W): 2.7 %
 CAS Number: 125116-23-6
 INDEX-Number: 613-284-00-1
 Hazard symbol(s): Xn, N
 R-phrases(s): 22, 63, 51/53
 Repr. Cat. 3

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-

Content (W/W): < 40 %
 CAS Number: 186817-80-1
 REACH registration number: 01-2119516238-41
 Hazard symbol(s): Xi
 R-phrases(s): 36/38, 43

Oxirane, methyl-, polymer with oxirane, monoisotridecyl ether, block

Content (W/W): < 30 %
 CAS Number: 196823-11-7
 Hazard symbol(s): Xi
 R-phrases(s): 36/38

benzyl alcohol

Content (W/W): < 22 %
 CAS Number: 100-51-6
 EC-Number: 202-859-9
 REACH registration number: 01-2119492630-38

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

INDEX-Number: 603-057-00-5

Hazard symbol(s): Xn

R-phrases: 20/22

Polyarylphenol ethoxylate

Content (W/W): < 10 %

CAS Number: 99734-09-5

R-phrases: 52/53

solvent naphtha

Content (W/W): < 5 %

CAS Number: 64742-94-5

REACH registration number: 01-2119451151-53

Hazard symbol(s): N, Xn

R-phrases: 40, 65, 66, 51/53

Carc. Cat. 3

Fatty alcohol polyglycoether

Content (W/W): < 5 %

Hazard symbol(s): Xn, N

R-phrases: 22, 41, 51/53

Isotridecan-1-ol

Content (W/W): < 0.3 %

CAS Number: 27458-92-0

EC-Number: 248-469-2

REACH registration number: 01-2119488528-21

Hazard symbol(s): N, Xi

R-phrases: 50, 38

naphthalene

Content (W/W): < 0.05 %

CAS Number: 91-20-3

EC-Number: 202-049-5

INDEX-Number: 601-052-00-2

Hazard symbol(s): Xn, N

R-phrases: 22, 40, 50/53

Carc. Cat. 3

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.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

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

Remove contaminated clothing.

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

Immediately wash thoroughly with soap and water, seek medical attention.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

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:

water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:

water jet

5.2. Special hazards arising from the substance or mixture

carbon monoxide, Carbon dioxide, hydrogen chloride, hydrogen fluoride, nitrogen oxides, organochloric compounds

The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

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.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

6.2. Environmental precautions

Do not 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.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with 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. Wear suitable protective equipment.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

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. Remove contaminated clothing and protective equipment before entering eating areas.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Vapours may form ignitable mixture with air.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

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

Protect from temperatures below: 0 °C

The product crystallizes below the limit temperature.
Protect from temperatures above: 40 °C

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

133855-98-8: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

TWA value 0.3 mg/m³ (Recommendation of BASF), Respirable dust

125116-23-6: metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

TWA value 1 mg/m³ (Recommendation of BASF), Respirable dust

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic, alkaline compounds and toxic particles (e. g. EN 14387 Type ABEK-P3)

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.

SECTION 9: Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

Form:	liquid	
Colour:	yellow, clear	
Odour:	spicy	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	approx. 4 - 6 (water, 1 %(m), 20 °C)	(pH Meter)
crystallization temperature:	-10 °C	(measured)
Boiling point:	approx. 205 °C (1,013 hPa)	
Flash point:	Information applies to the solvent. 101 °C	(Directive 92/69/EEC, A.9)
Evaporation rate:	not applicable	
Flammability:	not highly flammable	(Directive 92/69/EEC, A.12)
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.	
Ignition temperature:	282 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	approx. 0.13 hPa (25 °C)	
Density:	Information applies to the solvent. approx. 1.00 g/cm ³ (20 °C)	
Relative vapour density (air):	not applicable	
Solubility in water:	emulsifiable	
Partitioning coefficient n-octanol/water (log Kow):	not applicable	
Thermal decomposition:	265 °C, 230 kJ/kg (DSC (OECD 113))	
Viscosity, dynamic:	approx. 12 mPa.s (40 °C, 100 1/s)	(OECD 114)
Viscosity, kinematic:	approx. 12 mm ² /s (40 °C)	
Explosion hazard:	not explosive	

BASF Safety data sheet according to Regulation (EC) No. 1907/2006
Date / Revised: 29.08.2014
Product: **BRUTUS**

Version: 8.0

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014
(Directive 2004/73/EC, A.21)

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 oxidizing agents, strong bases, strong acids

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:

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): 5.45 mg/l

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

Irritation

Assessment of irritating effects:

Not irritating to the eyes. Not irritating to the skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible.

Experimental/calculated data:

Buehler test mouse: Caused skin sensitization in animal studies. (OECD Guideline 429)

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: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Assessment of carcinogenicity:

Indication of possible carcinogenic effect in animal tests.

Information on: metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

Assessment of carcinogenicity:

In long-term studies in rodents exposed to high doses, a tumorigenic effect was found; however, these results are thought to be due to a rodent-specific liver effect that is not relevant to humans.

Information on: solvent naphtha

Assessment of carcinogenicity:

Long-term exposure to highly irritating concentrations resulted in skin tumors in animals. A carcinogenic effect in humans can be excluded after brief skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Assessment of reproduction toxicity:

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

Information on: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Assessment of reproduction toxicity:

The results of animal studies suggest 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: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Assessment of teratogenicity:

EU-classification The substance caused malformations/developmental toxicity in laboratory animals.

Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

Information on: metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

Assessment of teratogenicity:

Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

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: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Assessment of repeated dose toxicity:

Repeated exposure to large quantities may affect certain organs.

Information on: metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

Assessment of repeated dose toxicity:

Adaptive effects were observed after repeated exposure in animal studies.

Information on: 2-Ethylhexyl-S-lactate

Assessment of repeated dose toxicity:

After repeated exposure the prominent effect is local irritation.

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

Information on: Benzyl alcohol

Assessment of repeated dose toxicity:

The substance may cause damage to the central nervous system after repeated ingestion of high doses.

Other relevant toxicity information

Misuse can be harmful to health.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish:

LC50 (96 h) 7.1 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 92/69/EEC, C.1)

Aquatic invertebrates:

EC50 (48 h) 9.89 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Aquatic plants:

EC50 (72 h) 12.5 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

EC50 (7 d) 0.822 mg/l (growth rate), *Lemna gibba* (OECD guideline 221, 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: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

Information on: metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

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: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

Bioaccumulation potential:

Bioconcentration factor: 59 - 70, Oncorhynchus mykiss (OECD-Guideline 305)

Does not accumulate in organisms.

Information on: metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

Bioaccumulation potential:

Bioconcentration factor: 51 - 80, Lepomis macrochirus

Does not accumulate in organisms.

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: Epoxiconazole; (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane

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: metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

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.

BASF Safety data sheet according to Regulation (EC) No. 1907/2006
Date / Revised: 29.08.2014
Product: **BRUTUS**

Version: 8.0

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with 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.

SECTION 14: Transport Information

Land transport

ADR

UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains EPOXICONAZOLE, METCONAZOLE)
Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: Tunnel code: E

RID

UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains EPOXICONAZOLE, METCONAZOLE)
Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Inland waterway transport

ADN

UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

	N.O.S. (contains EPOXICONAZOLE, METCONAZOLE)
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 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains EPOXICONAZOLE, METCONAZOLE)
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 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains EPOXICONAZOLE, METCONAZOLE)
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

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).

SECTION 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.

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).

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 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.
Xn	Harmful.
Xi	Irritant.
40	Limited evidence of a carcinogenic effect.
61	May cause harm to the unborn child.
62	Possible risk of impaired fertility.
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
22	Harmful if swallowed.
63	Possible risk of harm to the unborn child.
36/38	Irritating to eyes and skin.
43	May cause sensitization by skin contact.
20/22	Harmful by inhalation and if swallowed.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65	Also harmful: may cause lung damage if swallowed.
66	Repeated exposure may cause skin dryness or cracking.
41	Risk of serious damage to eyes.
50	Very toxic to aquatic organisms.
38	Irritating to skin.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Skin Sens.	Skin sensitization
Carc.	Carcinogenicity
Repr.	Reproductive toxicity
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
Asp. Tox.	Aspiration hazard
Carc. Cat. 3	Carcinogenic substances Category 3: Substances which cause concern for man owing to possible carcinogenic effects.
Repr. Cat. 2	Reprotoxic substances (fertility or development) Category 2: Substances which should be regarded as if they cause developmental toxicity to in humans or substances which should be regarded as if they impair fertility in humans.
Repr. Cat. 3	Reprotoxic substances (fertility or development) Category 3: Substances which cause concern for humans owing to possible developmental toxic effects or substances which cause concern for human fertility.
H351	Suspected of causing cancer.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
H302	Harmful if swallowed.
H361d	Suspected of damaging the unborn child.
H319	Causes serious eye irritation.
H315	Causes skin irritation.

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

Date / Revised: 29.08.2014

Version: 8.0

Product: **BRUTUS**

(ID no. 30461007/SDS_CPA_GB/EN)

Date of print 31.08.2014

H317	May cause an allergic skin reaction.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
H304	May be fatal if swallowed and enters airways.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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.