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

1.1. Product identifier

**FILAN**

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

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

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]

No need for classification according to GHS criteria for this product.

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

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

Hazard Statement:
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.

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

boscalid (ISO): 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide
Content (W/W): 50 % Aquatic Chronic 2
CAS Number: 188425-85-6 H411

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

| Remove contaminated clothing. |
| If inhaled: |
| Keep patient calm, remove to fresh air. |

| 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. |

| On ingestion: |
| Rinse mouth and then drink plenty of water. |

4.2. Most important symptoms and effects, both acute and delayed
Symptoms: No significant reaction of the human body to the product known.

4.3. Indication of any immediate medical attention and special treatment needed
| Treatment: Symptomatic treatment (decontamination, vital functions). |

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
5.2. 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.

5.3. 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.

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 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: Contain with dust binding material and dispose of.
For large amounts: Sweep/shovel up. Avoid raising dust. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Collect waste in suitable containers, which can be labeled and sealed. Dispose of absorbed material in accordance with 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.
Protection against fire and explosion:
Avoid dust formation. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Dust can form an explosive mixture with air.

**7.2. 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.

| 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.

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**SECTION 8: Exposure Controls/Personal Protection**

**8.1. Control parameters**

Components with occupational exposure limits

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.

| No occupational exposure limits known. |

**8.2. Exposure controls**

**Personal protective equipment**

Respiratory protection:
Respiratory protection not required.

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, fine
Colour: grey-brown
Odour: faintly aromatic
Odour threshold: Not determined due to potential health hazard by inhalation.

pH value: approx. 5 - 7 (1 %, 20 °C)
melting range: approx. 142.8 - 143.8 °C
The data given are those of the active ingredient.

Boiling point: The product is a non-volatile solid.
Flash point: not applicable, the product is a solid

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: The product has not been tested.
Relative vapour density (air): not applicable
Solubility in water: dispersible
Partitioning coefficient n-octanol/water (log Kow): not applicable
Self ignition: Temperature: approx. 348 °C
Based on its structural properties the product is not classified as self-igniting.

Thermal decomposition: 180 °C, 250 kJ/kg, (DSC (OECD 113))
(onset temperature)
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
Fire promoting properties: not fire-propagating

9.2. Other information

Bulk density: 548 - 620 kg/m3
(20 °C)

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 (OECD Guideline 423)
No mortality was observed.

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 (OECD Guideline 402)
No mortality was observed.

Irritation

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

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

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

Respiratory/Skin sensitization

Assessment of sensitization:
There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:
Mouse Local Lymph Node Assay (LLNA) mouse: Non-sensitizing. (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: bosalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Assessment of carcinogenicity:
In long-term studies in rats the substance induced thyroid tumors. The effect is caused by an animal specific mechanism that has no human counterpart. 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. 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: boscalid (ISO); 2-chloro-N-(4′-chloro[1,1′-biphenyl]-2-yl)-nicotinamide

Assessment of repeated dose toxicity:
Adaptive effects were observed after repeated exposure in animal studies.

Aspiration hazard

The product has not been tested. The statement has been derived from the properties of the individual components.
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:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:
LC50 (96 h) 100 mg/l, Oncorhynchus mykiss (OECD 203; ISO 7346; 92/69/EEC, C.1)

Aquatic invertebrates:
EC50 (48 h) 50 mg/l, Daphnia magna (OECD Guideline 202, part 1)

Aquatic plants:
EC50 (72 h) 4.50 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201)
EC10 (72 h) 3.03 mg/l (growth rate), Pseudokirchneriella subcapitata

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: boscalid (ISO); 2-chloro-N-(4′-chloro[1,1′-biphenyl]-2-yl)-nicotinamide
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: boscalid (ISO); 2-chloro-N-(4′-chloro[1,1′-biphenyl]-2-yl)-nicotinamide
Bioaccumulation potential:
Bioconcentration factor: 57 - 70 (28 d), Oncorhynchus mykiss
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: boscalid (ISO); 2-chloro-N-(4′-chloro[1,1′-biphenyl]-2-yl)-nicotinamide
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 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).

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:                      | Not classified as a dangerous good under transport regulations |
| UN proper shipping name:       | Not applicable                                                |
| Transport hazard class(es):    | Not applicable                                                |
| Packing group:                 | Not applicable                                                |
| Environmental hazards:         | Not applicable                                                |
| Special precautions for user   | None known                                                    |
RID

- Not classified as a dangerous good under transport regulations
- UN number: Not applicable
- UN proper shipping name: Not applicable
- Transport hazard class(es): Not applicable
- Packing group: Not applicable
- Environmental hazards: Not applicable
- Special precautions for user: None known

Inland waterway transport

ADN

- Not classified as a dangerous good under transport regulations
- UN number: Not applicable
- UN proper shipping name: Not applicable
- Transport hazard class(es): Not applicable
- Packing group: Not applicable
- Environmental hazards: Not applicable
- Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

- Not classified as a dangerous good under transport regulations
- UN number: Not applicable
- UN proper shipping name: Not applicable
- Transport hazard class(es): Not applicable
- Packing group: Not applicable
- Environmental hazards: Not applicable
- Special precautions for user: None known

Air transport

IATA/ICAO

- Not classified as a dangerous good under transport regulations
- UN number: Not applicable
- UN proper shipping name: Not applicable
Transport hazard class(es): Not applicable
Packing group: Not applicable
Environmental hazards: Not applicable
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 MARPOL 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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

This product is classified under the European CLP Regulation.
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).

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:

Aquatic Chronic Hazardous to the aquatic environment - chronic
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

H411 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.