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

· 1.1 Product identifier

- Product name: Boscalid
- Part number: DRE-C10663000
- CAS Number: 188425-85-6
- EC number: 606-143-0

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

No further relevant information available.

· Application of the substance / the mixture Reference material for laboratory use only

· 1.3 Details of the supplier of the safety data sheet

- Manufacturer/Supplier:
  LGC Limited
  Queens Road
  Teddington
  Middlesex TW11 0LY
  UNITED KINGDOM

- Further information obtainable from:
  Product safety department
  eMail: sds-request@lgcgroup.com

· 1.4 Emergency telephone number: +44 (0) 20 8943 7000 (Monday - Friday: 8am - 5pm)

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008

  GHS09 environment

  Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

· 2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008

  The substance is classified and labelled according to the CLP regulation.
  Hazard pictograms

  GHS09

  Signal word Not applicable

  Hazard statements
  H411 Toxic to aquatic life with long lasting effects.
  P273 Avoid release to the environment.

(Contd. on page 2)
Product name: Boscalid

(Contd. from page 1)

P391 Collect spillage.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.1 Chemical characterisation: Substances
  
  CAS No. Description
  188425-85-6 Boscalid
  
  Identification number(s) None
  
  EC number: 606-143-0
  
  RTECS: US4587550
  
  Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures
  
  After inhalation: Supply fresh air; consult doctor in case of complaints.
  
  After skin contact: Immediately wash with water and soap and rinse thoroughly.
  
  After eye contact: Rinse opened eye for several minutes under running water.
  
  After swallowing: Rinse mouth. Do not induce vomiting.

- 4.2 Most important symptoms and effects, both acute and delayed
  
  No further relevant information available.

- 4.3 Indication of any immediate medical attention and special treatment needed
  
  No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
  
  Suitable extinguishing agents: Use fire extinguishing methods suitable for surrounding conditions.

- 5.2 Special hazards arising from the substance or mixture
  
  Formation of toxic gases is possible during heating or in case of fire.

- 5.3 Advice for firefighters
  
  Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
  
  Wear protective clothing.

- 6.2 Environmental precautions:
  
  Inform respective authorities in case of seepage into water course or sewage system.
  
  Do not allow to enter sewers/surface or ground water.

- 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Store in cool, dry place in tightly closed receptacles.
7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles:
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
Information about storage in one common storage facility: Store away from foodstuffs.
Further information about storage conditions: None.
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace: Not required.
Additional information: Lists used were valid at the time of SDS preparation.
8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures: Wash hands before breaks and at the end of work.
Respiratory protection: Not required.
Use suitable respiratory protective device in case of insufficient ventilation.
Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374

Material of gloves Nitrile rubber, NBR

Protective gloves
SECTION 9: Physical and chemical properties

- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection**: Safety glasses

**9.1 Information on basic physical and chemical properties**

- **General Information**
  - **Appearance**: Crystalline powder
  - **Form**: Crystalline powder
  - **Colour**: White
  - **Odour**: Odourless
  - **Odour threshold**: Not determined.
  - **pH-value**: 5.5

- **Change in condition**
  - **Melting point/freezing point**: Not determined.
  - **Initial boiling point and boiling range**: Not determined.

- **Flash point**: Not applicable.
- **Flammability (solid, gas)**: Not determined.
- **Ignition temperature**: Not determined.
- **Decomposition temperature**: Not determined.
- **Auto-ignition temperature**: Not determined.
- **Explosive properties**: Not determined.

- **Explosion limits**
  - **Lower**: Not determined.
  - **Upper**: Not determined.

- **Vapour pressure**: Not applicable.

- **Density at 20 °C**: 1.39 g/cm³
- **Relative density**: Not determined.
- **Vapour density**: Not applicable.
- **Evaporation rate**: Not applicable.

- **Solubility in / Miscibility with water at 20 °C**: Toluene, 1-Octanol, Methanol, Acetone 0.0046 g/l

- **Partition coefficient: n-octanol/water**: 2.96 logP

- **Viscosity**
  - **Dynamic**: Not applicable.
  - **Kinematic**: Not applicable.
9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under normal conditions.

No further relevant information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

Oral LD0 12,330 mg/kg (rat)

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

EC50/48 h 5.33 mg/l (daphnia)
EC50/72h 3.75 mg/l (Algae)
LC50/96 h 2.7 mg/l (fish)

12.2 Persistence and degradability

No further relevant information available.
49.2.0

- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- Ecotoxicological effects:
  - Remark: Toxic for fish
- Additional ecological information:
  - General notes:
    Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
    Do not allow product to reach ground water, water course or sewage system.
    Danger to drinking water if even small quantities leak into the ground.
    Also poisonous for fish and plankton in water bodies.
    Toxic for aquatic organisms
- 12.5 Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods
  - Recommendation
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
  - European waste catalogue
    Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
  - Uncleaned packaging:
    - Recommendation: Dispose of in accordance with national regulations.

SECTION 14: Transport information

- 14.1 UN-Number
  - ADR, IMDG, IATA UN3077
- ADR
  3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Boscalid)
- IMDG
  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Boscalid), MARINE POLLUTANT
- IATA
  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Boscalid)

- 14.3 Transport hazard class(es)
  - ADR, IMDG, IATA
    
    - Class 9 Miscellaneous dangerous substances and articles.
Product name: Boscalid

- Label

9

- 14.4 Packing group
  - ADR, IMDG, IATA
  III

- 14.5 Environmental hazards:
  - Marine pollutant:
  - Special marking (ADR):
  - Special marking (IATA):
  Symbol (fish and tree)
  Symbol (fish and tree)
  Symbol (fish and tree)

- 14.6 Special precautions for user
  Warning: Miscellaneous dangerous substances and articles.
  - Danger code (Kemler):
  90
  - EMS Number:
  F-A,S-F
  - Stowage Category
  A
  - Stowage Code
  SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
  Not applicable.

- Transport/Additional information:

  - ADR
    - Limited quantities (LQ)
    5 kg
    Code: E1
    Maximum net quantity per inner packaging: 30 g
    Maximum net quantity per outer packaging: 1000 g
  - Excepted quantities (EQ)
    Code: E1
  - Transport category
    3
  - Tunnel restriction code
    E
  - UN "Model Regulation":
    UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BOSCALID), 9, III

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Directive 2012/18/EU
  - Named dangerous substances - ANNEX I Substance is not listed.
  - Seveso category E2 Hazardous to the Aquatic Environment
  - Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
  - 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety
or performance considerations may arise when using, handling and/or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

**Abbreviations and acronyms:**
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

**Sources**
- **Data compared to the previous version altered**, All sections have been updated.