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

1.1. Product identifier

Merivon

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. 3 (oral) |
| Acute Tox. 4 (Inhalation - mist) |
| Carc. 2 |
STOT SE 3 (irritating to respiratory system)
Aquatic Acute 1
Aquatic Chronic 1
H301, H332, H351, 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:
Danger

Hazard Statement:
H301 Toxic if swallowed.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
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.
P103 Read label before use.

Precautionary Statements (Prevention):
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapour.
P261 Avoid breathing mist.
P264 Wash contaminated body parts thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/clothing/eye protection.

Precautionary Statements (Response):
Precautionary Statements (Storage):
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

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

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

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, suspension concentrate (SC)

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

fluxapyroxad (ISO); 3-(difluoromethyl)-1-methyl-N-(3′,4′,5′-trifluorobiphenyl-2-yl)pyrazole-4-carboxamide
SECTION 4: First-Aid Measures

4.1. Description of first aid measures

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:
- 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:
- 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, nitrogen oxides, organochloric compounds, halogenated hydrocarbons
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
Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

6.2. Environmental precautions
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

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:
No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

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.

Storage stability:
Storage duration: 36 Months

Protect from temperatures below: -5 °C
Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.
Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

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

| 57-55-6: Propane-1,2-diol |

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) 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.

Environmental exposure controls
For information regarding environmental exposure controls, see Section 6.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form: suspension
Colour: beige
Odour: faint odour, fruity
Odour threshold: Not determined since harmful by inhalation.
pH value: approx. 6 - 8
(CIPAC standard water D, 1 % (m), 20 °C)

Crystallization temperature: approx. -6.7 °C

Boiling point: approx. 100 °C

Flash point: No flash point - Measurement made up to the boiling point.

Evaporation rate: not applicable

Flammability: not highly flammable

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: 517 °C

Vapour pressure: approx. 23 hPa (20 °C)

Density: approx. 1.18 g/cm³ (20 °C)

Relative vapour density (air): approx. 0.017

Solubility in water: dispersible

Partitioning coefficient n-octanol/water (log Kow): not applicable

Thermal decomposition: 270 °C, 320 kJ/kg, (DSC (OECD 113)) (onset temperature)
160 °C, 110 kJ/kg, (DSC (OECD 113)) (onset temperature)
410 °C, > 80 kJ/kg, (DSC (OECD 113)) (onset temperature)

Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

Viscosity, dynamic: approx. 35 mPa.s (40 °C, 100 1/s)

Explosion hazard: not explosive

Fire promoting properties: not fire-propagating

9.2. Other information
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:
Of high toxicity after single ingestion. Of moderate toxicity after short-term inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data:
LD50 rat (oral): > 50 - < 300 mg/kg (OECD Guideline 423)

LC50 rat (by inhalation): 2.81 mg/l 4 h (OECD Guideline 403)
An aerosol was tested.

LD50 rat (dermal): > 5,000 mg/kg (OECD Guideline 402)
No mortality was observed.
Irritation

Assessment of irritating effects:
Skin contact causes slight irritation. Not irritating to the eyes.

Experimental/calculated data:
Skin corrosion/irritation rabbit: Slightly irritating. (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:
Buehler test guinea pig: Skin sensitizing effects were not observed in animal studies. (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.

Information on: fluxapyroxad (ISO); 3-(difluoromethyl)-1-methyl-N-(3′,4′,5′-trifluorobiphenyl-2-yl)pyrazole-4-carboxamide
Assessment of carcinogenicity:
Indication of possible carcinogenic effect in animal tests.

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yloxymethyl]phenyl}(N-methoxy)carbamate
Assessment of carcinogenicity:
In long-term studies in rats and 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:
Causes temporary irritation of the respiratory tract.

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: fluxapyroxad (ISO); 3-(difluoromethyl)-1-methyl-N-(3',4',5'-trifluorobiphenyl-2-yl)pyrazole-4-carboxamide
Assessment of repeated dose toxicity:
Adaptive effects were observed after repeated exposure in animal studies.

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yloxymethyl]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.

Aspiration hazard

No aspiration hazard expected. The product has not been tested. The statement has been derived from the properties of the individual components.

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.
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: fluxapyroxad (ISO); 3-(difluoromethyl)-1-methyl-N-(3',4',5'-trifluorobiphenyl-2-yl)pyrazole-4-carboxamide
Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yloxymethyl]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: fluxapyroxad (ISO); 3-(difluoromethyl)-1-methyl-N-(3',4',5'-trifluorobiphenyl-2-yl)pyrazole-4-carboxamide
Bioaccumulation potential:
Bioconcentration factor: 36 - 37 (28 d), Lepomis macrochirus (OECD-Guideline 305)
Does not accumulate in organisms.

Information on: pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yloxymethyl]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: fluxapyroxad (ISO); 3-(difluoromethyl)-1-methyl-N-(3′,4′,5′-trifluorobiphenyl-2-yl)pyrazole-4-carboxamide*

**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-yloxymethyl]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

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<tbody>
<tr>
<td>ADR</td>
</tr>
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</tr>
<tr>
<td>UN proper shipping name:</td>
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<tr>
<td>Transport hazard class(es):</td>
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<tr>
<td>Packing group:</td>
</tr>
<tr>
<td>Environmental hazards:</td>
</tr>
<tr>
<td>Special precautions for user:</td>
</tr>
</tbody>
</table>

**Packing group:** III  
**Transport hazard class(es):** 6.1, EHSM  
**Environmental hazards:** yes  
**Special precautions for user:** Tunnel code: E

### Inland waterway transport

**ADN**

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<td>Special precautions for user:</td>
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</table>

**Transport in inland waterway vessel**  
Not evaluated

### Sea transport

**IMDG**

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<td>Packing group:</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>yes</td>
</tr>
</tbody>
</table>
| Special precautions for user: | Marine pollutant: YES  
None known |

**Marine pollutant:** YES  
**Special precautions for user:** Marine pollutant: YES

None known
Air transport

IATA/ICAO

UN number: UN 2902
UN proper shipping name: PESTICIDE, LIQUID, TOXIC, N.O.S. (contains PYRACLOSTROBIN, FLUXAPYROXAD)
Transport hazard class(es): 6.1
Packing group: III
Environmental hazards: No Mark as dangerous for the environment is needed
Special precautions for user: None known

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

Prohibitions, Restrictions and Authorizations

Restrictions of Regulation (EC) No 1907/2006, Annex XVII, do not apply for the intended use(s) of the product given in this MSDS.

To avoid risks to man and the environment, comply with the instructions for use.

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
Carc. Carcinogenicity
STOT SE Specific target organ toxicity — single exposure
Aquatic Acute Hazardous to the aquatic environment - acute
Aquatic Chronic Hazardous to the aquatic environment - chronic
Skin Corr./Irrit. Skin corrosion/irritation
Eye Dam./Irrit. Serious eye damage/eye irritation
H301 Toxic if swallowed.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
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.
H315 Causes skin irritation.
H331 Toxic if inhaled.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

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. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. 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.