We create chemistry

Safety data sheet

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

1.1. Product identifier

CLERAVO

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

Relevant identified uses: crop protection product, herbicide

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]

Aquatic Acute 1
Aquatic Chronic 1

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

Possible Hazards:
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:
Warning

Hazard Statement:

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 (Response):

P391	Collect spillage.

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.

Labeling of special preparations (GHS):
EUH208: May produce an allergic reaction. Contains: 1,2-BENZISOTHIAZOL-3(2H)-ONE

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

EEC Directives

Hazard symbol(s)

N	Dangerous for the environment.	

R-phrase(s)

R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)	
S2	Keep out of the 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.
S57	Use appropriate container to avoid environmental contamination.

The product contains: 1,2-BENZISOTHIAZOL-3(2H)-ONE
May produce an allergic reaction.

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, herbicide, suspension concentrate (SC)

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

quinmerac

Content (W/W): 22.5 % CAS Number: 90717-03-6 EC-Number: 402-790-6 REACH registration number: 01-0000015252-80	Aquatic Chronic 3 H412

imazamox

Content (W/W): 3.2 % Aquatic Acute 1
CAS Number: 114311-32-9 Aquatic Chronic 1
INDEX-Number: 613-208-00-7 H400, H410

phenolsulfonic acid-formaldehyde-polycondensate as sodium salt
Content (W/W): < 5 % Eye Dam./Irrit. 2
Aquatic Chronic 3
H319, H412

1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one
Content (W/W): < 0.01 % Acute Tox. 4 (oral)
CAS Number: 2634-33-5 Skin Corr./Irrit. 2
EC-Number: 220-120-9 Eye Dam./Irrit. 1
INDEX-Number: 613-088-00-6 Skin Sens. 1
Aquatic Acute 1
H318, H315, H302, H317, H400

Specific concentration limit:
Skin Sens. 1: >= 0.05 %

Propane-1,2-diol
Content (W/W): < 10 %
CAS Number: 57-55-6
EC-Number: 200-338-0
REACH registration number: 01-2119456809-23

Hazardous ingredients
according to Directive 1999/45/EC

quinmerac
Content (W/W): 22.5 %
CAS Number: 90717-03-6
EC-Number: 402-790-6
REACH registration number: 01-0000015252-80
R-phrase(s): 52/53

imazamox
Content (W/W): 3.2 %
CAS Number: 114311-32-9
INDEX-Number: 613-208-00-7
Hazard symbol(s): N
R-phrase(s): 50/53

phenolsulfonic acid-formaldehyde-polycondensate as sodium salt
Content (W/W): < 5 %

R-phrase(s): 52/53

1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one
Content (W/W): < 0.01 %
CAS Number: 2634-33-5
EC-Number: 220-120-9
INDEX-Number: 613-088-00-6
Hazard symbol(s): Xn, N
R-phrase(s): 22, 38, 41, 43, 50

Propane-1,2-diol
Content (W/W): < 10 %
CAS Number: 57-55-6
EC-Number: 200-338-0
REACH registration number: 01-2119456809-23

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

Remove contaminated clothing.

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

If inhaled:
Keep patient calm, remove to fresh air.

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

On skin contact:
Wash thoroughly with soap and water.

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

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

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: Symptomatic treatment (decontamination, vital functions).
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, dry powder, foam, carbon dioxide

5.2. Special hazards arising from the substance or mixture
carbon monoxide, Carbon dioxide, nitrogen 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:
Keep containers cool by spraying with water if exposed to fire. In case of fire and/or explosion do not breathe fumes. 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.

6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:
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.

Protect from temperatures below: 0 °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
TWA value 10 mg/m3 (WEL/EH 40 (UK)), Particulate
TWA value 474 mg/m3 ; 150 ppm (WEL/EH 40 (UK)), Total vapour and particulates

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.

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:	liquid
Colour:	white
Odour:	aromatic
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 3 - 5 (20 °C) (measured with the undiluted substance)
Melting temperature:	approx. 0 °C Information applies to the solvent.
boiling temperature:	approx. 100 °C Information applies to the solvent.
Flash point:	Non-flammable.
Evaporation rate:	not applicable
Flammability:	not applicable
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:	614 °C	(DIN EN 14522)
Vapour pressure:	approx. 23 hPa (20 °C) Information applies to the solvent.	
Density:	approx. 1.11 g/cm3 (20 °C)	
Relative vapour density (air):		
	not applicable	
Solubility in water:	dispersible	
Information on: 8-Quinolinecarboxylic acid, 7-chloro-3-methyl-		
Partitioning coefficient n-octanol/water (log Kow):	*-1.41* *(21 °C; pH value: 7)*	*(OECD Guideline 117)*

Thermal decomposition:	195 °C, 90 kJ/kg, 310 °C, 140 kJ/kg,
Viscosity, dynamic:	approx. 187 mPa.s (40 °C, 10 1/s)
Explosion hazard:	not explosive
Fire promoting properties:	not fire-propagating

9.2. Other information

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

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong acids, strong bases, strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. Virtually nontoxic after a single ingestion.

Experimental/calculated data:
LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 423)
No mortality was observed.

LC50 rat (by inhalation): > 5.043 mg/l 4 h (OECD Guideline 403)
An aerosol was tested.

LD50 rat (dermal): > 5,000 mg/kg (OECD Guideline 402)

Irritation

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

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: Skin sensitizing effects were not observed 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. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:
The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

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. No substance-specific organtoxicity was observed after repeated administration to animals.

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

Toxicity to fish:
LC50 (96 h) 35.95 mg/l, Oncorhynchus mykiss (static)

Aquatic invertebrates:
EC50 (48 h) 94.4 mg/l, Daphnia magna (static)

Aquatic plants:
EC50 (7 d) 0.937 mg/l (growth rate), Lemna gibba

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: imazamox (ISO), (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid
Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

Information on: quinmerac
Assessment biodegradation and elimination (H2O):
Poorly biodegradable.

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: imazamox (ISO), (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid
Bioaccumulation potential:
Bioconcentration factor: < 1, Lepomis macrochirus (OECD-Guideline 305)
Does not accumulate in organisms.

Information on: quinmerac
Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) 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: imazamox (ISO), (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid
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, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Information on: 8-Quinolinecarboxylic acid, 7-chloro-3-methyl-
Assessment transport between environmental compartments:
Adsorption in soil: Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

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).
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 IMAZAMOX)
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 IMAZAMOX)
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, N.O.S. (contains IMAZAMOX)
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 IMAZAMOX)
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 IMAZAMOX)
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

For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)

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:

N	Dangerous for the environment.
Xn	Harmful.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
22	Harmful if swallowed.
38	Irritating to skin.
41	Risk of serious damage to eyes.
43	May cause sensitization by skin contact.
50	Very toxic to aquatic organisms.
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Eye Dam./Irrit.	Serious eye damage/eye irritation
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Skin Sens.	Skin sensitization
H412	Harmful to aquatic life with long lasting effects.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H319	Causes serious eye irritation.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.

If you have any queries relating to this MSDS, it's 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.