

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 01.03.2018

Version: 2.0

Product: **Mepiquat Chloride**

(ID no. 30545564/SDS_CPA_00/EN)

Date of print 07.05.2024

1. Identification

Product identifier

Mepiquat Chloride

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

Relevant identified uses: crop protection product, growth regulator

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

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

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

Label elements

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Globally Harmonized System (GHS)

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.

The product does not require a hazard warning label in accordance with GHS criteria.

Other hazardsAccording to UN GHS criteria

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.

3. Composition/Information on Ingredients**Substances**

Not applicable

MixturesChemical nature

crop protection product, growth regulator, Soluble concentrate (SL)

Hazardous ingredients (GHS)

According to UN GHS criteria

| 1,1-dimethylpiperidinium chloride; mepiquat chloride

Content (W/W): 5 %

CAS Number: 24307-26-4

EC-Number: 246-147-6

INDEX-Number: 613-127-00-7

Acute Tox. 4 (oral)

Acute Tox. 5 (Inhalation - mist)

Aquatic Acute 3

Aquatic Chronic 3

H333, H302, H402, H412

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures**Description of first aid measures**

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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.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant reaction of the human body to the product known.

Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture

hydrogen chloride, carbon monoxide, Carbon dioxide, nitrogen oxides

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

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.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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

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Environmental precautions

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

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.

7. Handling and Storage

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.

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: 60 Months

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.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

| No occupational exposure limits known.

Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection not required.

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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. Keep away from food, drink and animal feeding stuffs. Store work clothing separately.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	liquid
Colour:	pink
Odour:	almost odourless
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 5 - 7 (20 °C) (measured with the undiluted substance)
solidification temperature:	approx. -2 °C
boiling temperature:	approx. 100 °C Information applies to the solvent.
Flash point:	No flash point - Measurement made up to the boiling point. (Directive 92/69/EEC, A.9)
Evaporation rate:	not applicable
Flammability:	not 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.

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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:	> 600 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	approx. 23 hPa (20 °C)	
Density:	Information applies to the solvent. approx. 1,00 g/cm ³ (20 °C)	(OECD Guideline 109)
Relative vapour density (air):	not applicable	
Solubility in water:	fully soluble	
<i>Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride</i>		
<i>Partitioning coefficient n-octanol/water (log Kow): -3,55</i>		
<i>(pH value: 7)</i>		

Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	1 mPa.s (20 °C, 100 1/s)	(OECD 114)
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

Other information

Other Information:

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

10. Stability and Reactivity**Reactivity**

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

Corrosion to metals: Aluminium

Chemical stability

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

Possibility of hazardous reactions

Corrodes aluminum. No hazardous reactions if stored and handled as prescribed/indicated.

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Conditions to avoid

See MSDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:

strong bases, strong acids, strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:

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

11. Toxicological Information**Information on toxicological effects**Acute toxicity

Assessment of acute toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Experimental/calculated data:

LD50 rat (oral): approx. 464 mg/kg (OECD Guideline 401)

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Experimental/calculated data:

| *LC50 rat (by inhalation): > 5.2 mg/l 4 h (OECD Guideline 403)*
The data refer to a preparation of the substance.

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Experimental/calculated data:

| *LD50 rat (dermal): > 2.000 mg/kg (OECD Guideline 402)*
No mortality was observed.

Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes. The product has not been tested. The statement has been derived from the properties of the individual components.

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Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Experimental/calculated data:

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential. The product has not been tested. The statement has been derived from the properties of the individual components.

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (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. 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.

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.

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

Aspiration hazard

| No aspiration hazard expected.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

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

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Toxicity to fish:

*LC50 (96 h) > 100 mg/l, *Oncorhynchus mykiss**

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Aquatic invertebrates:

*EC50 (48 h) 68,5 mg/l, *Daphnia magna**

| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

Aquatic plants:

*EC50 (72 h) > 1.000 mg/l, *Pseudokirchneriella subcapitata**

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.

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| *Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

| *Assessment biodegradation and elimination (H₂O):*

Easily eliminated from water.

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: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

| *Bioaccumulation potential:*

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

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: 1,1-dimethylpiperidinium chloride; mepiquat chloride*

| *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.

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.

Other adverse effects

The product does not contain substances that are listed in the Montreal Protocol on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

13. Disposal Considerations

Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

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Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Land transport

ADR

	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

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

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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

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

15. Regulatory Information**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.

16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute

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Aquatic Chronic	Hazardous to the aquatic environment - chronic
H333	May be harmful if inhaled.
H302	Harmful if swallowed.
H402	Harmful to aquatic life.
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.

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