

Safety data sheet

Page: 1/15

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 01.06.2017

Version: 3.0

Product: **Lihocin® 50% AS**

(ID no. 30059506/SDS_CPA_EU/EN)

Date of print 22.10.2021

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

1.1. Product identifier

Lihocin® 50% AS

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

Relevant identified uses: crop protection product, growth regulator

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]

Met. Corr. 1

Acute Tox. 3 (oral)

Aquatic Chronic 3

| H290, H301, H412, 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, EU (GHS)

Pictogram:



Signal Word:

| Danger

Hazard Statement:

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H412	Harmful 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):

P234	Keep only in original packaging.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P390	Absorb spillage to prevent material damage.

Precautionary Statements (Storage):

P405	Store locked up.
P406	Store in a corrosion-resistant/... container with a resistant inner liner.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: chlormequat chloride

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, Soluble concentrate (SL), growth regulator

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

Content (W/W): 45.9 %

CAS Number: 999-81-5

EC-Number: 213-666-4

INDEX-Number: 007-003-00-6

Acute Tox. 4 (oral)

Acute Tox. 4 (dermal)

Aquatic Chronic 3

H302, H312, H412

Differing classification according to current knowledge and the criteria given in Annex I of Regulation (EC) No. 1272/2008

Acute Tox. 3 (oral)

Acute Tox. 4 (dermal)

Aquatic Chronic 3

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

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:

Rinse mouth immediately and then drink plenty of water, induce vomiting, 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, foam, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:

water jet

5.2. Special hazards arising from the substance or mixture

hydrogen chloride, Carbon dioxide, carbon monoxide, nitrogen oxides, organochloric compounds

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

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

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. No special measures necessary if stored and handled correctly. 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: 60 Months

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

999-81-5: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

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:	yellowish to brown
Odour:	faint odour, amine-like
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 5 - 7 (CIPAC standard water D, 2 %(m), 20 °C)
Melting point:	approx. 0 °C Information applies to the solvent.

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Boiling point:	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 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:	approx. 435 °C The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.	
Vapour pressure:	approx. 23 hPa (20 °C) Information applies to the solvent.	
Density:	approx. 1.09 g/cm ³ (approx. 20 °C)	(Directive 92/69/EEC, A.3)
Relative vapour density (air):	not applicable	
Solubility in water:	soluble	
<i>Information on: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride</i>		
<i>Partitioning coefficient n-octanol/water (log Kow):</i>	-3.44	(calculated)

Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	not determined	
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.	

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.

Corrosion to metals: Corrosive effect on: Aluminium mild steel Corrosion rate > 6.25 mm/a using 7075-T6 or AZ5GU-T6

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:

Of high toxicity after single ingestion. Virtually nontoxic by inhalation. Of low toxicity after short-term skin contact.

Experimental/calculated data:

LD50 human (oral): 50 - 200 mg/kg

Literature data. The data on toxicology refer to the active ingredient.

LD50 rat (oral): 590 mg/kg

LC50 rat (by inhalation): > 4.03 mg/l 5 h

No mortality was observed. An aerosol was tested.

LD50 rat (dermal): > 4,000 mg/kg

Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:

Buehler test guinea pig: Non-sensitizing.

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

Developmental toxicity

Assessment of teratogenicity:

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

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

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:

Harmful to aquatic life with long lasting effects.

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

Toxicity to fish:

LC50 (96 h) > 100 mg/l, Cyprinus carpio (OECD 203; ISO 7346; 84/449/EEC, C.1, static)

The details of the toxic effect relate to the nominal concentration.

Information on: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

Aquatic invertebrates:

LC50 (96 h) 31.7 mg/l, Daphnia magna

Information on: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

Aquatic plants:

EC50 (7 d) 28.0 mg/l (growth rate), Lemna gibba (static)

The product has not been tested. The data have been deduced from values for a preparation or mixture with a lower substance concentration.

EC10 (7 d) 0.6 mg/l, Lemna gibba

Information on: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

Chronic toxicity to fish:

No observed effect concentration (21 d) 43.1 mg/l, Oncorhynchus mykiss

Information on: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) 2.44 mg/l, Daphnia magna

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: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to 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: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium chloride

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: chlormequat chloride (ISO); 2-chloroethyltrimethylammonium 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.

12.5. Results of PBT and vPvB assessment

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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

Land transport

ADR

UN number	UN2922
UN proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains CHLORMEQUAT CHLORIDE) CORROSIVE ON ALUMINIUM
Transport hazard class(es):	8, 6.1
Packing group:	III
Environmental hazards:	no
Special precautions for user:	Tunnel code: E

RID

UN number	UN2922
UN proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains CHLORMEQUAT CHLORIDE) CORROSIVE ON ALUMINIUM
Transport hazard class(es):	8, 6.1
Packing group:	III
Environmental hazards:	no
Special precautions for	None known

user:

Inland waterway transport

ADN

UN number: UN2922
UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (contains CHLORMEQUAT CHLORIDE) CORROSIVE ON ALUMINIUM
Transport hazard class(es): 8, 6.1
Packing group: III
Environmental hazards: no
Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number: UN 2922
UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (contains CHLORMEQUAT CHLORIDE) CORROSIVE ON ALUMINIUM
Transport hazard class(es): 8, 6.1
Packing group: III
Environmental hazards: no
Special precautions for user: Marine pollutant: NO
None known

Air transport

IATA/ICAO

UN number: UN 2922
UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (contains CHLORMEQUAT CHLORIDE) CORROSIVE ON ALUMINIUM
Transport hazard class(es): 8, 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

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3

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

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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:

Met. Corr.	Corrosive to metals
Acute Tox.	Acute toxicity
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H412	Harmful to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.

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.