We create chemistry

Safety data sheet

1. Identification

Product identifier

Terpal

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

Met. Corr. 1
Acute Tox. 4 (oral)
Aquatic Chronic 1

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

Label elements

Globally Harmonized System (GHS)

Pictogram:

Signal Word:
Warning

Hazard Statement:

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statement:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.

Precautionary Statements (Prevention):

P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.
P234	Keep only in original packaging.

Precautionary Statements (Response):

P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.
P390	Absorb spillage to prevent material damage.

Precautionary Statements (Storage):

P406	Store in a corrosion-resistant container with a resistant inner liner.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

According to UN GHS criteria

Hazard determining component(s) for labelling: 1,1-dimethylpiperidinium chloride; mepiquat chloride

Other hazards

According to UN GHS criteria

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical 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): 27,98 %	Acute Tox. 4 (Inhalation - dust)
CAS Number: 24307-26-4	Acute Tox. 3 (oral)
EC-Number: 246-147-6	Aquatic Acute 3
	Aquatic Chronic 3
	H332, H301, H402, H412

2-chloroethylphosphonic acid; ethephon

Content (W/W): 14,2 %	Acute Tox. 4 (Inhalation - dust)
CAS Number: 16672-87-0	Acute Tox. 4 (oral)
EC-Number: 240-718-3	Acute Tox. 3 (dermal)
INDEX-Number: 015-154-00-4	Skin Corr./Irrit. 1C
	Aquatic Acute 2
	Aquatic Chronic 2
	H314, H311, H332, H302, H401, H411

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

Remove contaminated clothing.

If inhaled:
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:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture

Carbon monoxide, hydrogen chloride, Carbon dioxide, nitrogen oxides, Phosphorus compounds, halogenated compounds
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:
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. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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

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

Protect from temperatures below: -10 °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.

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

16672-87-0: 2-Chloroethylphosphonic acid
24307-26-4: 1,1-Dimethylpiperidinium chloride
TWA value 1,56 mg/m3 (BASF recomm. occupational exposure limit)

Exposure controls

Personal protective equipment

Respiratory protection:
Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): 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.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid
Form:	liquid
Colour:	colourless
Odour:	aromatic
Odour threshold:	Not determined due to potential health hazard by inhalation.
crystallization temperature:	approx. -14,9 °C
Boiling point:	approx. 100 °C
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.

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.

Flash point: (ISO 2719)
No flash point - Measurement made up to the boiling point.

Auto-ignition temperature: approx. 415 °C (Directive 92/69/EEC, A.15)

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

pH value: approx. 1,1 - 3,1
(CIPAC standard water D, 1 %(m), 20 °C)

Viscosity, kinematic: 3,8 mm2/s
calculated

Viscosity, dynamic: approx. 4,1 mPa.s
(20 °C)

Thixotropy: not thixotropic

Solubility in water: fully soluble

Partitioning coefficient n-octanol/water (log Kow):
The statements are based on the properties of the individual components.

Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride
Partitioning coefficient n-octanol/water (log Kow): 2,82
(pH value: 7)

Vapour pressure: approx. 23 hPa
(20 °C)
Information applies to the solvent.

Density: approx. 1,09 g/cm3
(20 °C)

Relative vapour density (air):
not determined

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: Based on the chemical structure there is no indication of explosive properties.

Oxidizing properties

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

Corrosion to metals

Aluminium

Other safety characteristics

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

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

Conditions to avoid

See SDS section 7 - Handling and storage.

Incompatible materials

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

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:
Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data:
LD50 rat (oral): > 500 - < 2.000 mg/kg (OECD Guideline 423)

LC50 rat (by inhalation): > 5,3 mg/l 4 h (OECD Guideline 403)
No mortality was observed. An aerosol was tested.

LD50 rat (dermal): > 4.000 mg/kg (OECD Guideline 402)
No mortality was observed.

Irritation

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

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:
No sensitizing effect.

Experimental/calculated data:
Guinea pig maximization 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.

Information on: 2-chloroethylphosphonic acid; ethephon
Assessment of mutagenicity:
The substance was not mutagenic in mammalian cell culture. The substance was mutagenic in a bacterial test system.

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.

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 organtoxicity was observed after repeated administration to animals.

Aspiration hazard

not applicable

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
Very toxic to aquatic life with long lasting effects.

Toxicity to fish:
LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss (OECD 203; ISO 7346; 84/449/EWG, C.1, static)

Aquatic invertebrates:
EC50 (48 h) > 100 mg/l, Daphnia magna

Aquatic plants:
EC50 (72 h) > 1.000 mg/l, Pseudokirchneriella subcapitata

EC50 (7 d) > 100 mg/l (growth rate), Lemna gibba (OECD Guideline 221)

EC10 (7 d) 0,68 mg/l (growth rate), Lemna gibba (OECD Guideline 221)

No observed effect concentration (7 d) < 0,1 mg/l (growth rate), Lemna gibba (OECD Guideline 221)

Chronic toxicity to fish:

No observed effect concentration (28 d) < 1 mg/l, Oncorhynchus mykiss

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: 1,1-dimethylpiperidinium chloride; mepiquat chloride
Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Information on: 2-chloroethylphosphonic acid; ethephon
Elimination information:
Not readily biodegradable (by OECD criteria).

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

Information on: 2-chloroethylphosphonic acid; ethephon
Bioaccumulation potential:
Accumulation in organisms is not to be expected. The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

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.

Information on: 2-chloroethylphosphonic acid; ethephon
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.

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.

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

UN number or ID number:	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON) CORROSIVE ON ALUMINIUM
Transport hazard class(es):	8, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number or ID number:	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON) CORROSIVE ON ALUMINIUM

Transport hazard class(es):	8, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number or ID number:	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON) CORROSIVE ON ALUMINIUM
Transport hazard class(es):	8, 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 or ID number:	UN 3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON) CORROSIVE ON ALUMINIUM
Transport hazard class(es):	8, EHSM
Packing group:	III
Environmental hazards:	yes Marine pollutant: YES
Special precautions for user:	EmS: F-A; S-B

Air transport

IATA/ICAO

UN number or ID number:	UN 3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON) CORROSIVE ON ALUMINIUM
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

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:

Met. Corr.	Corrosive to metals
Acute Tox.	Acute toxicity
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Aquatic Acute	Hazardous to the aquatic environment - acute
Skin Corr./Irrit.	Skin corrosion/irritation
H332	Harmful if inhaled.
H301	Toxic if swallowed.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
H314	Causes severe skin burns and eye damage.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H401	Toxic to aquatic life.
H411	Toxic 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.