

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 29.10.2013

Version: 4.0

Product: **TERPAL**

(ID no. 30035202/SDS_CPA_GB/EN)

Date of print 31.10.2013

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

1.1. Product identifier

TERPAL

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
GERMANYContact 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]

Met. Corr. 1

Acute Tox. 4 (oral)

Aquatic Chronic 4

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

Possible Hazards:

Harmful if swallowed.

Harmful 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:

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H413	May cause long lasting harmful effects to aquatic life.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary Statements (Prevention):

P234	Keep only in original container.
P264	Wash with plenty of water and soap thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

Precautionary Statements (Response):

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

Precautionary Statements (Disposal):

P501.1	Dispose of contents/container in accordance with local regulations.
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According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: 2-CHLOROETHYLPHOSPHONIC ACID, MEPIQUAT-CHLORIDE

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

Classification/labelling in accordance with UK regulations.

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Hazard symbol(s)

Xn Harmful.



R-phrases(s)

R22 Harmful if swallowed.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S2 Keep out of the reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
S35 This material and its container must be disposed of in a safe way.
S46 If swallowed, seek medical advice immediately and show this container or label.
S57 Use appropriate container to avoid environmental contamination.

Hazard determining component(s) for labelling: 2-CHLOROETHYLPHOSPHONIC ACID,
MEPIQUAT-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, growth regulator, Soluble concentrate (SL)

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

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1,1-dimethylpiperidinium chloride; mepiquat chloride

Content (W/W): 28 %

CAS Number: 24307-26-4

Acute Tox. 4 (oral)

Aquatic Chronic 3

H302, H412

2-chloroethylphosphonic acid; ethephon

Content (W/W): 14.2 %

CAS Number: 16672-87-0

EC-Number: 240-718-3

Acute Tox. 4 (Inhalation - dust)

Acute Tox. 4 (dermal)

Skin Corr./Irrit. 1B

Aquatic Chronic 3

H314, H312, H332, H412

Hazardous ingredients

according to Directive 1999/45/EC

1,1-dimethylpiperidinium chloride; mepiquat chloride

Content (W/W): 28 %

CAS Number: 24307-26-4

Hazard symbol(s): Xn

R-phrases: 22, 52/53

2-chloroethylphosphonic acid; ethephon

Content (W/W): 14.2 %

CAS Number: 16672-87-0

EC-Number: 240-718-3

Hazard symbol(s): C

R-phrases: 20/21, 34, 52/53

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**

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

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.

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

5.2. Special hazards arising from the substance or mixture

carbon monoxide, hydrogen chloride, Carbon dioxide, nitrogen oxides, Phosphorus compounds, 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:

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.

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.

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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.

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

No occupational exposure limits known.

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. In all other cases the following apply.

8.2. 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 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) and other

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:	colourless, clear
Odour:	aromatic
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 0.5 - 1 (20 °C) (measured with the undiluted substance)
crystallization temperature:	approx. -14.9 °C
Boiling point:	approx. 100 °C
Flash point:	(DIN EN 22719; ISO 2719) No flash point - Measurement made up to the boiling point.
Evaporation rate:	not applicable
Flammability:	Based on the structure or composition there is no indication of flammability
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. 415 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	approx. 23 hPa (20 °C)	
	Information applies to the solvent.	
Density:	approx. 1.09 g/cm ³ (20 °C)	
Relative vapour density (air):	not determined	
Solubility in water:	fully soluble	
	<i>Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride</i>	
	<i>Partitioning coefficient n-octanol/water (log Kow):</i> -3.55	<i>(OECD Guideline 107)</i>
	<i>(pH value: 7)</i>	
	<i>Information on: 2-chloroethylphosphonic acid; ethephon</i>	
	<i>Partitioning coefficient n-octanol/water (log Kow):</i> 0.05	<i>(calculated)</i>
	<i>(25 °C)</i>	

Thermal decomposition:	No decomposition if correctly stored and handled.	
Viscosity, dynamic:	approx. 4.1 mPa.s (20 °C)	
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: aluminum

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 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)

An aerosol was tested.

LD50 rat (dermal): > 4,000 mg/kg (OECD Guideline 402)

Irritation

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation: Irritant.

Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Skin sensitizing effects were not observed in animal studies.

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 organotoxicity 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:**

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

Toxicity to fish:

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

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, *Daphnia magna*

Aquatic plants:

EC10 (72 h) > 1,000 mg/l, *Pseudokirchneriella subcapitata*

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

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: 1,1-dimethylpiperidinium chloride; mepiquat chloride

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Information on: 2-chloroethylphosphonic acid; ethephon

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: 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.

Information on: 2-chloroethylphosphonic acid; ethephon

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:

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:

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:

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.

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	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains ETHEPHON 14%) CORROSIVE ON ALUMINIUM
Transport hazard class(es):	8
Packing group:	III
Environmental hazards:	no
Special precautions for user:	Tunnel code: E

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RID

UN number: UN3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains ETHEPHON 14%) CORROSIVE ON ALUMINIUM
Transport hazard class(es): 8
Packing group: III
Environmental hazards: no
Special precautions for user: None known

Inland waterway transport**ADN**

UN number: UN3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains ETHEPHON 14%) CORROSIVE ON ALUMINIUM
Transport hazard class(es): 8
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 3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains ETHEPHON 14%) CORROSIVE ON ALUMINIUM
Transport hazard class(es): 8
Packing group: III
Environmental hazards: no
Marine pollutant: NO
Special precautions for user: None known

Air transport**IATA/ICAO**

UN number: UN 3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains ETHEPHON 14%) 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

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

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

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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).

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:

Xn	Harmful.
C	Corrosive.
22	Harmful if swallowed.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
20/21	Harmful by inhalation and in contact with skin.
34	Causes burns.
Met. Corr.	Substance or mixture corrosive to metals
Acute Tox.	Acute toxicity
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Skin Corr./Irrit.	Skin corrosion/irritation
H302	Harmful if swallowed.
H412	Harmful to aquatic life with long lasting effects.
H314	Causes severe skin burns and eye damage.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.

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.