

Safety data sheet

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

Date / Revised: 23.04.2018

Product: **Cyanamide**

Version: 2.0

(ID no. 30654935/SDS_CPA_00/EN)

Date of print 18.06.2024

1. Identification

Product identifier

Cyanamide

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

Relevant identified uses: crop protection product

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

Acute Tox. 3 (oral)

Acute Tox. 4 (dermal)

Skin Corr./Irrit. 1B

Eye Dam./Irrit. 1

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Skin Sens. 1
Repr. 2 (fertility)
Repr. 2 (unborn child)
STOT RE 2
Aquatic Acute 3
Aquatic Chronic 3

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:

Danger

Hazard Statement:

H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H402	Harmful to aquatic life.
H412	Harmful 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 label before use.

Precautionary Statements (Prevention):

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/gas/mist/vapours.
P264	Wash contaminated body parts thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements (Response):

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P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

P405 Store locked up.

Precautionary Statements (Disposal):

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

According to UN GHS criteria

Hazard determining component(s) for labelling: cyanamide; carbanonitril

Other hazards

According 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

Mixtures

Chemical nature

crop protection product, Soluble concentrate (SL)

Contains: Water

Hazardous ingredients (GHS)

According to UN GHS criteria

cyanamide; carbamonitrile

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Content (W/W): 49 %
 CAS Number: 420-04-2
 EC-Number: 206-992-3

Acute Tox. 3 (oral)
 Acute Tox. 4 (dermal)
 Skin Corr./Irrit. 1B
 Eye Dam./Irrit. 1
 Skin Sens. 1
 Repr. 2 (fertility)
 Repr. 2 (unborn child)
 STOT RE 2
 Aquatic Acute 2
 Aquatic Chronic 2
 H312, H301, H317, H373, H361, H314, H401,
 H411

phosphoric acid...%, orthophosphoric acid...%

Content (W/W): < 2 %
 CAS Number: 7664-38-2
 EC-Number: 231-633-2
 INDEX-Number: 015-011-00-6

Met. Corr. 1
 Acute Tox. 5 (oral)
 Skin Corr./Irrit. 1B
 Eye Dam./Irrit. 1
 H290, H303, H314

Specific concentration limit:

Skin Corr./Irrit. 2: 10 - < 25 %

Eye Dam./Irrit. 2: 10 - < 25 %

Skin Corr./Irrit. 1B: >= 25 %

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

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. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

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Do not induce vomiting. Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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.

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, carbon dioxide, foam, dry powder

Special hazards arising from the substance or mixture

carbon monoxide, ammonia, anhydrous, hydrogen cyanide; hydrocyanic acid, ammonia...%, 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.

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.

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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. Wear suitable protective equipment.

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. 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.

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 above: 20 °C

The packed product must be protected against exceeding the indicated temperature.

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

420-04-2: cyanamide; carbanonitril

7664-38-2: phosphoric acid...%, orthophosphoric acid...%

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:

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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:

Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

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

Information on basic physical and chemical properties

Form:	liquid, in water
Colour:	blue
Odour:	odourless
Odour threshold:	
pH value:	not applicable, odour not perceivable approx. 3,5 - 5,5 (20 °C) (measured with the undiluted substance)
Melting point:	-15 °C
Boiling point:	approx. 100 °C Information applies to the solvent.
Flash point:	No flash point - Measurement made up to the boiling point.
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.

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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:

not determined

Vapour pressure: approx. 0,005 hPa
(20 °C)

The data given are those of the active ingredient.

Density: approx. 1,06 g/cm³
(20 °C)

Relative vapour density (air):

not applicable

Solubility in water: fully soluble

*Information on: cyanamide; carbamonitrile**Partitioning coefficient n-octanol/water (log Kow): -0,72*
(20 °C)-----
Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.Viscosity, dynamic: approx. 1,026 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.

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.

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

Experimental/calculated data:
LD50 rat (oral): 284 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): > 2 mg/l 4 h (OECD Guideline 403)
Highest concentration capable of testing. No mortality was observed.

LD50 rabbit (dermal): 1.696 mg/kg

Irritation

Assessment of irritating effects:
Corrosive! Damages skin and eyes.

Experimental/calculated data:
Skin corrosion/irritation In vitro assay: Corrosive. (OECD Guideline 431)

Serious eye damage/irritation rabbit: Risk of serious damage to eyes.

Respiratory/Skin sensitization

Assessment of sensitization:
Sensitization after skin contact possible.

Experimental/calculated data:
guinea pig: Caused skin sensitization in animal studies.

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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.

Information on: cyanamide; carbamionitrile

Assessment of reproduction toxicity:

The results of animal studies suggest 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.

Information on: cyanamide; carbamionitrile

Assessment of teratogenicity:

Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

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.

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Assessment of repeated dose toxicity:

| *Repeated exposure may affect certain organs.*

| *Information on: phosphoric acid...%, orthophosphoric acid...%*

Assessment of repeated dose toxicity:

| *The substance may lead to shifts in blood composition following repeated exposure in animal experiments.*

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.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Harmful to aquatic life with long lasting effects.

Toxicity to fish:

LC50 (96 h) 180 mg/l, *Oncorhynchus mykiss* (OECD Guideline 204)

No observed effect concentration (21 d) 7,4 mg/l, *Oncorhynchus mykiss* (OECD Guideline 204)

Aquatic invertebrates:

EC50 (48 h) 6,5 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants:

EC50 (90 h) 27,5 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.

| *Information on: cyanamide; carbamonitrile*

| *Assessment biodegradation and elimination (H₂O):*

| *Readily biodegradable (according to OECD criteria).*

Bioaccumulative potential

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Assessment bioaccumulation potential:

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

Information on: cyanamide; carbamionitrile

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: cyanamide; carbamionitrile

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.

Contaminated packaging:

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

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14. Transport Information

Land transport

ADR

UN number	UN2922
UN proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains CYANAMIDE)
Transport hazard class(es):	8, 6.1, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN2922
UN proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains CYANAMIDE)
Transport hazard class(es):	8, 6.1, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN2922
UN proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains CYANAMIDE)
Transport hazard class(es):	8, 6.1, EHSM
Packing group:	II
Environmental hazards:	yes
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 CYANAMIDE)
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Packing group:	II

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Environmental hazards:	yes
Special precautions for user:	Marine pollutant: YES None known

Air transport

IATA/ICAO

UN number:	UN 2922
UN proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains CYANAMIDE)
Transport hazard class(es):	8, 6.1
Packing group:	II
Environmental hazards:	No Mark as dangerous for the environment is needed
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
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Repr.	Reproductive toxicity
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Met. Corr.	Corrosive to metals
H312	Harmful in contact with skin.
H301	Toxic if swallowed.

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H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H361	Suspected of damaging fertility. Suspected of damaging the unborn child.
H314	Causes severe skin burns and eye damage.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H290	May be corrosive to metals.
H303	May be harmful if swallowed.

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.