

Safety data sheet

Page: 1/14

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

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

1. Identification

Product identifier

Lutavit® A 500 Plus

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

Relevant identified uses: feed additive(s)

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@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

Skin Corr./Irrit. 3

Repr. 1B (unborn child)

Aquatic Acute 3

Aquatic Chronic 3

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

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:

H316	Causes mild skin irritation.
H360	May damage the unborn child.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P273	Avoid release to the environment.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):

P308 + P313	IF exposed or concerned: Get medical attention.
P332 + P313	If skin irritation occurs: Get medical attention.

Precautionary Statements (Storage):

P405	Store locked up.
------	------------------

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: Retinyl acetate

Other hazards

According to UN GHS criteria

| The product is under certain conditions capable of dust explosion.

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 06.03.2023
Product: **Lutavit® A 500 Plus**

Version: 3.1

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Preparation based on: Retinyl acetate

in a matrix of: carbohydrates, Gelatins

Hazardous ingredients (GHS)

According to UN GHS criteria

Retinyl acetate

Content (W/W): $\geq 20\%$ - $< 25\%$	Acute Tox. 5 (oral)
CAS Number: 127-47-9	Skin Corr./Irrit. 3
EC-Number: 204-844-2	Repr. 1B (unborn child)
	Aquatic Chronic 4
	H316, H303, H360, H413

Ethoxyquin

Content (W/W): $\geq 3\%$ - $< 5\%$	Acute Tox. 4 (oral)
CAS Number: 91-53-2	Acute Tox. 5 (Inhalation - mist)
EC-Number: 202-075-7	Aquatic Acute 2
INDEX-Number: 613-014-00-2	Aquatic Chronic 2
	H333, H302, H401, H411

Sodium acetate

Content (W/W): $\geq 1\%$ - $< 3\%$	Acute Tox. 5 (oral)
CAS Number: 127-09-3	H303
EC-Number: 204-823-8	

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.

On skin contact:

Immediately wash thoroughly with soap and water, seek medical attention.

On contact with eyes:

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

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

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

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

Unsuitable extinguishing media for safety reasons:

water jet

Additional information:

Avoid whirling up the material/product because of the danger of dust explosion.

Special hazards arising from the substance or mixture

harmful vapours, carbon oxides

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

Advice for fire-fighters

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Cool endangered containers with water-spray.

6. Accidental Release Measures

Dust can form an explosive mixture with air.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8.

Avoid dust formation. Ensure adequate ventilation. Do not breathe dust. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

Methods and material for containment and cleaning up

For small amounts: Contain with dust binding material and dispose of.

For large amounts: Sweep/shovel up. Collect waste in suitable containers, which can be labeled and sealed.

Avoid raising dust. Dispose of absorbed material in accordance with regulations. Cleaning operations should be carried out only while wearing breathing apparatus.

7. Handling and Storage**Precautions for safe handling**

Avoid dust formation. Provide exhaust ventilation if dust is formed. Avoid contact with the skin, eyes and clothing.

Protection against fire and explosion:

Avoid dust formation. The product is capable of dust explosion. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Use explosion-proof apparatus and fittings.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Protect from air.

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

50-99-7: Glucose

91-53-2: Ethoxyquin

127-09-3: Sodium acetate

127-47-9: Retinyl acetate

9000-70-8: Gelatins

9005-25-8: Starch

9087-61-0: Starch, hydrogen octenylbutanedioate, aluminum salt

Exposure controlsPersonal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

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.

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

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

Under no circumstances should the product come into contact with the skin of pregnant women or be inhaled by them. Females in early pregnancy must never be exposed to the substance. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	powder
Colour:	tan to brown
Odour:	earthy
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	(20 °C) not applicable, of very low solubility
Melting temperature:	approx. 60 °C
Boiling point:	The product is a non-volatile solid.
Flash point:	not applicable, the product is a solid
Evaporation rate:	The product is a non-volatile solid.
Flammability:	not highly flammable (other)
Lower explosion limit:	For solids not relevant for classification and labelling.
Upper explosion limit:	For solids not relevant for classification and labelling.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

Vapour pressure: negligible

Density: No information is available for the absolute density. Instead the bulk density was determined as a more relevant value.

Relative vapour density (air): not applicable

Solubility in water: sparingly soluble

Solubility (qualitative) solvent(s): organic solvents
easily soluble

Partitioning coefficient n-octanol/water (log Kow): not applicable for mixtures

Thermal decomposition: ≥ 100 °C (DSC (DIN 51007))

Viscosity, kinematic: not applicable, the product is a solid

Explosion hazard: Product is not explosive, however a dust explosion could result from an air / dust mixture.

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

Other information

Burning rate: The material doesn't meet the criteria specified in paragraph 33.2.4.4 of UN manual of tests and criteria.

Self heating ability: Not tested on account of the low melting-point.

Minimum ignition energy: (VDI 2263, sheet 1, 2.5)
The product is capable of dust explosion.

Bulk density: 570 kg/m³

10. Stability and Reactivity**Reactivity**

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

Corrosion to metals: No corrosive effect on metal.

Chemical stability

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

Possibility of hazardous reactions

Dust explosion hazard.

Conditions to avoid

Avoid dust formation. See SDS section 7 - Handling and storage.

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 06.03.2023
Product: **Lutavit® A 500 Plus**

Version: 3.1

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

Incompatible materials

Substances to avoid:

No substances known that should be avoided.

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:

Virtually nontoxic after a single ingestion.

Information on: Retinyl acetate

Experimental/calculated data:

LD50 rat (oral): > 2.000 mg/kg (BASF-Test)

No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Ethoxyquin

Experimental/calculated data:

LD50 rat (oral): 1.726 mg/kg (similar to OECD guideline 401)

Irritation

Assessment of irritating effects:

Skin contact causes slight irritation. Not irritating to the eyes.

Information on: Retinyl acetate

Experimental/calculated data:

Skin corrosion/irritation rabbit: Slightly irritating. (OECD Guideline 404)

Respiratory/Skin sensitization

Assessment of sensitization:

Based on the ingredients, there is no suspicion of a skin-sensitizing potential.

Information on: Retinyl acetate

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)

Information on: Ethoxyquin

Experimental/calculated data:

Buehler test guinea pig: Non-sensitizing. (similar to OECD guideline 406)

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

Germ cell mutagenicity

Assessment of mutagenicity:

Based on available data, the classification criteria are not met.

*Information on: Retinyl acetate**Assessment of mutagenicity:**In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.**Information on: Ethoxyquin**Assessment of mutagenicity:**Based on available data, the classification criteria are not met.*

Carcinogenicity

Assessment of carcinogenicity:

Not classified, due to lack of data.

Reproductive toxicity

Assessment of reproduction toxicity:

Substances which cause concern for humans owing to possible developmental toxic effects.

*Information on: Retinyl acetate**Assessment of reproduction toxicity:**No reliable data are available concerning reproduction toxicity.**Information on: Ethoxyquin**Assessment of reproduction toxicity:**Based on available data, the classification criteria are not met.*

Developmental toxicity

Assessment of teratogenicity:

The substance caused malformations/developmental toxicity in laboratory animals.

*Information on: Retinyl acetate**Assessment of teratogenicity:**May cause harm to the unborn child.*

Specific target organ toxicity (single exposure)

Remarks: Based on available data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

Assessment of repeated dose toxicity:

Repeated exposure to large quantities may affect certain organs.

*Information on: Retinyl acetate**Assessment of repeated dose toxicity:**Repeated exposure to large quantities may affect certain organs.*
-----Aspiration hazard

not applicable

Other relevant toxicity information

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

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Harmful to aquatic life with long lasting effects.

*Information on: Retinyl acetate**Toxicity to fish:**LC50 (96 h) 1,37 mg/l, Oncorhynchus mykiss (OECD Guideline 203)**The statement of the toxic effect relates to the analytically determined concentration. The LC50 is higher than the solubility limit. Tested above maximum solubility. No toxic effects occur within the range of solubility.**Information on: Ethoxyquin**Toxicity to fish:**LC50 (96 h) 18 mg/l, Oncorhynchus mykiss (OPP 72-1 (EPA-Guideline), Flow through.)*
-----*Information on: Retinyl acetate**Aquatic invertebrates:**EC50 (48 h) 46 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)**No toxic effects occur within the range of solubility. Tested above maximum solubility. The statement of the toxic effect relates to the analytically determined concentration.**Information on: Ethoxyquin**Aquatic invertebrates:**EC50 (48 h) 2 mg/l, Daphnia magna (OPP 72-2 (EPA-guideline), Flow through.)*
-----*Information on: Retinyl acetate**Aquatic plants:**EC50 (72 h) 0,103 mg/l (biomass), Scenedesmus subspicatus (OECD Guideline 201, static)**The details of the toxic effect relate to the nominal concentration. No toxic effects occur within the range of solubility. Tested above maximum solubility.**Information on: Ethoxyquin*

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

*Aquatic plants:**EC50 (72 h) > 16 mg/l (growth rate), Pseudokirchneriella subcapitata (Guideline 92/69/EEC, C.3, static)**No observed effect concentration (72 h) 2,3 mg/l (growth rate), Pseudokirchneriella subcapitata (Guideline 92/69/EEC, C.3, static)*
-----*Information on: Retinyl acetate**Microorganisms/Effect on activated sludge:**EC20 (180 min) > 1.000 mg/l, activated sludge, domestic (OECD Guideline 209, aquatic)**The details of the toxic effect relate to the nominal concentration. The product has not been tested.**The statement has been derived from substances/products of a similar structure or composition.**Information on: Ethoxyquin**Microorganisms/Effect on activated sludge:**EC20 (30 min) approx. 60 mg/l, activated sludge, domestic (DIN EN ISO 8192, aerobic)*

Assessment of terrestrial toxicity:

No data available.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

*Information on: Retinyl acetate**Assessment biodegradation and elimination (H₂O):**Not readily biodegradable (by OECD criteria). Moderately/partially biodegradable.**Information on: Ethoxyquin**Assessment biodegradation and elimination (H₂O):**Not readily biodegradable (by OECD criteria).*

Bioaccumulative potential

Assessment bioaccumulation potential:

The product contains components with potential for bioaccumulation

*Information on: Retinyl acetate**Assessment bioaccumulation potential:**Significant accumulation in organisms is not to be expected.**Information on: Ethoxyquin**Assessment 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:

Volatility: No data available.

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 06.03.2023
Product: **Lutavit® A 500 Plus**

Version: 3.1

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

Adsorption in soil: Adsorption to solid soil phase is expected.

Information on: Retinyl acetate

Assessment transport between environmental compartments:

Volatility: No data available.

Adsorption in soil: Adsorption to solid soil phase is expected.

Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Add. remarks environm. fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

Other ecotoxicological advice:

The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal Considerations

Waste treatment methods

Observe national and local legal requirements.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID 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 or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.03.2023

Version: 3.1

Product: **Lutavit® A 500 Plus**

(ID no. 30040362/SDS_GEN_00/EN)

Date of print 17.10.2025

Special precautions for user None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID 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

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID 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 or ID 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

Maritime transport in bulk according to IMO instrumentsMaritime transport in bulk is not intended.

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

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

16. Other Information

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

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

Skin Corr./Irrit.	Skin corrosion/irritation
Repr.	Reproductive toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Acute Tox.	Acute toxicity
H316	Causes mild skin irritation.
H303	May be harmful if swallowed.
H360	May damage the unborn child.
H413	May cause long lasting harmful effects to aquatic life.
H333	May be harmful if inhaled.
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.