

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

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

· **1.1 Product identifier**

· **Product name:** Vario Silica Amino Acid F / F 10 ml

· **Catalog number:** 00531609, 531600

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

· **Application of the substance / the preparation:** Reagent for water analysis

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 1)

Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS05

GHS07

GHS08

GHS09

Signal word Danger

Hazard-determining components of labelling:

disodium disulphite
bis(4-hydroxy-N-methylanilinium) sulphate

Hazard statements

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust.
P280 Wear protective gloves/protective clothing/eye protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
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 doctor.
P302+P352 IF ON SKIN: Wash with plenty of water.

Additional information:

EUH031 Contact with acids liberates toxic gas.

2.3 Other hazards No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of organic and inorganic compounds

Dangerous components:

CAS: 7681-57-4 EINECS: 231-673-0 Index No: 016-063-00-2 Reg.nr.: 01-2119531326-45-XXXX	disodium disulphite ☠ Eye Dam. 1, H318; ☠ Acute Tox. 4, H302, EUH031	60–70%
CAS: 55-55-0 EINECS: 200-237-1 Index No: 650-031-00-4	bis(4-hydroxy-N-methylanilinium) sulphate ☠ STOT RE 2, H373; ☠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1); ☠ Acute Tox. 4, H302; Skin Sens. 1, H317	25–30%
CAS: 7758-98-7 EINECS: 231-847-6 Index No: 029-004-00-0	copper sulphate ☠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); ☠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	0.1–<0.25%

Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Instantly remove any clothing soiled by the product.
After inhalation Supply fresh air; consult doctor in case of symptoms.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 2)

- **After skin contact**
Instantly rinse with water.
If skin irritation or rash occurs: Get medical advice/attention.
 - **After eye contact**
Rinse opened eye for several minutes (at least 15 min) under running water.
Call a doctor immediately.
 - **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
Seek medical treatment.
 - **Information for doctor** Sulphites are strong sensitizers.
 - **4.2 Most important symptoms and effects, both acute and delayed:**
burns
after inhalation:
mucosal irritations, cough, shortness of breath
Irritation and corrosion
mucous membrane irritation
after swallowing:
allergic reactions
gastric or intestinal trouble
absorption
after swallowing of large amounts:
sickness
vomiting
cardiovascular disorders
cyanosis
methaemoglobinaemia
cramps
 - **Danger**
Risk of serious damage to eyes.
risk of skin sensitization
Sulphites are strong sensitizers.
 - **4.3 Indication of any immediate medical attention and special treatment needed:**
Symptoms of poisoning may even occur after several hours.
-

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
 - **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
 - **5.2 Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
Can be released in case of fire:
Sulphur oxides (SO_x)
Nitrogen oxides (NO_x)
Sodium oxide
Carbon monoxide (CO) and carbon dioxide (CO₂)
 - **5.3 Advice for firefighters**
 - **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
 - **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.
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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Advice for emergency responders:**
Put on breathing apparatus.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 3)

Protective equipment: see section 8

6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.
Inform respective authorities in case product reaches water or sewage system.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling:

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.

Hygiene measures:

Do not inhale dust / smoke / mist.
Avoid contact with the skin.
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers: Store in cool location.

Information about storage in one common storage facility:

Do not store together with acids.
Store away from oxidising agents.

Further information about storage conditions:

Protect from heat and direct sunlight.
Protect from the effects of light.
Store under dry conditions.
Protect from humidity and keep away from water.
Recommended storage temperature: 20°C +/- 5°C

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

CAS: 7681-57-4 disodium disulphite

WEL (Great Britain) Long-term value: 5 mg/m³

CAS: 7758-98-7 copper sulphate

WEL (Great Britain) Short-term value: 2 mg/m³
Long-term value: 1 mg/m³
dusts and mists, as Cu

Regulatory information WEL (Great Britain): EH40/2020

DNELs

Derived No Effect Level (DNEL)

CAS: 7681-57-4 disodium disulphite

Inhalative	DNEL	10 mg/m ³ (Worker / long-term /systemic effects) (MERCK)
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Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

(Contd. on page 5)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 4)

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7681-57-4 disodium disulphite

PNEC	75.4 mg/l (Sewage treatment plant)
	0.1 mg/l (Marine water)
	1 mg/l (Fresh water)

· Additional information: The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls
· Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

· Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· Eye/face protection Tightly sealed safety glasses.

· Hand protection

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm
· Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Other skin protection (body protection): Protective work clothing.

· Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.

· Recommended filter device for short term use: Filter P2

· Environmental exposure controls Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Physical state	Solid.
· Form:	Powder
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable (solid).
· Decomposition temperature:	> 150°C (CAS 7681-57-4)
· pH (4 g/l) at 20°C	5.3
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density at 20°C:	1.26 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 5)

· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100.0 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability**
Stable at ambient temperature (room temperature).
sensitivity to light
- **10.3 Possibility of hazardous reactions**
In contact with nitrites, nitrates or nitrous acid possible release of nitrosamines (carcinogenic)!
Contact with acids releases toxic gases
Reacts with acids releasing sulphur dioxide
Reacts with oxidizing agents
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Sulphur dioxide
In case of fire: see section 5.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

- **Acute toxicity**
Classification according to calculation procedure:
Harmful if swallowed.

- **Acute toxicity estimate (ATE_(mix)) - Calculation method:**

Oral	CLP ATE _(mix)	969 mg/kg (.)
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- **LD/LC50 values that are relevant for classification:**

CAS: 7681-57-4 disodium disulphite

Oral	LD50	1540 mg/kg (rat) (OECD 401) (MERCK)
Dermal	LD50.	>2000 mg/kg (rat) (RTECS)
Inhalative	LC50	>5.5 mg/l /4h (rat) (OECD 403) Registrant, ECHA: the value is given in analogy to sodium sulphite

CAS: 55-55-0 bis(4-hydroxy-N-methylanilinium) sulphate

Oral	LD50	500 mg/kg (ATE)
	LDo	200 mg/kg (rat) (RTECS)
Dermal	LD50.	>1000 mg/kg (guinea pig) (RTECS)

CAS: 7758-98-7 copper sulphate

Oral	LD50	481 mg/kg (rat) (OECD 401) (Merck)
	LDLo	50 mg/kg (human)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye damage.
Risk of corneal clouding.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 6)

· Information on components:		
CAS: 7681-57-4 disodium disulphite		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: severe irritations)

· **Respiratory or skin sensitisation** May cause an allergic skin reaction.

· **Information on components:**

CAS 55-55-0: Sensitizing effect by inhalation and skin contact is possible by prolonged exposure.

CAS: 7681-57-4 disodium disulphite		
Sensitisation	OECD 406	(guinea pig: negative)
	OECD 429	(negative) Local lymph node assay (LLNA) - Mouse Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **Information on components:**

CAS 7681-57-4: Did not show teratogenic effects in animal experiments.

CAS 7681-57-4: Did not show carcinogenic effects in animal experiments (IUCLID).

CAS 7681-57-4: No impairment of reproductive performance in animal experiments (IUCLID).

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-57-4 disodium disulphite	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Information on likely routes of exposure**

When working with sodium metabisulfite, inhalative and dermal exposures are to be expected. [GESTIS]

· Additional toxicological information:	
CAS: 7681-57-4 disodium disulphite	
· (source: GESTIS)	
Main toxic effects:	
Acute: Irritant effect on the eyes and respiratory tract, acute intolerance reactions (in case of disposition)	
chronic: allergic skin diseases (rare)	
Further information (Merck):	
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.	
Persons with allergies and/or asthma may exhibit hypersensitivity to sulfites.	

· **11.2 Information on other hazards**

· **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· **Other information**

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

— GB —
(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: **Vario Silica Amino Acid F / F 10 ml**

(Contd. of page 7)

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 7681-57-4 disodium disulphite

EC50	89 mg/l/48h (Daphnia magna) (OECD 202) (MERCK)
IC50	48 mg/l/72h (Desmodesmus subspicatus) (OECD 201) (MERCK)
LC50	150–220 mg/l/96h (rainbow trout) (DIN 38412 Teil 15) (Merck)

CAS: 55-55-0 bis(4-hydroxy-N-methylanilinium) sulphate

EC50	0.019 mg/l/96h (Daphnia magna) (Merck)
	0.25 mg/l/96h (fathhead minnow) (Merck)

CAS: 7758-98-7 copper sulphate

EC50	0.02 mg/l/48h (Daphnia magna) (ECOTOX)
LC50	0.11 mg/l/96h (rainbow trout) (ECOTOX)

· Bacterial toxicity:

sulphates toxic > 2.5 g/l

CAS: 7681-57-4 disodium disulphite

EC50	56 mg/l (Pseudomonas putida) (17h) (IUCLID)
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· Other information:

Toxic for fish:

Sulphates > 7 g/l

copper ions at concentration below 1 mg/l

· 12.2 Persistence and degradability

CAS 55-55-0: not easily biodegradable

CAS: 55-55-0 bis(4-hydroxy-N-methylanilinium) sulphate

OECD 301 D	30 % (.) (Closed Bottle Test)
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· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects** Avoid transfer into the environment.

· Water hazard:

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

· European waste catalogue

16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
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· Uncleaned packagings:

· **Recommendation:** Disposal must be made according to official regulations.

(Contd. on page 9)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)


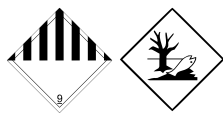
Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 8)

 · **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR, IMDG, IATA	UN3077
· 14.2 UN proper shipping name · ADR · IMDG · IATA	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate, copper sulphate) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate, copper sulphate), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate, copper sulphate)
· 14.3 Transport hazard class(es) · ADR  · Class · Label	9 (M7) Miscellaneous dangerous substances and articles. 9
· IMDG, IATA  · Class · Label	9 Miscellaneous dangerous substances and articles. 9
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR): · Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Kemler Number: · EMS Number: · Stowage Category · Stowage Code	Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information: · ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code	 5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g 3 E
· IMDG · Limited quantities (LQ)	5 kg

(Contd. on page 10)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 9)

· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
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* SECTION 15: Regulatory information

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

· **Poisons Act UK**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category** E1 Hazardous to the Aquatic Environment

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

(Contd. on page 11)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 15 (replaces version 14)

Revision: 14.11.2023

Product name: Vario Silica Amino Acid F / F 10 ml

(Contd. of page 10)

· Relevant phrases

H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 EUH031 Contact with acids liberates toxic gas.

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development
 STOT: specific target organ toxicity
 SE: single exposure
 RE: repeated exposure
 EC50: half maximal effective concentration
 IC50: half maximal inhibitory concentration
 NOEL or NOEC: No Observed Effect Level or Concentration
 ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (UK REACH)
 PNEC: Predicted No-Effect Concentration (UK REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Skin Sens. 1: Skin sensitisation – Category 1
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· Sources

Data arise from safety data sheets, reference works and literature.
 ECOTOX Database
 IUCLID (International Uniform Chemical Information Database)
 RTECS (Registry of Toxic Effects of Chemical Substances)
 ECHA: European CHemicals Agency <http://echa.europa.eu>
 GESTIS- Stoffdatenbank (Substance Database, Germany)

· * Data compared to the previous version altered.