

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

Printing date 15.11.2023

Version number 6

Revision: 15.11.2023

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

· **1.1 Product identifier**

· **Product name:** Vario Triazole Reagent F25 ml

· **Catalog number:** 00532209, 532200, 4532200

· **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**



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

· **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

· **Signal word** Danger

· **Hazard-determining components of labelling:**

disodium disulphite
succinic acid

· **Hazard statements**

H318 Causes serious eye damage.

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Precautionary statements

- P280 Wear eye protection / face protection.
 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/doctor.

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: 110-15-6 EINECS: 203-740-4 Reg.nr.: 01-2119896114-34-XXXX	succinic acid	☞ Eye Dam. 1, H318	20–30%
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	20–30%

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.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **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.
 In case of persistent symptoms consult doctor.

Information for doctor Sulphites are strong sensitizers.

4.2 Most important symptoms and effects, both acute and delayed:

 burns
 mucous membrane irritation
 thirst
 after absorption:
 gastric or intestinal trouble
 breathing difficulty
 pseudoallergic reactions
 sickness
 vomiting
 diarrhoea

4.3 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing agents** Water, Carbon dioxide (CO₂), Foam, Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents**
For this substance / mixture no limitations of extinguishing agents are given.

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- **5.2 Special hazards arising from the substance or mixture**
mixture with combustible ingredients
Formation of toxic gases is possible during heating or in case of fire.
Sulphur oxides (SO_x)
Sodium oxide
 - **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.
-

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.
Protective equipment: see section 8
 - **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
 - **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.
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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:**
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:** 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.
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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

· Regulatory information WEL (Great Britain): EH40/2020

· DNELs

Derived No Effect Level (DNEL)

CAS: 110-15-6 succinic acid

Oral	DNEL	67 mg/kg (Consumer / acute / systemic effects)
		43 mg/kg (Consumer / long-term / systemic effects)
Dermal	DNEL	67 mg/kg (Worker / long-term / systemic effects)
		67 mg/kg (Consumer / acute / systemic effects)
Inhalative	DNEL	43 mg/kg (Consumer / long-term / systemic effects)
		10 mg/m ³ (Worker / acute / local effects)
		10 mg/m ³ (Worker / long-term / systemic effects)
		10 mg/m ³ (Consumer / acute / local effects)
		10 mg/m ³ (Consumer / acute / systemic effects)
		10 mg/m ³ (Consumer / long-term / local effects)
		10 mg/m ³ (Consumer / long-term / systemic effects)

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.

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 110-15-6 succinic acid

PNEC	3 mg/l (Sewage treatment plant)
	0.01 mg/l (Marine water)
	1 mg/l (Aquatic intermittent release)
	0.1 mg/l (Fresh water)
PNEC	0.0177 mg/kg (Soil)
	0.0079 mg/kg (Marine sediment)
	0.079 mg/kg (Fresh water sediment)

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.

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- **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 trough 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.
- **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 determined.
- **Auto-ignition temperature:** Not applicable (solid).
- **Decomposition temperature:** Not determined.
- **pH (11.5 g/l) at 20°C** 5
- **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:** Not determined.
- **Relative density:** Not determined.
- **Relative gas density** Not applicable (solid).
- **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 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
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

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

- **LD/LC50 values that are relevant for classification:**

CAS: 110-15-6 succinic acid		
Oral	LD50	2260 mg/kg (rat) (RTECS)
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

- **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.

- **Information on components:**

CAS: 110-15-6 succinic acid		
Irritation of skin	OECD 404	(rabbit: no irritation) (Registrant, ECHA)
Irritation of eyes	OECD 405	(rabbit: severe irritations)
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** Based on available data, the classification criteria are not met.

- **Information on components:**

CAS: 110-15-6 succinic acid		
Sensitisation	OECD 406	(guinea pig: negative) (Registrant, ECHA)
	OECD 429	(negative) (LLNA-Test) (Registrant, ECHA)
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 carcinogenic effects in animal experiments (IUCLID).

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

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

CAS: 110-15-6 succinic acid	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Registrant, ECHA, Salmonella typhimurium)
CAS: 7681-57-4 disodium disulphite	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)

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

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.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
CAS: 110-15-6 succinic acid
EC50 >100 mg/l/48h (Daphnia magna) (OECD 202)
(Registrant, ECHA)EC50 >100 mg/l/72h (Pseudokirchneriella subcapitata) (OECD 201)
(Registrant, ECHA)

LC50 >100 mg/l/96h (zebrafish) (OECD 203)

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)
Bacterial toxicity:
CAS: 110-15-6 succinic acid
EC50 >300 mg/l /3h (activated sludge) (OECD 209)
(Registrant, ECHA)
CAS: 7681-57-4 disodium disulphite
EC50 56 mg/l (Pseudomonas putida) (17h)
(IUCLID)
12.2 Persistence and degradability
CAS: 110-15-6 succinic acid

OECD 301 C 78 % / 14 d (readily biodegradable) (Modified MITI Test)

OECD 301 E 96.55 % / 28 d, aerob (readily biodegradable) (Modified OECD Screening Test)

12.3 Bioaccumulative potential
CAS: 110-15-6 succinic acid
log Pow -0.59 (.) (experimental)
(Merck)
Bioconcentration factor (BCF)
CAS: 110-15-6 succinic acid

BCF 3 (.)

- **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.

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- **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.
Danger to drinking water if even 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

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|---|--|
| · 14.1 UN number or ID number | Void |
| · ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | Void |
| · ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | Void |
| · ADR, IMDG, IATA | Void |
| · Class | Void |
| · 14.4 Packing group | Void |
| · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |

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.	

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<ul style="list-style-type: none"> · 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.
<ul style="list-style-type: none"> · Regulation (EC) No 273/2004 on drug precursors
None of the ingredients is listed.
<ul style="list-style-type: none"> · 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.
<ul style="list-style-type: none"> · Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
None of the ingredients is listed.
<ul style="list-style-type: none"> · REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)
None of the ingredients is listed.
<ul style="list-style-type: none"> · LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)
None of the ingredients is listed.
<ul style="list-style-type: none"> · 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. · Information about limitation of use: Not required. · 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 Sheet 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.

- **Relevant phrases**

H302 Harmful if swallowed.

H318 Causes serious eye damage.

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

- **Sources**

Data arise from safety data sheets, reference works and literature.

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ECOTOX Database
IUCLID (International Uniform Chemical Information Database)
RTECS (Registry of Toxic Effects of Chemical Substances)

· * Data compared to the previous version altered.

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