

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 07/19/2019

Reviewed on 07/19/2019

1 Identification

- **Product identifier**
- **Trade name:** Vario Triazole Reagent F25 ml
- **Catalogue number:** 00532209, 532200, 4532200
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

* 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**




GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
disodium disulphite
succinic acid
- **Hazard statements**
H318 Causes serious eye damage.
- **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.
- **Other hazards** No further relevant information available.

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of organic and inorganic compounds
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 110-15-6 EINECS: 203-740-4 RTECS: WM 4900000	succinic acid	 Eye Dam. 1, H318	20–30%
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CAS: 7681-57-4 EINECS: 231-673-0 Index number: 016-063-00-2 RTECS: UX8225000	disodium disulphite	☞ Eye Dam. 1, H318; ☞ Acute Tox. 4, H302	20-30%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately 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.

If symptoms persist consult doctor.

· **Information for doctor:** Sulfites are strong sensitizers

· **Most important symptoms and effects, both acute and delayed**

burns

mucous membrane irritation

after resorption:

breathing difficulty

thirst

gastric or intestinal disorders

pseudoallergic reactions

sickness

vomiting

diarrhoea

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

5 Fire-fighting measures

· **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.

· **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.

Sulfur oxides (SO_x)

Sodium oxide

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

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

Ambient fire may liberate hazardous vapours.

6 Accidental release measures

· **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:**

Mount respiratory protective device.

Protective equipment: see section 8

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- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
 - Ensure adequate ventilation.
 - Pick up mechanically.
 - Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**
- **Advice on safe handling:**
 - Prevent formation of dust.
 - Thorough dedusting.
- **Hygiene measures:**
 - Avoid contact with the eyes.
 - Take off immediately all contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Protect from exposure to the light.
 - Store in dry conditions.
 - Protect from humidity and water.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
 - The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

CAS: 7681-57-4 disodium disulphite

REL (USA)	Long-term value: 5 mg/m ³
TLV (USA)	Long-term value: 5 mg/m ³
EL (Canada)	Long-term value: 5 mg/m ³
EV (Canada)	Long-term value: 5 mg/m ³

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.
- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Protection of hands:**
 - 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.
- **Eye protection:** Tightly sealed goggles

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- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

* 9 Physical and chemical properties

· Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Tablets
Color:	White
· Odor: Odorless	
· Odor threshold: Not applicable.	
· pH-value (11.5 g/l) at 20°C (68°F): 5	
· Melting point/freezing point: Not determined.	
· Initial boiling point and boiling range: Not determined.	
· Flash point: Not determined.	
· Flammability (solid, gas): The product is not combustible.	
· Decomposition temperature: Not determined.	
· Auto-ignition temperature: Product is not self-igniting.	
· Danger of explosion: Product does not present an explosion hazard.	
· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Oxidizing properties: none	
· Vapor Pressure: Not applicable.	
· Density: Not determined.	
· Relative density: Not determined.	
· Vapor density: Not applicable.	
· Evaporation rate: Not applicable.	
· Solubility(ies)	
Water:	Soluble.
· Partition coefficient (n-octanol/water): Not applicable.	
· Viscosity: Not applicable.	
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100 %
· Other information No further relevant information available.	

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
Reacts with acids releasing sulfur dioxide.
Reacts with oxidizing agents.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Sulfur dioxide
In case of fire: see section 5.

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* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

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

Oral	GHS ATE _(mix)	4427 mg/kg (rat)
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- **LD/LC50 values that are relevant for classification:**

CAS: 110-15-6 succinic acid

Oral	LD50	2260 mg/kg (rat) (RTECS)
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CAS: 7681-57-4 disodium disulphite

Oral	LD50	1540 mg/kg (rat) (OECD 401) (MERCK)
Dermal	LD50	>2000 mg/kg (rat) (RTECS)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:**
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)
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)

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

· Information on components:

CAS: 110-15-6 succinic acid

Sensitization	OECD 406	(guinea pig: negative)
	OECD 429	(negative) (LLNA-Test)

CAS: 7681-57-4 disodium disulphite

Sensitization	OECD 406	(guinea pig: negative)
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· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

CAS: 999-99-9	one or more ingredient(s) Group 3: Not classifiable as to carcinogenicity to humans
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· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

- **Other information:** see section 8 / 15

· Synergistic Products: None

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:
- **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.
- **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.

· 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).

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

CAS: 110-15-6 succinic acidOECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)
(Salmonella typhimurium)**CAS: 7681-57-4 disodium disulphite**

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)

*12 Ecological information

· **Toxicity**· **Aquatic toxicity:****CAS: 110-15-6 succinic acid**EC50 374.2 mg/l/48h (Daphnia magna)
(ECOTOX)

EC50 >100 mg/l/72 h (Pseudokirchneriella subcapitata) (OECD 201)

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

CAS: 7681-57-4 disodium disulphiteEC50 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: 7681-57-4 disodium disulphite**EC50 56 mg/l (Pseudomonas putida) (17h)
(IUCLID)· **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)

· **Bioaccumulative potential****CAS: 110-15-6 succinic acid**log Pow -0.59 (.) (experimental)
(Merck)

BCF 3 (.)

· **Mobility in soil** No further relevant information available.· **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

· **Waste treatment methods**· **Recommendation:**Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.· **Uncleaned packagings:**· **Recommendation:** Disposal must be made according to official regulations.· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**· **DOT, IMDG, IATA**

none

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· UN proper shipping name · DOT, IMDG, IATA	none
· Transport hazard class(es) · DOT, IMDG, IATA · Class	none
· Packing group · DOT, IMDG, IATA	none
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

*15 Regulatory information

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

· Sara

· Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· New Jersey Right-to-Know List:

CAS: 7681-57-4 | disodium disulphite

· New Jersey Special Hazardous Substance List:

CAS: 7681-57-4 | disodium disulphite

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· Pennsylvania Right-to-Know List:

CAS: 7681-57-4 | disodium disulphite

· Pennsylvania Special Hazardous Substance List:

None of the ingredients is listed.

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Information about limitation of use: Employment restrictions concerning young persons must be observed.

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

* 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H302 Harmful if swallowed.

H318 Causes serious eye damage.

· **Date of preparation / last revision** 07/19/2019 / 4

· **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

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

•A5 - Not suspected as a human carcinogen

IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans

•Group 2A - Probably carcinogenic to humans

•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans

NTP - National Toxicology Program, U.S. Department of Health and Human Services

•Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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.

ECOTOX Database

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances)

· * **Data compared to the previous version altered.**