

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

Printing date 05/16/2017

Reviewed on 05/16/2017

1 Identification

- **Product identifier**
- **Trade name:** Vario FE in MO RGT 1
- **Catalogue number:** 00530319, 530310, 4530310, 00530311, 530312
- **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.



GHS07

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

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



GHS05



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
disodium disulphite
sodium dithionite
methenamine
- **Hazard statements**

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

- **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

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.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

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- **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:

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	10-20%
CAS: 7775-14-6 EINECS: 231-890-0 Index number: 016-028-00-1	sodium dithionite	☠ Self-heat. 1, H251; ⚠ Acute Tox. 4, H302	10-20%
CAS: 100-97-0 EINECS: 202-905-8 Index number: 612-101-00-2 RTECS: MN 4725000	methenamine	☠ Flam. Sol. 2, H228; ⚠ Skin Sens. 1, H317	0.1-<1%

- **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 rinse with plenty of 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.
If symptoms persist consult doctor.
- **Information for doctor:** Sulfites are strong sensitizers
- **Most important symptoms and effects, both acute and delayed**
burns
irritations
allergic reactions
after inhalation:
coughing
breathing difficulty
mucous membrane irritation
after swallowing:
gastric or intestinal disorders
sickness
vomiting
- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder.
- **For safety reasons unsuitable extinguishing agents:**
Water
Foam
--> Aqueous solution reacts strongly alkaline.
If possible use dry extinguishing agents.
- **Special hazards arising from the substance or mixture**
The product is not combustible.

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mixture with combustible ingredients

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Sulfur oxides (SOx)

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

Avoid formation of dust.

- **Advice for emergency responders:**

Mount respiratory protective device.

Protective equipment: see section 8

- **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

- **Handling:**

- **Precautions for safe handling**

- **Advice on safe handling:** Prevent formation of dust.

- **Hygiene measures:**

Avoid contact with the eyes.

Avoid contact with the skin.

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:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Protect from exposure to the light.

Protect from humidity and water.

- **Recommended storage temperature:** 20 °C +/- 5 °C (approx. 68°F)

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

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8 Exposure controls/personal protection

- Control parameters

- Components with limit values that require monitoring at the workplace:

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
CAS: 100-97-0 methenamine	
EV (Canada)	Short-term value: 2 mg/m ³ , 0.35 ppm

- 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.

- Recommended filter device for short term use:** Combination filter ABEK-P2

- 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

- 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: Powder

Color: White

- Odor:** Pungent

- Odor threshold:** Not determined.

- pH-value (33 g/l) at 20 °C (68 °F):** 5.8

- Melting point/freezing point:** Not determined.

- Initial boiling point and boiling range:** Not determined.

- Flash point:** Not applicable.

- Flammability (solid, gas):** The product is not combustible.

- Decomposition temperature:** > 80 °C (> 176 °F) (CAS 7775-14-6)

- 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.

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· 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 strog acids and oxidizing agents.
- **Conditions to avoid**
strong heating
Exposure to moisture.
- **Incompatible materials:** sodium chlorite
- **Hazardous decomposition products:**
Sulfur dioxide
In case of fire: see section 5.

* 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)	2759 mg/kg (.)

· 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)
CAS: 7775-14-6 sodium dithionite		
Oral	LD50	500 mg/kg (ATE)
	LD50.	2500 mg/kg (rat) (IUCLID)
CAS: 100-97-0 methenamine		
Oral	LD50	9200 mg/kg (rat) (IUCLID)
Dermal	LD50.	> 2000 mg/kg (rat) (OECD 402)

- **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.

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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)
CAS: 7775-14-6 sodium dithionite		
Irritation of skin	OECD 404	(rabbit: no irritation)
CAS: 100-97-0 methenamine		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

• **Sensitization:** May cause an allergic skin reaction.

Information on components:		
CAS: 7681-57-4 disodium disulphite		
Sensitization	OECD 406	(guinea pig: negative)
CAS: 100-97-0 methenamine		
Sensitization	OECD 406	(guinea pig: positive)
	Patch test (human)	(positive) (IUCLID)

• **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

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

Disodium disulphite:

A4 (not classifiable for humans or animals) by ACGIH

3 (not classifiable for humans) by IARC

• **Synergistic Products:** None

• **CMR effects (carcinogenity, 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 7757-83-7: Did not show teratogenic effects in animal experients (IUCLID).

CAS 7757-83-7: 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 experients.

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)
CAS: 100-97-0 methenamine	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test) (IUCLID)

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*12 Ecological information

· 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: 7775-14-6 sodium dithionite

EC50	98 mg/l/48h (Daphnia magna) MERCK
IC50	206 mg/l/72h (Desmodesmus subspicatus) MERCK
LC50	46-68 mg/l/96h (gold orfe) (DIN 38412) (Merck)

CAS: 100-97-0 methenamine

EC50	36 mg/l/48h (Daphnia magna) (IUCLID)
EC10	5 mg/l (fish)
LC50 (static)	41 mg/l/96h (bluegill) (US-EPA)

· Bacterial toxicity:

CAS: 7681-57-4 disodium disulphite

EC50	56 mg/l (Pseudomonas putida) (17h) (IUCLID)
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CAS: 7775-14-6 sodium dithionite

EC50	107 mg/l (Pseudomonas putida) IUCLID
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CAS: 100-97-0 methenamine

EC50 (static)	> 5000 mg/l (Bacterial toxicity) (DIN 38412) (Merck, Vibrio fischeri)
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· Persistence and degradability

CAS: 100-97-0 methenamine

OECD 302 C	39-47% / 28d (.) (Modified MITI Test (II))
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· Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient
log Pow < 1 = Does not accumulate in organisms.

CAS: 7775-14-6 sodium dithionite

log Pow	< -4.7 (.) (calculated)
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CAS: 100-97-0 methenamine

log Pow	-2.84 (.) (experimental) (IUCLID)
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· **Mobility in soil** No further relevant information available.

· Other adverse effects

Reacts with water to form toxic decomposition products.
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.

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- **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
· 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):

CAS 10213-10-2 is not on the TSCA Inventory listed, because it is a hydrate. It is listed on the CAS 13472-45-2 number for the anhydrous form.

All ingredients are 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

CAS: 7775-14-6 | sodium dithionite

CAS: 100-97-0 | methenamine

· New Jersey Special Hazardous Substance List:

CAS: 7681-57-4 | disodium disulphite

CAS: 7775-14-6 | sodium dithionite

CO

R2

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· Pennsylvania Right-to-Know List:	
CAS: 7681-57-4	disodium disulphite
CAS: 7775-14-6	sodium dithionite
· 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 pregnant and lactating women must be observed.
Employment restrictions concerning young persons must be observed.

· 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

H228 Flammable solid.
H251 Self-heating: may catch fire.
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

· Date of preparation / last revision 05/16/2017 / 1

· 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
Flam. Sol. 2: Flammable solids – Category 2
Self-heat. 1: Self-heating substances and mixtures – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1

· Sources

Data arise from safety data sheets, reference works and literature.
IUCLID (International Uniform Chemical Information Database)

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RTECS (Registry of Toxic Effects of Chemical Substances)

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

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