

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

Printing date 12/07/2017

Reviewed on 12/07/2017

1 Identification

- **Product identifier**
- **Trade name:** **Vario Total Nitrogen Reagent B**
- **Catalogue number:** 00530399, 530390, 4530390, 535560
- **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**



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



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



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Quartz (SiO₂)

disodium disulphite

- **Hazard statements**

H318 Causes serious eye damage.

H350 May cause cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P201 Obtain special instructions before use.

P260 Do not breathe dust.

P280 Wear protective gloves/protective clothing/eye 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.

P308+P310 IF exposed or concerned: Immediately call a poison center/doctor.

P405 Store locked up.

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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:**
Percent ranges are used due to the confidential product information.

CAS: 57-13-6 EINECS: 200-315-5 RTECS: YR 6250000	urea	40–50%
CAS: 14808-60-7 EINECS: 238-878-4 RTECS: VV 7330000	Quartz (SiO ₂) ☠ Carc. 1A, H350; STOT RE 1, H372	30–40%
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%
CAS: 5808-22-0 EINECS: 204-972-9	Disodium 4,5-dihydroxynaphthalene-2,7-disulphonate ☠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	5–10%

- **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 and to be sure call for a doctor.
- **After skin contact:**
Immediately rinse with plenty of water.
If skin irritation continues, consult a doctor.
- **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 immediate medical advice.
- **Information for doctor:** Sulfites are strong sensitizers
- **Most important symptoms and effects, both acute and delayed**
Irritation and corrosion
allergic reactions
after inhalation:
mucous membrane irritation
coughing
breathing difficulty
after swallowing of large amounts:
sickness
vomiting
diarrhoea
resorption
- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **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.
In case of fire, the following can be released:
Sulfur oxides (SO_x)

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Nitrogen oxides (NOx)

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:**

Avoid substance contact.

Ensure adequate ventilation

- **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:**

Thorough dedusting.

Prevent formation of dust.

- **Hygiene measures:**

Do not get in eyes, on skin, or on clothing.

Take off immediately all contaminated clothing.

Store protective clothing separately.

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:**

Do not store together with acids.

Store away from oxidizing agents.

- **Further information about storage conditions:**

Store under lock and key and with access restricted to technical experts or their assistants only.

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.

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* 8 Exposure controls/personal protection

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

CAS: 57-13-6 urea	
WEEL (USA)	Long-term value: 10 mg/m ³
CAS: 14808-60-7 Quartz (SiO₂)	
PEL (USA)	see Quartz listing
REL (USA)	Long-term value: 0.05* mg/m ³ *respirable dust; See Pocket Guide App. A
TLV (USA)	Long-term value: 0.025* mg/m ³ *as respirable fraction
EL (Canada)	Long-term value: 0.025 mg/m ³ ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.10* mg/m ³ *respirable fraction
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.
- **Recommended filter device for short term use:** Filter 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:** No further relevant information available.

9 Physical and chemical properties

Information on basic physical and chemical properties	
Appearance:	
Form / Physical state:	Crystalline powder
Color:	yellowish - brown
· Odor:	Odorless
· Odor threshold:	Not applicable.
· pH-value:	Not determined.
· Melting point/freezing point:	Not determined.
· Initial boiling point and boiling range:	Not determined.
· Flash point:	Not applicable.

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· 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:	Partially insoluble.
· Partition coefficient (n-octanol/water):	Not applicable.
· Viscosity:	Not applicable.
· Solvent content:	
Organic solvents:	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**
Contact with acids releases toxic gases.
Reacts with acids releasing sulfur dioxide.
Reacts with oxidizing agents.
- **Conditions to avoid** strong heating
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Sulfur dioxide
Ammonia (NH₃)
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.

· LD/LC50 values that are relevant for classification:

CAS: 57-13-6 urea

Oral	LD50	8471 mg/kg (rat)
Dermal	LD50	8200 mg/kg (rat)

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.

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Risk of corneal clouding.

· 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)

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

· Information on components:		
CAS: 7681-57-4 disodium disulphite		
Sensitization	OECD 406	(guinea pig: negative)

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
CAS: 14808-60-7	Quartz (SiO ₂)	1

· NTP (National Toxicology Program)		
CAS: 14808-60-7	Quartz (SiO ₂)	K

· 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:

Carc. 1A

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

Causes damage to organs through prolonged or repeated exposure.

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

CAS 7681-75-4: Did not show carcinogenic effects in animal experiments (IUCLID).

CAS 7681-75-4: No impairment of reproductive performance in animal experiments (IUCLID).

CAS 7681-75-4: Did not show teratogenic effects in animal experiments.

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

· **Additional toxicological information:** CAS 14808-60-7 Quartz, chronic toxic effect: silicosis· **Experience with humans:** CAS 14808-60-7: May cause lung damages.

12 Ecological information

· **Toxicity**

· Aquatic toxicity:		
CAS: 57-13-6 urea		
EC50	>10000 mg/l/24h (Daphnia magna) (IUCLID)	
LC50	>6810 mg/l/96h (gold orfe) (IUCLID)	
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)	

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· Bacterial toxicity:	
CAS: 57-13-6 urea	
EC5	>10000 mg/l (Pseudomonas putida) (16 h)
CAS: 7681-57-4 disodium disulphite	
EC50	56 mg/l (Pseudomonas putida) (17h) (IUCLID)
· Persistence and degradability	
CAS: 57-13-6 urea	
OECD 302 B	96 % / 16 d (readily eliminated from water) (Zahn-Wellens / EMPA Test)
· Bioaccumulative potential	
CAS: 57-13-6 urea	
log Pow	-1.59 (.) (OECD 107, 25°C)
CAS: 5808-22-0 Disodium 4,5-dihydroxynaphthalene-2,7-disulphonate	
log Pow	-4.48 (.) (calculated) (anhydrous substance)
· 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.

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:	
· Marine pollutant:	No
· 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.

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Section 313 (Specific toxic chemical listings):		
None of the ingredients is listed.		
TSCA (Toxic Substances Control Act):		
All ingredients are listed.		
Proposition 65		
Chemicals known to cause cancer:		
CAS: 14808-60-7	Quartz (SiO ₂)	
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: 14808-60-7	Quartz (SiO ₂)	
CAS: 7681-57-4	disodium disulphite	
New Jersey Special Hazardous Substance List:		
CAS: 14808-60-7	Quartz (SiO ₂)	CA
CAS: 7681-57-4	disodium disulphite	CO
Pennsylvania Right-to-Know List:		
CAS: 14808-60-7	Quartz (SiO ₂)	
CAS: 7681-57-4	disodium disulphite	
Pennsylvania Special Hazardous Substance List:		
None of the ingredients is listed.		
EPA (Environmental Protection Agency)		
CAS: 57-13-6	urea	II
NIOSH-Ca (National Institute for Occupational Safety and Health)		
CAS: 14808-60-7	Quartz (SiO ₂)	

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

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H350 May cause cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

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Abbreviations and acronyms:

EC50: effective concentration, 50 percent (in vivo)
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

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•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
 ADR: Accord européen sur le transport 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
 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
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Carc. 1A: Carcinogenicity – Category 1A
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

• Sources

Data arise from safety data sheets, reference works and literature.
 RTECS (Registry of Toxic Effects of Chemical Substances)
 IUCLID (International Uniform Chemical Information Database)

• * Data compared to the previous version altered.