

Safety Data Sheet acc. to ISO/DIS 11014

Printing date 03/12/2014

Reviewed on 03/12/2014

* 1 Identification

- **Product identifier**
- **Trade name:** Vario Total N Persulfate RGT
- **Catalogue number:** 00530379, 530370, 4530370
- **Relevant identified uses of the substance or mixture and uses advised against:** No further relevant information available.
- **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:** Chemtrec®: (US & Canada) 800-424-9300 (International) +1 (703) 527-3887

* 2 Hazard(s) identification

- **Classification of the substance or mixture**

US-GHS



GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R22: Harmful if swallowed.



Xi; Irritant

R36/37/38-42/43: Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact.



O; Oxidizing

R8: Contact with combustible material may cause fire.

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- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS03, GHS07, GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**
disodium peroxodisulphate
potassium persulphate
- **Hazard statements**
H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
- **Precautionary statements**
P220 Keep/Store away from clothing/combustible materials.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
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.
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P302+P352 IF ON SKIN: Wash with plenty of water.
- **Canadian Hazard Symbols:**



- **WHMIS classification:**
C
Oxidizing materials
D2A
Very toxic material causing other toxic effects
D2B
Toxic material causing other toxic effects
- **NFPA ratings (scale 0 - 4)**
The substance possesses oxidizing properties.



Health = 3
Fire = 0
Reactivity = 1

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** mixture of inorganic compounds

• **Composition and Information on Ingredients:**

CAS: 7775-27-1 EINECS: 231-892-1 RTECS: SE0525000	disodium peroxodisulphate ☒ Xn R22; ☒ Xi R36/37/38-42/43; 🔥 O R8 ⚠ Ox. Sol. 2, H272; ⚠ Resp. Sens. 1, H334; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	80-90%
CAS: 7727-21-1 EINECS: 231-781-8 Index number: 016-061-00-1 RTECS: SE0400000	potassium persulphate ☒ Xn R22; ☒ Xi R36/37/38-42/43; 🔥 O R8 ⚠ Ox. Sol. 3, H272; ⚠ Resp. Sens. 1, H334; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	5-10%

- **REACH - pre-registered substances** All components are REACH pre-registered.

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· **Additional information:** For the wording of the listed risk 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 or oxygen; call for doctor.

In case of unconsciousness remove to fresh air, apply artificial respiration, and consult a physician.

· **After skin contact:**

Seek medical treatment.

Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes (15 min) under running water.

Call a doctor immediately.

· **After swallowing:**

Rinse out mouth and then drink 1-2 glasses of water.

Call a doctor immediately.

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

after inhalation:

coughing

mucous membrane irritation

breathing difficulty

allergic reactions

after swallowing:

gastric or intestinal disorders

vomiting

sickness

irritations

headache

· **Danger:**

Danger of pulmonary edema.

risk of airways sensitization

risk of skin sensitization

· **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.

· **For safety reasons unsuitable extinguishing agents:** Water

· **Special hazards arising from the substance or mixture**

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

Sulfur oxides (SO_x)

· **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.

* 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid formation of dust.

Use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions:** Do not allow product to reach sewage system or any water course.

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- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Pick up mechanically.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 7 Handling and storage

- **Precautions for safe handling**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
Protect from heat.
Keep ignition sources away - Do not smoke.
Dust can combine with air to form an explosive mixture.
- **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 flammable substances.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Keep receptacle tightly sealed.
Store in dry conditions.
Protect from humidity and water.
Protect from exposure to the light.
- **Recommended storage temperature:** 20 °C +/- 5 °C (approx. 68°F)
- **Storage class:** 5.1B
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

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

7775-27-1 disodium peroxodisulphate (80-90%)

TLV (USA)	Long-term value: 0.1 mg/m ³ as Persulfates
EV (Canada)	Long-term value: 0.1 mg/m ³

7727-21-1 potassium persulphate (5-10%)

TLV (USA)	Long-term value: 0.1 mg/m ³ as Persulfates
EV (Canada)	Long-term value: 0.1 mg/m ³

- **Additional information:** The lists that were valid during the creation were used as basis.

• Exposure controls

• Personal protective equipment:

• General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes and skin.
- Do not eat, drink, smoke or sniff while working.

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

• Material of gloves

Nitrile rubber, NBR

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Recommended thickness of the material: ≥ 0.11 mm

- **Penetration time of glove material**

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

Value for the permeation: Level ≤ 1 (10 min)

- **Eye protection:** Tightly sealed goggles
- **Body protection:** Protective work clothing

* 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **Odor Threshold:** Not applicable.

- **Appearance:**

- **Form:** Powder

- **Color:** White

- **Odor:** Odorless

- **pH-value (25 g/l) at 20 °C (68 °F):** 4.5

- **Melting point/Melting range:** > 100 °C (> 212 °F)

- **Boiling point/Boiling range:** Not applicable.

- **Freezing Point:** Not applicable.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Contact with combustible material may cause fire.

- **Ignition temperature:** Undetermined.

- **Auto igniting:** Product is not selfigniting.

- **Specific Gravity:** Not applicable.

- **Density at 20 °C (68 °F):** 2.407 g/cm³ (20.086 lbs/gal)

- **Vapour density** Not applicable.

- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with**

- **Water:** Soluble.

- **Coefficient of Water / Oil Distribution:** Not applicable.

- **Solvent content:**

- **Organic solvents:** 0.0 %

- **Solids content:** 100.0 %

- **Other information** No further relevant information available.

* 10 Stability and reactivity

- **Reactivity**

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.

- **Possibility of hazardous reactions**

Can react violently with oxygen rich (oxidizing) material. Danger of Explosion.

Risk of dust explosion.

- **Conditions to avoid** No further relevant information available.

- **Incompatible materials:**

acids

combustible materials

alcohols

reducing agents

- **Hazardous decomposition products:**

oxygen

see chapter 5

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* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Quantitative data on the toxicity of the preparation are not available.

· LD/LC50 values that are relevant for classification:		
7775-27-1 disodium peroxodisulphate		
Oral	LD50	920 mg/kg (rat)
Inhalative	LC50	> 5100 mg/l/4h (rat)
	LD50 IPR	226 mg/kg (mouse)
7727-21-1 potassium persulphate		
Oral	LD50	802 mg/kg (rat)

7775-27-1 disodium peroxodisulphate		
Oral	LD50	920 mg/kg (rat)
Inhalative	LC50	> 5100 mg/l/4h (rat)
	LD50 IPR	226 mg/kg (mouse)

7727-21-1 potassium persulphate		
Oral	LD50	802 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Subacute to chronic toxicity:**
CAS-No. 7775-27-1:
MERCK: Sensitization test (guinea pig): positiv (OECD 406)
- **Additional toxicological information:** chronic: dermatitis
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

· NTP (National Toxicology Program)
None of the ingredients is listed.

- **Carcinogenicity:** NTP? IARC Monographs? OSHA Regulated? see chapter 8 / 15
- **Teratogenicity:** Not found.
- **Mutagenicity:** Not found.
- **Reproductive Toxicity:** Not found.
- **Synergistic Products:** None
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):** no further data available

* 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**
Reacts with water.

7775-27-1 disodium peroxodisulphate	
EC50	133 mg/l/48h (Daphnia magna)
LC50	771 mg/l/96h (Lepomis macrochirus)
	163 mg/l/96h (Oncorhynchus mykiss)
7727-21-1 potassium persulphate	
Daphnia EC50	357 mg/l/24h (Daphnia magna)
EC50	36 mg/l (Pseudomonas putida)
LC50	100 mg/l/96h (Poecilia reticulata)

7775-27-1 disodium peroxodisulphate	
EC50	133 mg/l/48h (Daphnia magna)
LC50	771 mg/l/96h (Lepomis macrochirus)
	163 mg/l/96h (Oncorhynchus mykiss)

7727-21-1 potassium persulphate	
Daphnia EC50	357 mg/l/24h (Daphnia magna)
EC50	36 mg/l (Pseudomonas putida)
LC50	100 mg/l/96h (Poecilia reticulata)

- **Persistence and degradability** No further relevant information available.
- **Other information:**
Quantitative data on the ecological effect of this preparation are not available.
Methods for the determination of biodegradability are not applicable to inorganic substances.
Does not cause biological oxygen deficit.
- **Bioaccumulative potential** No further relevant information available.
- **Behavior in environmental systems:**
- **Mobility in soil** No further relevant information available.

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- **Ecotoxicological effects:**

- **Remark:**

Toxic for fish:
sulfates > 7 g/l
Reacts with water to form toxic decomposition products.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- **Results of PBT and vPvB assessment** no further data available

- **Other adverse effects** No further relevant information available.

* 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

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	<p style="text-align: center;">UN3215</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT / TDG · ADR · IMDG, IATA 	<p>Persulfates, inorganic, n.o.s. 3215 Persulfates, inorganic, n.o.s. (Potassium persulfate, Sodium persulfate) PERSULPHATES, INORGANIC, N.O.S.</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT / TDG 	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	<p>5.1 Oxidising substances. 5.1</p>
<ul style="list-style-type: none"> · ADR 	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	<p>5.1 (O2) Oxidizing substances 5.1</p>
<ul style="list-style-type: none"> · IMDG, IATA 	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	<p>5.1 Oxidising substances. 5.1</p>

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· Packing group · DOT, ADR, IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Oxidizing substances 50 F-A,S-Q
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantity (LQ): · Canadian TDG Class:	5 kg 5.1 / III 3215

*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 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.

· Canadian Ingredient Disclosure List

· Limit 0,1%

None of the ingredients is listed.

· Limit 1%

None of the ingredients is listed.

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Non-domestic 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.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Australian Inventory of Chemical Substances

All ingredients are listed.

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· European EINECS	
All ingredients are listed.	
· Standard for the Uniform Scheduling of Drugs and Poisons	
7727-21-1	potassium persulphate S6

· Information about limitation of use:

Employment restrictions concerning pregnant and lactating women must be observed.
Employment restrictions concerning young persons must be observed.

· This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR**· 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

H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.

R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R42/43 May cause sensitization by inhalation and skin contact.
R8 Contact with combustible material may cause fire.

· Recommended restriction of use: professional/industrial use only**· Date of preparation / last revision** 03/12/2014 / 12**· Abbreviations and acronyms:**

EC50: effective concentration, 50 percent (in vivo)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
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)
NFFPA: National Fire Protection Association (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

· Sources

Data arise from manufacturers' data sheets, reference works and literature.
IUCLID (International Uniform Chemical Information Database)
GESTIS-Stoffdatenbank

· * Data compared to the previous version altered.

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