



a xylem brand

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Safety Data Sheet acc. to ISO/DIS 11014

Printing date 02/26/2014

Reviewed on 02/26/2014

* 1 Identification

- **Product identifier**
- **Trade name:** Vario Chlorine Total - DPD F5 ml, F10 ml, F25 ml
- **Catalogue number:** 250900Y, 251414Y, 251415Y
- **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
- **Distributor/Supplier:** YSI, Inc
Address 1700/1725 Brannum Lane
Yellow Springs, Ohio 45387
Telephone (937) 767-7241
E-mail MSDSinfo@Xyleminc.com
- **Emergency telephone number:** Chemtrec®: (US & Canada) 800-424-9300 (International) +1 (703) 527-3887

* 2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified as hazardous according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** none
- **Information concerning particular hazards for human and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" (1999/45/EC) in the latest valid version.
- **Label elements**
- **GHS label elements** none
- **Hazard pictograms** none
- **Signal word** none
- **Hazard statements** none
- **Canadian Hazard Symbols:**



- **WHMIS classification:**
D2A
Very toxic material causing other toxic effects
D2B
Toxic material causing other toxic effects
- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

* 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of organic and inorganic compounds

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Composition and Information on Ingredients:		
CAS: 139-33-3 EINECS: 205-358-3	disodium dihydrogenethylenediaminetetraacetate Xn R20 Acute Tox. 4, H332	≤ 2.5%
CAS: 6283-63-2 EINECS: 228-500-6 RTECS: SS 9625000	N,N-diethylbenzene-1,4-diammonium sulphate Xn R21/22; Xi R36/37/38 Acute Tox. 3, H311; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	≤ 2.5%

- REACH - pre-registered substances All components are REACH pre-registered.
- 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; consult doctor in case of complaints.
- After skin contact: Immediately rinse with plenty of water.
- After eye contact:
Rinse opened eye for several minutes (15 min) under running water.
Seek immediate medical advice.
- After swallowing:
Rinse out mouth and then drink 1-2 glasses of water.
Seek immediate medical advice.
- Most important symptoms and effects, both acute and delayed
after inhalation:
irritations
allergic reactions
after swallowing of large amounts:
sickness
mucous membrane irritation
general feeling of sickness
abdominal pain
headache
cramps
- 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture
Formation of toxic gases is possible during heating or in case of fire.
Nitrogen oxides (NO_x)
Carbon monoxide and carbon dioxide
Phosphorus oxides (P_xO_x)
Sodium monoxide
Potassium oxide
Iodine compounds
- 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
Wear protective equipment. Keep unprotected persons away.

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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:**
Dispose contaminated material as waste according to item 13.
Pick up mechanically.
Ensure adequate ventilation.
- **Reference to other sections**
No dangerous substances are released.
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.
- **Information about protection against explosions and fires:**
Substance/product is self extinguishing, but can burn when combined with flammable material.
- **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.
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:** 13
- **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:	
7681-11-0 potassium iodide (2.5-5%)	
TLV (USA)	Long-term value: 0.01* ppm *as inhalable fraction and vapor

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

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 P1

- **Protection of hands:** Preventive skin protection by use of skin-protecting agents is recommended.

- **Material of gloves**

Nitrile rubber, NBR

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:**

use against the effects of fumes / dust

Safety glasses

- **Body protection:** Protective work clothing

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* 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 (10.5 g/l) at 20 °C (68 °F):	6.3
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	1330 °C (2426 °F)
· Freezing Point:	Not applicable.
· Flash point:	Not applicable.
· Ignition temperature:	Undetermined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Specific Gravity:	Not applicable.
· Density:	Not determined.
· 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.
- Conditions to avoid No further relevant information available.
- Incompatible materials: oxidizing agents
- Hazardous decomposition products: see chapter 5

* 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:	
6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate	
Oral	LD50 497 mg/kg (rat) (MERCK)
7681-11-0 potassium iodide	
Oral	LD50 2779 mg/kg (rat) (MERCK)

- Primary irritant effect:
- on the skin: DPD may cause allergic skin reaction
- on the eye: irritating effect possible
- Sensitization: Sensitizing effect by skin contact is possible with prolonged exposure.
- Subacute to chronic toxicity: Iodide chronic: hypothyroidism
- Additional toxicological information:
after swallowing of large amounts:

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disorder of electrolyte balance

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The usual precautionary measures for handling chemicals should be followed.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

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.

· **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 (carcinogenicity, mutagenicity and toxicity for reproduction):** no data available

*12 Ecological information

· Toxicity

· Aquatic toxicity:

6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate

log P(o/w)	2.24
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7681-11-0 potassium iodide

Daphnia EC50	2.7 mg/l/24h (Daphnia magna)
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LC50	896000 µg/l/96h (Oncorhynchus mykiss) (ECOTOX)
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· **Persistence and degradability** No further relevant information available.

· Other information:

Quantitative data on the ecological effect of this preparation are not available.

The following statements refer to the individual components.

· Bioaccumulative potential

Depending on the concentration, phosphorous compounds may contribute to the eutrophication of water supplies.

· Behavior in environmental systems:

· **Mobility in soil** No further relevant information available.

· Ecotoxicological effects:

· Remark:

Toxic for fish:

sulfates > 7 g/l

· **Bacterial toxicity:** sulfates toxic > 2.5 g/l

· Additional ecological information:

· General notes:

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment** no data available

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

*13 Disposal considerations

· Waste treatment methods

· **Recommendation:** Disposal must be made according to official regulations.

· Uncleaned packagings:

· **Recommendation:** Disposal must be made according to official regulations.

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· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

*14 Transport information

· UN-Number	
· DOT, ADR, ADN, IMDG, IATA	none
· UN proper shipping name	
· DOT, ADR, ADN, IMDG	none
· IATA	none
· Transport hazard class(es)	
· DOT, ADR, ADN, IMDG, IATA	
· Class	none
· Packing group	
· DOT, ADR, 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.
· Canadian TDG Class:	none

*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.	
· TSCA (Toxic Substances Control Act):	
DPD - not listed	
99999-99-9	several 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%	
7681-11-0	potassium iodide
· Canadian Domestic Substances List (DSL)	
DPD - not listed	
99999-99-9	several ingredients are listed

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· 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.
· European EINECS
All ingredients are listed.
· Standard for the Uniform Scheduling of Drugs and Poisons
None of the ingredient is listed.
· Information about limitation of use: Not required.
· 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

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

R20 Harmful by inhalation.
R21/22 Harmful in contact with skin and if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.

· **Date of preparation / last revision** 02/26/2014 / 22

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
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)
NFPA: National Fire Protection Association (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

· Sources

NTP (National Toxicology Program)
IUCLID (International Uniform Chemical Information Database)
Data arise from manufacturers' data sheets, reference works and literature.

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