

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

Printing date 09/18/2017

Reviewed on 09/18/2017

1 Identification

- **Product identifier**
- **Trade name:** **Vario Chlorine Total - DPD F5, F10, F25, PD250**
- **_SDS valid from Lot:** S02A
- **Catalogue number:**
00530089, 00530199, 00530139, 005301559, (4)530130, (4)530133, (4)530080, (4)530083, (4)530190, (4)530193, 530192, (4)530155
- **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** The product is not classified as hazardous.
- **Label elements**
- **GHS label elements** none
- **Hazard pictograms** none
- **Signal word** none
- **Hazard statements** none
- **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: 7681-11-0 EINECS: 231-659-4 RTECS: TT2975000	potassium iodide	10–20%
CAS: 6283-63-2 EINECS: 228-500-6 RTECS: SS 9625000	N,N-Diethyl-p-phenylenediamine sulfate (1:1) ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	0.1–≤2.5%
CAS: 139-33-3 EINECS: 205-358-3	disodium dihydrogenethylenediaminetetraacetate ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	0.1–≤2.5%

- **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.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

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- **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed**
after swallowing of large amounts:
headache
thirst
methaemoglobinaemia
allergic reactions
sickness
vomiting
abdominal pain
irritations
drop in blood pressure
after resorption:
resorption
weakness
disorder of electrolyte balance
- **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)
Nitrogen oxides (NO_x)
Carbon monoxide (CO) and carbon dioxide (CO₂)
Phosphorus oxides (P_xO_x)
Potassium oxide
Hydrogen iodide (HI)
- **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:** No special measures required.
- **Advice for emergency responders:** 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.

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
- **Advice on safe handling:**
 - Thorough dedusting.
 - Prevent formation of dust.
- **Hygiene measures:**
 - The usual precautionary measures for handling chemicals should be followed.
 - 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.

8 Exposure controls/personal protection

- **Control parameters**
 - **Components with limit values that require monitoring at the workplace:**
 - At this time, the other constituents have no known exposure limits.
- | | |
|----------------------------------------|----------------------------------------------------------------|
| CAS: 7681-11-0 potassium iodide | |
| 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.
 - **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:**
 - 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:**
 - Safety glasses
 - use against the effects of fumes / dust
 - **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

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Color:	White
· Odor:	Odorless
· Odor threshold:	Not applicable.
· pH-value (10 g/l) at 20°C (68 °F):	6,3
· 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:	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, alkalis and oxidizing agents.
 - Reacts with alkaline metals.
 - Reacts with peroxides.
 - Reacts with halogenated compounds.
 - Reacts with oxidizing agents.
 - > Forms heat.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** 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: 7681-11-0 potassium iodide

Oral	LD50	2779 mg/kg (rat) (MERCK)
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CAS: 6283-63-2 N,N-Diethyl-p-phenylenediamine sulfate (1:1)		
Oral	LD50	497 mg/kg (rat) (MERCK)
Dermal	LD50	1100 mg/kg (ATE)
CAS: 139-33-3 disodium dihydrogenethylenediaminetetraacetate		
Oral	LD50	2000 mg/kg (rat) (GESTIS)

- **Primary irritant effect:**

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

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

- **Information on components:**

CAS 6283-63-2: DPD may cause allergic skin reaction

CAS: 139-33-3 disodium dihydrogenethylenediaminetetraacetate		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

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

- **Information on components:**

CAS 6283-63-2: Sensitization possible in predisposed persons.

The following applies to iodides in general: Sensitization possible at predisposed persons.

CAS: 139-33-3 disodium dihydrogenethylenediaminetetraacetate		
Sensitization	OECD 406	(guinea pig: negative) (EPA OPP 81-6: Guinea pig maximisation test)

- **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: 7681-11-0 potassium iodide		
OECD 471	(negative)	(Bacterial Reverse Mutation Test - Ames test)

- **Additional toxicological information:**

Iodide chronic: hypothyroidism

Iodine salts can cause deformity, illness, and death of a fetus.

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.

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12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 7681-11-0 potassium iodide

EC50	2.7 mg/l/24h (Daphnia magna)
LC50	8960 mg/l/96h (rainbow trout) (ECOTOX)

CAS: 139-33-3 disodium dihydrogenethylenediaminetetraacetate

EC50 (static)	>100 mg/l/48h (Daphnia magna) (DIN 38412 Teil 11) (BASF)
NOEC	≥36.9 mg/l (zebrafish) (35d, OECD 210) (BASF; read across)
EC50	>100 mg/l/72 h (Scenedesmus subspicatus) (88/302/EWG, part C) (BASF; read across)
LC50 (static)	>100 mg/l/96h (bluegill) (BASF, read across)

· Bacterial toxicity: sulfates toxic > 2.5 g/l

· Other information:

Toxic for fish:
sulfates > 7 g/l

· Persistence and degradability No further relevant information available.

· Bioaccumulative potential

CAS: 7681-11-0 potassium iodide

log Pow	0.04 (.) (MERCK)
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CAS: 6283-63-2 N,N-Diethyl-p-phenylenediamine sulfate (1:1)

log Pow	2.24 (.) (calculated)
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CAS: 139-33-3 disodium dihydrogenethylenediaminetetraacetate

log Pow	-4.3 (.) (BASF)
BCF	1.8 (bluegill) (conc. 0.08 mg/l, 28d) (ECHA, registrant: read across CAS 13235-36-4)

· Mobility in soil No further relevant information available.

· Other adverse effects

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies.
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.
Disposal must be made according to official regulations.

· 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

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· 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 No. 6283-63-2 is listed under CAS No. 6065-27-6 1,4-Benzenediamine, N1,N1-diethyl-, sulfate (1:?)

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:

None of the ingredients is listed.

· New Jersey Special Hazardous Substance List:

None of the ingredients is listed.

· Pennsylvania Right-to-Know List:

None of the ingredients is listed.

· 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: Not required.

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

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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.
 H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

- **Date of preparation / last revision** 09/18/2017 / -

- **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

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 Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

- **Sources** Data arise from safety data sheets, reference works and literature.

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