

Safety Data Sheet acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/13/2025

Reviewed on 02/13/2025

1 Identification

- **Product identifier**
- **Trade name: Chlorine Total - DPD F10 ml, PD 250**
- **Other means of identification**
- **Catalogue number:**
00530129, 00530159, 530120, 530123, 00570129, 530151, 00570124, 530122, 00570128, 570120, 530150 (2x 00530159), 570124, 570128
- **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

Specific target organ toxicity (repeated exposure) 1 H372 Causes damage to organs through prolonged or repeated exposure.

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



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Ethylenediaminetetraacetic acid disodium salt dihydrate
potassium iodide
- **Hazard statements**
H372 Causes damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
P260 Do not breathe dust.
P264 Wash hands thoroughly after handling.
P314 Get medical advice/attention if you feel unwell.

- **Classification according to (d)(1)(ii) of § 1910.12000**
The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.
- **Hazards not otherwise classified**
The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

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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 ⚠ Specific target organ toxicity (repeated exposure) 1, H372	10–30% *
CAS: 6381-92-6 EINECS: 205-358-3	Ethylenediaminetetraacetic acid disodium salt dihydrate ⚠ Specific target organ toxicity (repeated exposure) 2, H373; ⚠ Acute toxicity - inhalation 4, H332	1–5% *
CAS: 6283-63-2 EINECS: 228-500-6 RTECS: SS 9625000	N,N-Diethyl-p-phenylenediamine sulfate (1:1) ⚠ Acute toxicity - oral 4, H302; Acute toxicity - dermal 4, H312; Skin irritation 2, H315; Eye irritation 2A, H319; Specific target organ toxicity (single exposure) 3, H335	1–5% *

* Actual concentration ranges are withheld as a trade secret.

- **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 wash with water and soap and rinse thoroughly.
- **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**
irritating effect possible
allergic reactions
after swallowing of large amounts:
resorption
sickness
vomiting
abdominal pain
diarrhoea
drop in blood pressure
cardiovascular disorders
weakness
after absorption of large amounts:
disorder of electrolyte balance
methaemoglobinaemia
- **Indication of any immediate medical attention and special treatment needed:**
Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)
Symptoms of poisoning may even occur after several hours.

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:
Nitrogen oxides (NO_x)
Phosphorus oxides (P_xO_x)
Sulfur oxides (SO_x)
Potassium oxide

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Hydrogen iodide (HI)

Carbon monoxide (CO) and carbon dioxide (CO₂)**· 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

· 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 section 13.

· Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· Precautions for safe handling**· Advice on safe handling:**

Prevent formation of dust.

Provide suction extractors if dust is formed.

· Hygiene measures:

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**· 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 locked up or with access restricted to technical experts or their assistants.

Ensure that persons do not handle until all safety precautions have been read and understood.

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.

This product is hygroscopic.

· 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:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

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CAS: 7681-11-0 potassium iodide

TLV (USA) Long-term value: 0.01 ppm
A4; Skin; *inhalation

- **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:**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Breathing equipment:**
Under normal use conditions according to the instruction manual no personal protective equipment is needed.
If exposure limits are exceeded or health impacts are experienced use respiratory protective device against the effects of fume/dust/aerosol.
- **Recommended filter device for short term use:** Filter P3
- **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
Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).
- **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**
- **Physical state** Solid
- **Form:** Powder
- **Color:** White
- **Odor:** Odorless
- **Odor threshold:** Not applicable.
- **Melting point/freezing point:** Not determined.
- **Initial boiling point and boiling range:** Not determined.
- **Flammability:** The product is not combustible.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Flammability or explosive limits:**
 - Lower: Not applicable.
 - Upper: Not applicable.
- **Flash point:** Not applicable.
- **Auto-ignition temperature:** Product is not self-igniting.
- **Decomposition temperature:** Not determined.
- **pH-value at 20°C (68°F):** 6.3
- **Kinematic viscosity:** Not applicable (solid).
- **Solubility(ies)**
- **Water:** Soluble.
- **Partition coefficient (n-octanol/water):** Not applicable (mixture).
- **Vapor Pressure:** Not applicable.
- **Density:** Not determined.
- **Relative density:** Not determined.
- **Relative vapor density:** Not applicable.
- **Particle characteristics** Not determined.

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- **Information with regard to physical hazard classes**
- **Oxidizing properties:** none
- **Corrosive to metals** Based on available data, the classification criteria are not met.
- **Other information**
- **Solids content:** 100 %

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.
 --> Forms heat.
 Reacts with alkaline metals.
 Reacts with peroxides.
 Reacts with halogenated compounds.
- **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)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human) organ: Thyroid

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate

Oral	LD50	2800 mg/kg (rat) (OECD 401) (ECHA: anhydrous substance)
Inhalative	LC50/4h	1.5 mg/l (ATE)

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)

- **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: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate

Irritation of skin	OECD 404	(rabbit: no irritation) (ECHA read across: anhydrous substance)
Irritation of eyes	OECD 405	(rabbit: no irritation) (ECHA read across: anhydrous substance)

- **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.

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CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate

Sensitization	OECD 406	(guinea pig: negative) (ECHA read across: anhydrous substance)
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- **Interactive effects** No interactive effects between components are known.
- **Other information:** see section 8 / 15

· **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.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Alternative sources for toxicological information** No non-standard sources for toxicological information where used.
- **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**
Causes damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Information on components:**
OECD 414: Teratogenicity testing
OECD 473: Mutagenicity testing
OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-11-0 potassium iodide

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) Mouse (lymphoma L5178Y cells)

· **Additional toxicological information:****CAS: 7681-11-0 potassium iodide**

· (source: GESTIS)
Main Toxic Effects:
Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.
Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Furter Information (GESTIS, Merck):
Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.
Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.
Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

CAS: 6283-63-2 N,N-Diethyl-p-phenylenediamine sulfate (1:1)

· (source: GESTIS)
Main toxic effects of CAS 93-05-0 4-Amino-N,N-diethylaniline:
Acute: Irritative effects to the mucosae and the skin, sensitising effects;
Chronic: Skin diseases. Only insufficient information available on the systemic effects.

- **Other information** Other dangerous properties can not be excluded.

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12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 7681-11-0 potassium iodide

EC50 7.5 mg/l/48h (Daphnia magna) (OECD 202)

Merck

LC50 3780 mg/l/96h (rainbow trout) (OECD 203)

Merck

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate

EC50 140 mg/l/48h (Daphnia magna) (DIN 38412)

(ECHA read across: anhydrous substance)

NOEC 25 mg/l /21 d (Daphnia magna)

(ECHA read across: anhydrous substance)

LC50 159 mg/l/96h (bluegill)

· Bacterial toxicity: sulfates toxic > 2.5 g/l

· Other information:

Toxic for fish:

Sulfates > 7 g/l

· Persistence and degradability

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate

OECD 301 D 2 % (not readily biodegradable)

(read across: anhydrous substance)

· Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 6283-63-2 N,N-Diethyl-p-phenylenediamine sulfate (1:1)

log Pow 2.24 (.) (calculated)

· 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.

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

· 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

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· Environmental hazards:	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.
· Special precautions for user	Not applicable.

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
CAS 6381-92-6 is not on the TSCA Inventory listed, because it is a hydrate.
It is listed on the CAS 139-33-3 number for the anhydrous form.
All remaining components have the value ACTIVE.

· Hazardous Air Pollutants
None of the ingredients is 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:**
Observe national regulations where applicable:
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.

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· Relevant phrases

H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H373 May cause damage to organs through prolonged or repeated exposure.

· Version number / date of revision: 6 / 02/13/2025

· 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
 Acute toxicity - inhalation 4: Acute toxicity – Category 4
 Skin irritation 2: Skin corrosion/irritation – Category 2
 Eye irritation 2A: Serious eye damage/eye irritation – Category 2A
 Specific target organ toxicity (single exposure) 3: Specific target organ toxicity (single exposure) – Category 3
 Specific target organ toxicity (repeated exposure) 1: Specific target organ toxicity (repeated exposure) – Category 1
 Specific target organ toxicity (repeated exposure) 2: Specific target organ toxicity (repeated exposure) – Category 2

· Sources

Data arise from safety data sheets, reference works and literature.
 ECHA: European CHemicals Agency <http://echa.europa.eu>
 GESTIS- Stoffdatenbank (Substance Database, Germany)

· * Data compared to the previous version altered.