

Safety Data Sheet according to (EC) No. 1907/2006

Day of issue: 25 November 1994

Day of revision: 10 November 2008

1. Identification of the substance/preparation and of the company/undertaking

Trade names

OPD tablets fizzing buffer pH 5, cat. no. 4110

Use

For research and analysis (ELISA).

Manufacturer/Supplier

See below.

Telephone/Telefax

See below.

Emergency telephone

+45 39 27 17 71

Responsible person for the safety data sheet (e-mail):

Rasmus Broen Pedersen, ALTtox a/s (rbp@alttox.dk)

2. Hazards identification**Particular information pertaining specific risk for human and environment**

Tablets that may impair fertility and may cause risk of harm to the unborn child. May also cause cancer, allergy, heritable genetic damage and danger for the environment.

Classification: Repr Cat 2;R60-61 Carc Cat 3;R40 R43 Muta Cat 3;R68 N;R51/53**3. Composition/Information on ingredients**

% w/w	Chemical name	CAS no.	EINECS/ELINCS	Classification
2,9	o-Phenylenediamine dihydrochloride	615-28-1	210-418-7	Xn;R20/21 T;R25 Xi;R36 Carc Cat 3;R40 R43 Muta Cat 3;R68 N;R50/53 (M=1) Repr Cat 2;R60-61
10-20	Boric acid	10043-35-3	233-139-2	

Wording of R-phrases - see section 16.

4. First-aid measures**Eye contact**

Flush thoroughly with water or physiological salt water, holding eye lids open.

Remember to remove contact lenses, if any. If irritation persists: seek medical advice.

Skin contact

Remove all contaminated clothing and wash subsequently with water and soap. If person feels queasy/discomfort: seek medical advice.

Inhalation

Go to fresh air. Keep at rest. If person feels queasy/discomfort: seek medical advice.

IngestionRinse mouth and drink plenty of water. **Do not induce vomiting.** If vomiting occurs keep the head down to prevent vomit getting into the lungs. Call an ambulance.**Information**

Show this Safety Data Sheet to a physician or emergency ward.

Trade name: **OPD tablets fizzing buffer pH 5**

5. Fire-fighting measures

Flammability

Combustible.

Extinguishing media - suitable

Use water, dry chemical, foam or carbon dioxide.

Extinguishing media - NOT suitable

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Special risks in a fire situation

At fire the product may form hazardous decomposition products such as: oxides of carbon and nitrogen and corrosive hydrogen chloride.

Protective equipment

When extinguishing fires use breathing apparatus with an independent source of air.

Additional information

Remove containers if possible

6. Accidental release measures

Personal precautions

Provide for sufficient ventilation/respiratory protection.

See protective equipment listed in section 8.

Environmental precautions

Do not empty into drains. See section 12. If the product contaminates sewages, inform appropriate authorities in accordance with local regulations.

Methods for cleaning up/collecting

Collect spilled material and place it in a closed container for disposal. Subsequently wash area with plenty of water. Further handling of spillage: see section 13.

7. Handling and storage

Safe handling

See section 8.

Safe storage

In a well closed container, protected against moisture. Do not remove the included drying capsule. Store at 4°C (short time storage). For long time storage: at -20°C.

Specific use(s):

See section 1.

8. Exposure controls and personal protection

Engineering measures (prevention of worker exposure)

Avoid breathing tablet dust and avoid contact with skin and eyes. Immediately wash contaminated skin. After use wash with plenty of water. Do NOT use metal forceps during handling of the tablets (see section 10). Use plastic forceps.

The employer shall assess the working conditions and, if there is any risk to the safety or health and any effects on the pregnancy or breastfeeding of workers, take the necessary measures to adjust the working conditions (Directive 92/85/EEC).

Exposure limits: -

Personal protective equipment

Eye protection:

Wear close-fitting safety goggles when risk of splashes during manufacture of solution.

Skin protection:

Not required when forceps is used. Otherwise use gloves of nitrile rubber.

Breakthrough time: unknown - change gloves if exposed.

Respiratory protection:

Not required if used at proper ventilation.

Environmental exposure controls: -

Trade name: **OPD tablets fizzing buffer pH 5**

9. Physical and chemical properties

Appearance:	Fizzing tablets
Odour:	-
pH:	5.2 (water solution)
Boiling point (°C):	-
Flash point (°C):	-
Density (g/ml):	-
Solubility in water:	Soluble

10. Stability and reactivity

Stability

Combustible. Stable.

Conditions to avoid

Avoid heating and moisture (will initiate the fizzing process).

Materials to avoid

Avoid contact with combustible materials and metals (metals works as catalysts for the oxidation process).

Hazardous decomposition products

At fire the product may form hazardous decomposition products: oxides of carbon and nitrogen and hydrogen chloride.

11. Toxicological information

Routes of exposure: May be absorbed through skin, by inhalation and ingestion.

Acute toxicity:

Eyes: Irritation.

Skin: May cause irritation with redness, peeling of skin and loss of hair.

Inhalation: Inhalation of tablet dust can cause irritation of the respiratory tract. Symptoms can be coughing and shortness of breath.

Ingestion: May cause irritation of the gastrointestinal tract and in large doses: vomiting, diarrhea and stomach ache. Symptoms from the central nervous system can also occur: headache, convulsions, nervousness, restlessness and tiredness.

Long term toxicity: Boric acid may impair fertility and may cause harm to the unborn child.
o-Phenylenediamine dihydrochloride is suspected of causing cancer. May also cause allergy and heritable genetic damage and serious damage on liver, kidneys and brain. Anaemia may occur.

12. Ecological information

Ecotoxicity:

o-Phenylenediamine dihydrochloride is very toxic to aquatic organisms. Effect values; $EC_{50} < 1$ mg/l.

Mobility:

Soluble.

Persistence and degradability:

o-Phenylenediamine dihydrochloride is not readily biodegradable. May cause long-term adverse effects in the aquatic environment.

Bioaccumulative potential:

Log K_{OW} of o-Phenylenediamine dihydrochloride is 0.15 (properly does not accumulate).

Other adverse effects:

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13. Disposal considerations

Disposal should be according to local, state or national legislation. Dispose of through authority facilities or pass to chemical disposal company.

EWC-code: 16 05 08

Trade name: **OPD tablets fizzing buffer pH 5****14. Transport information****Road/Rail (ADR/RID)**

Class : 9

UN No. : 3077

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
(o-Phenylenediamine dihydrochloride)

Limited quantities:

Combination Packaging's: Max. inner packaging 6 kg. Max. 30 kg per package.

Shrink/Stretch wrapped: Max. inner packaging 6 kg. Gross weight per package 20 kg.

Sea (IMDG)

IMDG Class : 9

UN No. : 3077

MARPOL: P

Pack. Group : III

EmS: F-A, S-F

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
(o-Phenylenediamine dihydrochloride)

Limited quantities: 5 kg

15. Regulatory information**Classification according to EEC directives****EINECS no.:** -**Danger symbol and danger designation:**

Toxic



Dangerous for the environment

Contains: Boric acid & o-Phenylenediamine dihydrochloride

Risk-phrases:

R 60: May impair fertility.
 R 61: May cause harm to the unborn child.
 R 40: Limited evidence of a carcinogenic effect.
 R 43: May cause sensitisation by skin contact.
 R 68: Also possible risk of irreversible effects.
 R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety-phrases:

S 53: Avoid exposure - obtain special instructions before use.
 S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 S 61: Avoid release to the environment. Refer to special instructions / Safety Data Sheets.

Restricted to professional users.

Restriction on application

Restricted use: must not be used by persons under 18 years of age.

Restricted to professional users.

Trade name: **OPD tablets fizzing buffer pH 5**

16. Other information

R-phrases mentioned in section 3:

- R 20/21: Harmful by inhalation and in contact with skin.
- R 25: Toxic if swallowed.
- R 36: Irritating to eyes.
- R 40: Limited evidence of a carcinogenic effect.
- R 43: May cause sensitisation by skin contact.
- R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R 60: May impair fertility.
- R 61: May cause harm to the unborn child.
- R 68: Possible risk of irreversible effects.

Requirements concerning special training

No special training is anticipated, however, the user should be well instructed for the execution of his task, have knowledge of this Safety Data Sheet and normal training in the use of personal protective equipment.

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Changes in section(s):

1, 2, 3, 4, 7, 8, 11, 13, 15 and 16

This Safety Data Sheet was created by:

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Material Safety Data Sheet