



Doc. ref. code: 12105/03

SAFETY DATA SHEET

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

Identification of the product

Catalogue No: P30114 ID No: P9011400

Product name: **Cadmium standard solution (1000ppm), for AAS, Titrimetric**

Use of the substance/preparation: Analytical standard

Manufacturers/supplier identification

Company: BDH Laboratory Supplies, Poole, Dorset, BH15 1TD, England
Telephone: +44 (0) 1202 660444 Telefax: +44 (0) 1202 668856

Emergency telephone No.: +44 (0) 1202 669700

2. Composition/information on ingredients

Chemical characterization

Solution in water

Product name: Cadmium standard solution (1000 ppm)

CAS number: Not applicable EC-No.: Not applicable

Hazardous ingredients:

Name of ingredient	54%	EC-No.: 231-31-42
CAS number:	7697-37-2	
Symbol:	OX	
R-phrases:	R6.5	
S-phrases:	S2-26-36-45	
Cadmium nitrate	0.10620	EC-No.: 231-31-66
Cadmium nitrate	0.10620	
Symbol:	XN	
R-phrases:	R20-21/22-50/53	
S-phrases:	S04-01	

3. Hazards identification

Harmful by inhalation, in contact with skin and if swallowed. Causes burns.

4. First aid measures

Eye contact: Irrigate thoroughly with water for at least 10 minutes. OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure, rest and keep warm. In severe cases obtain medical attention.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use. Unless certain has been established, contaminated clothing should be removed and washed before re-use.

Ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. OBTAIN MEDICAL ATTENTION.

5. Fire-fighting measures

Special risks:

Not combustible. May evolve toxic fumes in fire.

Suitable extinguishing media:

To suit environment.

6. Accidental release measures

Wear appropriate protective clothing.

Absorb on an inert absorbent (e.g. BDH Spillage absorption granules), transfer to a suitable container and arrange removal by disposal company. Wash site of spillage thoroughly with water and detergent.

For large spillages, liquids should be contained with sand or earth and both liquids and solids transferred to salvage containers. Any residues should be treated as normal spillages.

7. Handling and storage

Handling:

Avoid contact with skin and eyes. Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before re-use.

Storage:

Do not empty into drains.

8. Exposure controls/personal protection

UK Exposure Limits:

OES, Nitric acid:

Long term: 5.2 mg/m³ (2 ppm) Short term: 10 mg/m³ (4 ppm)

MEL, Cadmium and compounds (as Cd):

Long term: 0.025 mg/m³

Personal protective equipment:

Engineering methods to control or prevent exposure are preferred. Methods could include process enclosure or mechanical ventilation. As appropriate to the situation and the quantity handled.

- Ventilation: Not applicable

- Gloves: Rubber or plastic

- Eye Protection: Goggles or face shield

- Other Precautions: Plastic apron, gloves, boots - if handling large quantities

9. Physical and chemical properties

General information:

Form: Liquid

Colour: Colourless

Health, safety and environmental information:

Melting temperature: Not available

Boiling temperature: Not available

Flash point: Not available

Stability in water: Not available

pH value: <1

Flash point: Not applicable

10. Stability and reactivity

Unstable working materials: metals

Substances to be avoided: oxidizable substances, organic solvents, alkali metals, alkaline earth metals, ammonia, bases.

Hazardous decomposition products: nitrous gases.

11. Toxicological information

Property that must be anticipated on the basis of the components of the preparation:

- After inhalation: Irritation of the mucous membranes, coughing, and dyspnoea.

- After skin contact: Burns.

- After eye contact: Burns.

- After ingestion: Irritation in mouth, throat, oesophagus and gastrointestinal tract.

- After the uptake of large quantities: Possible effects: Toxic effect on: kidneys, gastrointestinal tract

Further hazardous properties cannot be excluded.

Further data

No data

12. Ecological information

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

Do not allow to enter drinking water supplies, waste water, or soil.

Further ecological data:

The following applies to cadmium compounds in general: biodegradability: biodegradability 0; biological effects: fish: L₅₀ macroinverte 96 h: LD₅₀ 1.94 mg/l; C: animals 8.5 h: toxic from 0.0165 mg/l up to 0.6 mg/l; E: cod: toxic from 0.15 mg/l up to 1.5 mg/l.

anticoag: Daphnia toxic 0.1 mg/l; Daphnia magna: toxic from 0.0026 mg/l up; protozoa: toxic from 0.2 mg/l up; algae: S_c: quadricauda: toxic from 0.1 mg/l up; hazard for drinking water.

The following applies to nitrates in general: may contribute to the eutrophication of water supplies. Hazard for drinking water.

Fish: LC50 > 500 mg/l.

13. Disposal considerations

Chemical residues are generally classified as special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company. Rinse out empty containers thoroughly before returning for re-use.

14. Transport information

UN-No: 2031

Class: 8

Proper shipping name: NITRIC ACID

Package group: II

15. Regulatory information

Labelling according to EC directives

Symbol: C Corrosive

R-phrases: R20/21/22-34

Harmful by inhalation, in contact with skin and if swallowed. Causes burns.

S-phrases: S26-S36/37/39-45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

For more detailed safety information, please refer to the product safety data sheet. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

EC-No.: Not applicable

Local Regulations

Within the UK, the use of this material must be assessed under the Control of Substances Hazardous to Health (COSHH) regulations.

U.K. Transport Category 2

16. Other information

Date of issue: 15/05/03

Date of print: 21/04/04

Text of R-phrases listed in section 2

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

R36/37/38: Causes severe burns.

R40: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.