



MATERIAL SAFETY DATA SHEET  
Cadmium standard metal solution 1000 ppm

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Cadmium standard metal solution 1000 ppm  
**Catalog Numbers:** J/8005/05, J/8005/08, J/8005/15  
**Synonyms:** None.  
**Company Identification:** Fisher Scientific UK  
 Bishop Meadow Road, Loughborough  
 Leics. LE11 5RG  
**For information in Europe, call:** (01509) 231166  
**Emergency Number, Europe:** 01509 231166

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
7440-43-9	Cadmium	0.1	231-152-8		
7697-37-2	Nitric acid	6.3	231-714-2		
7732-18-5	Water	93.6	231-791-2		

Text for R-phrases: see Section 16

**Hazard Symbols:** XN C



**Risk Phrases:** 21/22 34

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

*Harmful in contact with skin and if swallowed. Causes burns.*

#### Potential Health Effects

**Eye:** Causes severe eye burns. May cause irreversible eye injury.  
**Skin:** Causes skin burns. May cause deep, penetrating ulcers of the skin.  
**Ingestion:** Causes gastrointestinal tract burns. May cause perforation of the digestive tract.  
**Inhalation:** May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Damage may be delayed.  
**Chronic:** Repeated inhalation may cause chronic bronchitis. Repeated exposure may cause erosion of teeth. Cadmium and compounds may cause lung, liver and kidney damage and lung and prostate cancer in humans.

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.  
**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes.

- Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:**

### Section 5 - Fire Fighting Measures

- General Information:** Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.
- Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

### Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Neutralize spill with sodium bicarbonate. Use water spray to disperse the gas/vapor.

### Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get on skin or in eyes. Do not ingest or inhale.
- Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. See 29CFR 1910.1027 for regulations applying to all occupational exposures to cadmium and cadmium compounds, in all forms.

**Exposure Limits**

CAS# 7440-43-9:

United Kingdom, WEL - TWA: 0.025 mg/m<sup>3</sup> TWA United Kingdom, WEL - STEL: 0.075 mg/m<sup>3</sup> STEL

United States OSHA: 0.2 mg/m<sup>3</sup> TWA (dust); 0.1 mg/m<sup>3</sup> TWA (fume); 0.6 mg/m<sup>3</sup> Ceiling (dust); 0.3 mg/m<sup>3</sup> Ceiling (fume); 2.5 æg/m<sup>3</sup> Action Level; 5 æg/m<sup>3</sup> TWA (Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidn

Belgium - TWA: 0.002 mg/m<sup>3</sup> VLE (respirable particulate); 0.01 mg/m<sup>3</sup> VLE (inhalable particulate)

France - VME: 0.05 mg/m<sup>3</sup> VME

Germany: 0.03 mg/m<sup>3</sup> TWA (dusts/aerosols, inhalable fraction, battery production - thermal

Japan: 0.05 mg/m<sup>3</sup> OEL

Malaysia: 0.01 mg/m<sup>3</sup> TWA; 0.002 mg/m<sup>3</sup> TWA (respirable fraction)

Netherlands: ( chromium compounds): 0.01 mg/m<sup>3</sup> STEL Netherlands: 0.005 mg/m<sup>3</sup> MAC

Russia: 0.01 mg/m<sup>3</sup> TWA (aerosol)

Spain: 0.01 mg/m<sup>3</sup> VLA-ED (inhalable fraction); 0.002 mg/m<sup>3</sup> VLA-ED (respirable fraction)

CAS# 7697-37-2:

United Kingdom, WEL - TWA: 2 ppm TWA; 5.2 mg/m<sup>3</sup> TWA United Kingdom, WEL - STEL: 4 ppm STEL; 10 mg/m<sup>3</sup> STEL

United States OSHA: 2 ppm TWA; 5 mg/m<sup>3</sup> TWA

Belgium - TWA: 2 ppm VLE; 5.3 mg/m<sup>3</sup> VLE Belgium - STEL: 4 ppm VLE; 10 mg/m<sup>3</sup> VLE

France - VME: 2 ppm VME; 5 mg/m<sup>3</sup> VME France - VLE: 4 ppm VLE; 10 mg/m<sup>3</sup> VLE

Germany: 2 ppm TWA (exposure category 1); 5.2 mg/m<sup>3</sup> TWA (exposure category 1)

Japan: 2 ppm OEL; 5.2 mg/m<sup>3</sup> OEL

Malaysia: 2 ppm TWA; 5.2 mg/m<sup>3</sup> TWA

Netherlands: 0.5 ppm STEL; 1.3 mg/m<sup>3</sup> STEL

Spain: 2 ppm VLA-ED; 5.2 mg/m<sup>3</sup> VLA-ED Spain: 4 ppm VLA-EC; 10 mg/m<sup>3</sup> VLA-EC

CAS# 7732-18-5:

### Personal Protective Equipment

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Color:** colorless

**Odor:** Not available

**pH:** Not available

**Vapor Pressure:** Not available

**Viscosity:** Not available

**Boiling Point:** Not available

**Freezing/Melting Point:** Not available

**Autoignition Temperature:** Not applicable

**Flash Point:** Not applicable.

**Explosion Limits: Lower:** Not available

**Explosion Limits: Upper:** Not available

**Decomposition Temperature:** Not available

**Solubility in water:** Completely soluble in water

**Specific Gravity/Density:** 1.0

**Molecular Formula:** Solution

**Molecular Weight:** 0

### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Excess heat.

**Incompatibilities with Other Materials:** Not available

**Hazardous Decomposition Products:** Oxides of nitrogen, toxic cadmium oxide fumes.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:** CAS# 7440-43-9: EU9800000  
CAS# 7697-37-2: QU5775000 QU5900000  
CAS# 7732-18-5: ZC0110000

**LD50/LC50:** RTECS:  
**CAS# 7440-43-9:** Inhalation, rat: LC50 = 25 mg/m<sup>3</sup>/30M;  
Oral, mouse: LD50 = 890 mg/kg;  
Oral, rat: LD50 = 2330 mg/kg;  
. RTECS:  
**CAS# 7697-37-2:** Inhalation, rat: LC50 = 260 mg/m<sup>3</sup>/30M;  
Inhalation, rat: LC50 = 130 mg/m<sup>3</sup>/4H;  
Inhalation, rat: LC50 = 67 ppm(NO<sub>2</sub>)/4H;  
. RTECS:  
**CAS# 7732-18-5:** Oral, rat: LD50 = >90 mL/kg;  
.

**Carcinogenicity:** Cadmium - ACGIH: A2 - Suspected Human Carcinogen (Cadmium compounds).  
California: carcinogen, initial date 10/1/87 NTP: Known carcinogen IARC: Group 1 carcinogen  
Nitric acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

**Other:** See actual entry in RTECS for complete information.

## Section 12 - Ecological Information

Not available

## Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

## Section 14 - Transport Information

	<b>IATA</b>	<b>IMO</b>	<b>RID/ADR</b>
<b>Shipping Name:</b>	TOXIC LIQUID, CORROSIVE, INORGANIC, NOS(Cadmium nitrate)	TOXIC LIQUID, CORROSIVE, INORGANIC, NOS(Cadmium nitrate)	TOXIC LIQUID, CORROSIVE, INORGANIC, NOS(Cadmium nitrate)
<b>Hazard Class:</b>	6.1	6.1	6.1
<b>UN Number:</b>	3289	3289	3289
<b>Packing Group:</b>	II	II	III

USA RQ: CAS# 7440-43-9: 10 lb final RQ (no reporting of releases of this hazardous substance)  
USA RQ: CAS# 7697-37-2: 1000 lb final RQ; 454 kg final RQ

## Section 15 - Regulatory Information

### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN C

Risk Phrases:

R 21/22 Harmful in contact with skin and if swallowed.

R 34 Causes burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36 Wear suitable protective clothing.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 7440-43-9: Not available

CAS# 7697-37-2: 1

CAS# 7732-18-5: Not available

Canada

CAS# 7440-43-9 is listed on Canada's DSL List

CAS# 7697-37-2 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

## US Federal

TSCA

CAS# 7440-43-9 is listed on the TSCA Inventory.

CAS# 7697-37-2 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

## Section 16 - Other Information

### Text for R-phrases from Section 2

**MSDS Creation Date:** 12/12/1997

**Revision #7 Date** 3/22/2006

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