Fisher Scientific

MATERIAL SAFETY DATA SHEET
Chromium Standard Metal Solution

Section 1 - Chemical Product and Company Identification

MSDS Name: Chromium Standard Metal Solution

Catalog Numbers: J/8015/05, J/8015/08, J/8015/15, J/8245/05, J/8246/08

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:
7440-47-3	Chromium	<1.0%	231-157-5		
7697-37-2	Nitric acid	6.3	231-714-2		
7732-18-5	Water	Balance	231-791-2		

Text for R-phrases: see Section 16

Hazard Symbols: T C

Risk Phrases: 49 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Causes burns. May cause cancer by inhalation.

Potential Health Effects

Eye: Causes eye burns. May cause irreversible eye injury.

Skin: Causes skin burns.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. May cause systemic effects.

Inhalation: Effects may be delayed. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects.

Chronic: Repeated inhalation may cause chronic bronchitis. Repeated exposure may cause erosion of teeth. Effects may be delayed. Chronic exposure to water insoluble hexavalent chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. 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. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Substance is noncombustible.

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. Clean up spills immediately, observing precautions in the Protective Equipment section. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Neutralize spill with sodium bicarbonate. Use water spray to disperse the gas/vapor. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Discard contaminated shoes.

Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

CAS# 7440-47-3:

United Kingdom, WEL - TWA: 0.5 mg/m3 TWA United Kingdom, WEL - STEL: 1.5 mg/m3 STEL

United States OSHA: 1 mg/m3 TWA

Belgium - TWA: 0.5 mg/m3 VLE

France - VME: 0.5 mg/m3 VME

Japan: 0.5 mg/m3 OEL

Malaysia: 0.5 mg/m3 TWA

Netherlands: (chromium compounds): 0.01 mg/m3 STEL Netherlands: 0.5 mg/m3 MAC

Spain: 0.5 mg/m3 VLA-ED

CAS# 7697-37-2:

United Kingdom, WEL - TWA: 2 ppm TWA; 5.2 mg/m3 TWA United Kingdom, WEL - STEL: 4 ppm STEL; 10 mg/m3 STEL

United States OSHA: 2 ppm TWA; 5 mg/m3 TWA

Belgium - TWA: 2 ppm VLE; 5.3 mg/m3 VLE Belgium - STEL: 4 ppm VLE; 10 mg/m3 VLE

France - VME: 2 ppm VME; 5 mg/m3 VME France - VLE: 4 ppm VLE; 10 mg/m3 VLE

Germany: 2 ppm TWA; 5.2 mg/m3 TWA

Japan: 2 ppm OEL; 5.2 mg/m3 OEL

Malaysia: 2 ppm TWA; 5.2 mg/m3 TWA

Netherlands: 0.5 ppm STEL; 1.3 mg/m3 STEL

Russia: 2 mg/m3 TWA

Spain: 2 ppm VLA-ED; 5.2 mg/m3 VLA-ED Spain: 4 ppm VLA-EC; 10 mg/m3 VLA-EC

CAS# 7732-18-5:

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: orange

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 available.

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

Decomposition Temperature: Not available

Solubility in water: Soluble in water.

Specific Gravity/Density: 1.0

Molecular Formula: Solution

Molecular Weight: 0

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Excess heat.

Incompatibilities with Other Materials	Strong acids, strong bases.
Hazardous Decomposition Products	Nitrogen oxides, irritating and toxic fumes and gases, chromium dioxide.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 7440-47-3: GB4200000
CAS# 7697-37-2: QU5775000 QU5900000
CAS# 7732-18-5: ZC0110000

LD50/LC50:

RTECS: Not available. RTECS:
CAS# 7697-37-2: Inhalation, rat: LC50 = 260 mg/m3/30M;
Inhalation, rat: LC50 = 130 mg/m3/4H;
Inhalation, rat: LC50 = 67 ppm(NO2)/4H;
.
RTECS:
CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;
.

Carcinogenicity:

Chromium - IARC: Group 3 (not classifiable)
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

	IATA	IMO	RID/ADR
Shipping Name:	Corrosive liquid, toxic, n.o.s(chromium (VI) oxide in nitric acid)	CORROSIVE LIQUID, TOXIC, N.O.S(chromium (VI) oxide in nitric acid)	CORROSIVE LIQUID, TOXIC, N.O.S.(chromium (VI) oxide in nitric acid)
Hazard Class:	8	8	8
UN Number:	2922	2922	2922
Packing Group:	II	II	II

USA RQ: CAS# 7440-47-3: 5000 lb final RQ (no reporting of releases of this hazardous substa

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: T C

Risk Phrases:

R 49 May cause cancer by inhalation.

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# 7440-47-3: Not available

CAS# 7697-37-2: 1

CAS# 7732-18-5: Not available

Canada

CAS# 7440-47-3 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# 7440-47-3 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 #12 Date 12/07/2005
