

Revision Date: 2012-05-24
Reason for Revision: Section 14 Updated

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: HI 70409 Potassium Permanganate
Application: For Chemical Analysis
Company Information (USA): Hanna Instruments, Inc.
 584 Park East Dr, Woonsocket, Rhode Island, USA 02895
Technical Service Contact Information: 1-800-426-6287 (8:30AM - 5:00PM ET)
 +1-401-766-4260 (8:30AM - 5:00PM ET)
USA Emergency Contact Information: 1-800-424-9300 (Chemtrec 24Hr. Emergency)
International Emergency Contact Information: +1-703-527-3887 (Chemtrec 24Hr. Emergency)
E-mail Address: tech@hannainst.com

SECTION 2: HAZARD IDENTIFICATION

Contact with combustible material may cause fire. Harmful if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

According to Regulation (EC) No. 1272/2008:

Classification: Oxidizing Solids (Category 2)
 Acute Toxicity, Oral (Category 4)
 Acute Aquatic Toxicity (Category 1)
 Chronic Aquatic Toxicity (Category 1)

Signal Word: **Danger**

Pictograms:



Hazard Statements: H272: May intensify fire; oxidiser.
 H302: Harmful if swallowed.
 H410: Very toxic to aquatic life with long lasting effects.

Precaution Statements: P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P220: Keep/Store away from clothing/ combustible materials.
 P273: Avoid release to the environment.
 P501: Dispose of contents/container to an approved waste disposal plant.

According to Directives 67/548/EEC and 1999/45/EC:

Symbol: O: Oxidizing
 Xn: Harmful
 N: Dangerous for the environment

R-phrases: 8-22-50/53: Contact with combustible material may cause fire. Harmful if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases: 60-61: This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Component:	EC No:	CAS No:	Hazard Class:	Phrases:	Concentration:
Potassium permanganate	231-760-3	7722-64-7	Ox. Sol. 2 Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 O, Xn, N	H272, H302, H410 R: 8-22-50/53	-

SECTION 4: FIRST AID MEASURES

- After Inhalation:** Remove to fresh air. If breathing becomes difficult, call a physician.
- After Skin Contact:** Flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.
- After Eye Contact:** Flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids with fingers. Call a physician.
- After Swallowing:** Wash out mouth with water provided person is conscious. Call a physician.
- General Information:** Not available

SECTION 5: FIRE-FIGHTING MEASURES

- Suitable Extinguishing Media:**
Carbon dioxide, dry chemical powder, or appropriate foam.
- Special Risks:**
Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.
- Special Protective Equipment:**
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- Additional Information:**
NA

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Personal Precautions:**
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.
- Environmental Precautions:**
- Additional Notes:**
Methods for cleaning up: Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: HANDLING AND STORAGE

- | | |
|---|---|
| Handling:
Directions for Safe Handling: Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. | Storage:
Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. |
|---|---|

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Type	Value	Source	Type	Value	Source
Potassium Permanganate					
TWA (8hr)	0.2 mg (Mn)/m ³	Belgium	TWA (8hr)	0.2 mg (Mn)/m ³	Canada (Ontario)
TWA (8hr)	5 mg (Mn)/m ³	Canada (Quebec)	TWA (8hr)	0.5 mg (Mn)/m ³	Germany
TWA (8hr)	5 mg (Mn)/m ³	Greece	TWA (8hr)	5 mg (Mn)/m ³	Hungary
TWA (8hr)	0.3 mg (Mn)/m ³	Poland	TWA (8hr)	0.2 mg (Mn)/m ³	Portugal
TWA (8hr)	0.2 mg (Mn)/m ³	Spain	TWA (8hr)	0.5 mg (Mn)/m ³	UK
TWA (8hr)	0.2 mg (Mn)/m ³	USA (ACGIH)	TWA (8hr)	5 mg (Mn)/m ³	USA (OSHA)

Engineering:

Use only in a chemical fume hood. Safety shower and eye bath.

Personal Protective Equipment:

As appropriate to quantity handled

Respiratory Protection:

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Industrial Hygiene:

Wash thoroughly after handling. Remove and wash contaminated clothing promptly. Discard contaminated shoes.

Protective Gloves:

Compatible chemical-resistant gloves.

Eye Protection:

Chemical safety goggles.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Deep violet crystals.	Odor:	Odorless	Density at 20°C:	2.71 g/cm ³
Melting Point:	240 °C	Boiling Point:	N/A	Solubility:	Soluble
pH at 20°C:	NA	Explosion Limit:	N/A	Flash Point:	N/A
Thermal Decomp.:	NA				

SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

None

Hazardous Polymerization:

Will not occur.

Further Information:

Not available

Hazardous Decomposition Products:

Nature of decomposition products not known.

Substances to be Avoided:

Strong reducing agents, Finely powdered metals, Peroxides, Zinc, Copper.

SECTION 11: TOXICOLOGICAL INFORMATION**Product Toxicity****ACUTE TOXICITY**

LDLO (Oral, Human): 100 mg/kg

Remarks: Liver:Hepatitis (hepatocellular necrosis), diffuse.

Vascular:BP lowering not characterized in autonomic section.

Kidney, Ureter, Bladder:Changes in tubules (including acute renal failure, acute tubular necrosis).

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds.

Micronucleus test

Mouse (Oral, 7D): 718 mg/kg

Cytogenetic analysis:

Mouse (48hr): 1 mmol/L

Cell Type: mammary gland

Cytogenetic analysis:

Mouse (Oral, 5D): 513 mg/kg

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Rat (400 mg/kg, Intratesticular, Male, 1D)

Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Mouse (513 mg/kg, Oral, Male, 5D)

Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Gerbil (25 mg/kg, Intratesticular, Male, 1D)

Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Potential Health Effects:**Inhalation:** May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.**Skin Contact:** May cause skin irritation. May be harmful if absorbed through the skin.**Eye Contact:** May cause eye irritation.**Ingestion:** Harmful if swallowed.**Component Toxicity****Acute Toxicity:****Chronic Toxicity:**

Not Available

Potassium Permanganate**LD50:** Oral - Rat - 1090 mg/kg**Additional Data:**

Not Available

SECTION 12: ECOLOGICAL INFORMATION

Test Type: LC50 Fish

Species: Onchorhynchus mykiss (Rainbow trout)

Time: 96 h

Value: 0.3 - 0.6 mg/L

Safety Data Sheet

According to Regulation (EC) No. 1907/2006
 OSHA Regulation 29 CFR 1910.1200
 Canadian Regulation SOR/88-66

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

	<i>Land (ADR/RID):</i>	<i>Sea (IMDG):</i>	<i>Air (ICAO/IATA):</i>
UN No.:	1490	1490	1490
Proper Shipping Name:	Potassium permanganate	Potassium permanganate	Potassium permanganate
Class (Sub Risk):	5.1	5.1	5.1
Packing Group:	II	II	II

SECTION 15: REGULATORY INFORMATION

Complies with European Regulations (EC) No. 1907/2006 and No. 1272/2008.
 Complies with European Council Directives 67/548/EEC and 1999/45/EC.
 Complies with OSHA Regulation 29 CFR 1910.1200.
 Complies with Canadian Regulation SOR/88-66

SECTION 16: OTHER INFORMATION

Text of phrases under Section 3

R8: Contact with combustible material may cause fire.
 R22: Harmful if swallowed.
 R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 H272: May intensify fire; oxidizer.
 H302: Harmful if swallowed.
 H410: Very toxic to aquatic life with long lasting effects.

Revision Information

Revision Date: 2012-05-24
Supersedes edition of: 2010-12-01
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Legend

NA: Not Applicable
 ND: Not Determined

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.