

Mallinckrodt

Material Safety Data

Emergency Phone Number: 314-982-5000

POTASSIUM DICHROMATE NORMAL VOLUMETRIC SOLUTION

PRODUCT IDENTIFICATION:

Synonyms: Potassium dichromate, 0.25 Normal (N/4) Volumetric solution; Dichromic acid, potassium solution

Formula CAS No.: 7778-50-9

Molecular Weight: 294.18

Chemical Formula: $K_2Cr_2O_7$ (solution)

Hazardous Ingredients: Not applicable.

PRECAUTIONARY MEASURES

**DANGER! CONTAINS HEXAVALENT CHROMIUM.
EXPOSURE MAY CREATE A CANCER RISK.
HARMFUL IF SWALLOWED. CAUSES BURNS.**

Keep from contact with clothing and other combustible materials.

Store in a tightly closed container.

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Use with adequate ventilation.

Remove and wash contaminated clothing promptly.

EMERGENCY/FIRST AID

If swallowed, induce vomiting immediately by giving two glasses of water, or milk if available and sticking finger down throat. Never give anything by mouth to an unconscious person. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. In all cases call a physician.
SEE SECTION 5.

DOT Hazard Class: Not Regulated

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Mallinckrodt, Inc., Science Products Division, P.O. Box M, Paris, KY 43061.

SECTION 1 Physical Data

Appearance: Clear orange-red liquid.

Odor: Odorless.

Solubility: Completely soluble in water.

Boiling Point: ca. 101°C(213°F)

Melting Point: ca. -1°C(31°F)

Density ca. 1.04

Vapor Density (Air = 1): No information found.

Vapor Pressure (mm Hg): No information found.

Evaporation Rate: No information found.

SECTION 2 Fire and Explosion Information

Fire:

Not combustible, but substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Explosion:

Contact with oxidizable substances may cause violent combustion.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Water spray can be used to extinguish fires and cool fire-exposed containers.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 3 Reactivity Data

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Emits oxygen and toxic fumes of chromium trioxide when heated to decomposition.

Hazardous Polymerization:

This substance does not polymerize.

Incompatibilities:

Reducing agents, organic compounds, sulfuric acid.

SECTION 4 Leak/Spill Disposal Information

Caution: Oxidizing material. Do not contact with paper, cardboard or other organic material. Ventilate area of leak or spill. Clean-up personnel require protective clothing. Contain and recover liquid when possible. Spills: absorb with vermiculite, dry sand, earth, or similar material for disposal as hazardous waste in a RCRA approved facility. Do Not Flush To Sewer.

Ensure compliance with local, state and federal regulations.

Effective Date: 11-04-85

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SECTION 5 Health Hazard Information

A. EXPOSURE / HEALTH EFFECTS

Inhalation:

Not expected to be a health hazard via inhalation. Mists may cause irritation of respiratory tract and may produce pulmonary sensitization.

Ingestion:

Toxic effects are not expected to be as severe as higher concentrations of potassium dichromate, where symptoms can include burning pain in mouth and esophagus, abdominal pain, vomiting, dizziness, intense thirst, fever, coma, and liver damage. Death may occur with large doses.

Skin Contact:

May cause irritation, and possibly ulceration and scarring. Skin may become sensitized. Systemic poisoning by absorption is possible.

Eye Contact:

May cause severe irritation and possibly eye damage.

Chronic Exposure:

Repeated or prolonged contact may cause dermatitis. Chronic exposure to dichromates is associated with liver damage.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

B. FIRST AID

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

If swallowed, induce vomiting immediately by giving two glasses of water, or milk if available and sticking finger down throat. Call a physician immediately. Never give anything by mouth to an unconscious person.

Skin Exposure:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician.

Eye Exposure:

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY DATA (RTECS, 1982)

Potassium dichromate: Mutation References Cited; Reproductive Data Cited. Hexavalent Chromium compounds are listed as carcinogens by the National Toxicology Program (NTP) and by the International agency for Research on Cancer (IARC). Carcinogenic Determination - Animal / Inadequate Data (IARC 23,302 80) Hexavalent Chromium Compounds: Sufficient evidence for carcinogenicity in short term testing (IARC Suppl.4, 1982).

SECTION 6 Occupational Control Measures

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

0.5 mg(Cr)/M³

-ACGIH Threshold Limit Value (TLV):

0.05 mg(Cr)/M³

NIOSH Criteria document recommendation:

Occupational exposure (CrVI):

25 ug/M³(TWA) Ceiling limit: 50 ug/M³/15M

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators: (NIOSH Approved)

If the TLV is exceeded a full facepiece chemical cartridge respirator may be worn, in general, up to 100 times the TLV or the maximum use concentration specified by the respirator supplier, whichever is less. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 7 Storage and Special Information

Protect against physical damage. Store in a dry location separate from combustible, organic or other readily oxidizable materials. Avoid storage on wood floors. Remove and dispose of any spilled dichromates; do not return to original containers. Protect from freezing. Wear special protective equipment (Sec. 6) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace.

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