Material Safety Data Sheet
Potassium Chromate Solution 5%

ACC# 40142

Section 1 - Chemical Product and Company Identification

MSDS Name: Potassium Chromate Solution 5%
Catalog Numbers: NC9861577, SP152-500
Synonyms: Indicator solution for volumetric chloride determination.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	95.0	231-791-2
7789-00-6	Potassium chromate	4.5-5.5	232-140-5
7761-88-8	Silver nitrate	0.007	231-853-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: yellow liquid.
Warning! May cause allergic skin reaction. May cause eye, skin, and respiratory tract irritation. May be harmful if swallowed, inhaled, or absorbed through the skin. May cause cancer in humans.
Target Organs: Kidneys, liver, skin.

Potential Health Effects
Eye: May cause eye irritation. Exposure to particulates or solution may cause conjunctivitis, ulceration, and corneal abnormalities.
Skin: May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.
Ingestion: May cause irritation of the digestive tract. May cause liver and kidney damage.
Inhalation: May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause respiratory tract irritation.
Chronic: Prolonged or repeated exposure may lead to asthma and perforation of the nasal septum. Repeated inhalation may cause chronic bronchitis. May cause liver and kidney damage. May cause 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.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
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.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

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. Runoff from fire control or dilution water may cause pollution.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Discard contaminated shoes.
Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Potassium chromate	0.05 mg/m3 TWA (as Cr) (listed under Chromium (VI) compounds-water soluble).	0.001 mg/m3 TWA (as Cr) (listed under Chromates).15 mg/m3 IDLH (as Cr(VI)) (listed under Chromates).	0.1 mg/m3 Ceiling (listed under Chromates).
Silver nitrate	0.01 mg/m3 TWA (as Ag) (listed under Silver soluble compounds).	0.01 mg/m3 TWA (as Ag) (listed under Silver soluble compounds).10 mg/m3 IDLH (as Ag) (listed under Silver soluble compounds).	0.01 mg/m3 TWA (listed under Silver soluble compounds).

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Potassium chromate: No OSHA Vacated PELs are listed for this chemical. Silver nitrate: No OSHA Vacated PELs are listed for this chemical.
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: 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
Appearance: yellow
Odor: none reported
pH: Not available.
Vapor Pressure: 14 mm Hg
Vapor Density: 0.7
Evaporation Rate:>1 (ether=1)
Viscosity: Not available.
Boiling Point: 212 deg F
Freezing/Melting Point:32 deg F
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density:1.03
Molecular Formula: Mixture
Molecular Weight: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials.
Incompatibilities with Other Materials: Acids.
Hazardous Decomposition Products: Oxides of potassium, toxic chromium oxide fumes.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 7732-18-5: ZC0110000
CAS# 7789-00-6: GB2940000
CAS# 7761-88-8: VW4725000
LD50/LC50:

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;
.

CAS# 7789-00-6:
Oral, mouse: LD50 = 180 mg/kg;
.

CAS# 7761-88-8:
Draize test, rabbit, eye: 1 mg Severe;
Draize test, rabbit, eye: 10 mg Moderate;
Oral, mouse: LD50 = 50 mg/kg;
Oral, rat: LD50 = 1173 mg/kg;
.

Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7789-00-6:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Chromium (VI) compounds- water soluble').
- **California:** carcinogen, initial date 2/27/87 (listed as Chromium (VI) compounds).
- **NTP:** Known carcinogen (listed as Chromium (VI) compounds).
- **IARC:** Group 1 carcinogen (listed as Chromium (VI) compounds).

CAS# 7761-88-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals.There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion.
Teratogenicity: TDLo (Intraperitoneal,mouse)=30 mg/kg
Reproductive Effects: No information found
Mutagenicity: Mutation in microorganisms(Salmonella typhimurium)= 35 ug/plateMutation in microorganisms(Salmonella typhimurium)= 10 ug/plate
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. LC50 Physa heterostropha (snail) 31,600 ug/l as chromium; water hardness as 171 mg/l as calcium carbonate; static unmeasured method LC50 Daphnia magna (Cladoceran) 137,66.7 and 15.3 ug/l as chromium; water hardnesses of 212,188 and 50 as calciium carbonate, respectively, and with pH values of 8.2 to 8.4, 7.5 to 7.5 to 7.6, and 7.5, respectively; static measured method.
Environmental: Aquatic Fate: Cr(VI) exists in solution as hydrochromate, chromate, and dichromate ionic species. The proportion of each ion in solution is dependent on pH. In strongly basic and neutral pHs, the chromate form predominates. Chromium is present usually as Cr(III) in the soil and is characterized by its lack of mobility, except in cases where Cr(VI) is involved. Chromium (VI) of natural origin is rarely found.
Physical: As the pH is lowered, the hydrochromate concentration increases. At very low pHs, the dichromate species predominates. In the pH ranges encountered in natural water, the predominant forms are hydrochromate ions (63.6%) at pH 6.0 to 6.2 and chromate ion (95.7%) at pH 7.8 to 8.5. The oxidizing ability of Cr(VI) in aqueous solution is pH dependent.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated.	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 7789-00-6 is listed on the TSCA inventory.
CAS# 7761-88-8 is listed on the TSCA inventory.
Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

CAS# 7789-00-6: Section 6 (see 40 CFR 749.68)

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 7789-00-6: 10 lb final RQ; 4.54 kg final RQ CAS# 7761-88-8: 1 lb final RQ; 0.454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7789-00-6: immediate, delayed.
CAS # 7761-88-8: immediate, delayed, fire.

Section 313

This material contains Potassium chromate (listed as Chromium (VI) compounds), 4.5-5.5%, (CAS# 7789-00-6) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Silver nitrate (listed as Silver compounds), 0.007%, (CAS# 7761-88-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 7789-00-6 is listed as a Hazardous Substance under the CWA. CAS# 7761-88-8 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA. CAS# 7761-88-8 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 7789-00-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, (listed as Chromium (VI) compounds- water soluble), Minnesota, (listed as Chromium (VI) compounds), Massachusetts.

CAS# 7761-88-8 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, (listed as Silver soluble compounds), Massachusetts.

California Prop 65

WARNING: This product contains Potassium chromate, listed as `Chromium (VI) compounds', a chemical known to the state of California to cause cancer.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T N

Risk Phrases:

R 43 May cause sensitization by skin contact.
R 46 May cause heritable genetic damage.
R 49 May cause cancer by inhalation.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.
S 60 This material and its container must be disposed of as hazardou s waste.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.
CAS# 7789-00-6: 2
CAS# 7761-88-8: 3

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7789-00-6 is listed on Canada's DSL List.
CAS# 7761-88-8 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2A.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7789-00-6 is listed on the Canadian Ingredient Disclosure List.
CAS# 7761-88-8 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/21/1999
Revision #5 Date: 5/19/2005