

Material Safety Data Sheet



ELITechGroup B.V.
Van Rensselaerweg 4
6956 AV Spankeren
The Netherlands
Tel.: +31 313 430500

1. PRODUCT IDENTIFICATION

Product Name : Calibration Fluid (0.8% Potassium Dichromate in 0.001M Perchloric Acid)
Part Number : 3201-002
Instrument Type : All instrument models
Contact/Preparatory : ELITechGroup B.V.
Information Number : +31 313 430500

Document number : 3201-002-251
Preparation Date : 12 Apr 2004
Last update : 06 Feb 2014

2. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS #	% W/V	EXPOSURE LIMITS IN AIR				
			ACGIH		OSHA		OTHER
			TLV	STEL	PEL	STEL	

Reagent 1:

Potassium Dichromate	7778-50-9	0.08%	0.05 mg/m ³	N/A	0.1 mg/m ³	N/A	
Displayed values are for Potassium Dichromate in pure form Due to the dilution with water these values are not Applicable for Potassium Dichromate in current state.							

Reagent 2:

Water	7732-18-5	99.99%	N/A	N/A	N/A	N/A	
Perchloric Acid	7601-90-3	0.01%	N/A	N/A	N/A	N/A	

Material Safety Data Sheet

3. HAZARD IDENTIFICATION

Primary Routes of Entry:

Ingestion, skin and/or eye contact.

Ingestion:

Swallowing can cause vomiting and diarrhea.

Skin Contact:

Contact with broken skin may cause skin irritation

Eye Contact:

Contact can cause blurred vision, redness, pain.

Chronic Exposure:

Chronic exposure may affect kidneys and liver. Certain, mainly water-soluble, hexavalent chromium compounds, have been determined to be human carcinogens.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders, eye problems, impaired respiratory function, allergies or sensitization to chromic acid or chromates may be more susceptible to the effects of this material.

Health Effects:

Adverse health effects are not expected from the recommended use of this product.

4. FIRST AID MEASURES

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

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

5. FIRE FIGHTING MEASURES

Flash Point: N/A

Flammable Limits-LEL: N/A

UEL: N/A

Fire: Not combustible.

Extinguishing Media:

N/A.

Special Fire Procedures:

N/A.

Explosion Hazards:

N/A

Code: 3201-002	Doc. no.: 251	Page 2 of 5	Ver: 4.0
----------------	---------------	-------------	----------

Material Safety Data Sheet

6. ACCIDENTAL RELEASE MEASURES

Wear appropriate protective equipment as specified in section 8. Wipe up liquid when possible. Dispose as household garbage.

7. HANDLING AND STORAGE

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat and incompatible materials. Do not wash out container and use it for other purposes. 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. Observe all warnings and precautions listed for the product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation Data:

Normal work area ventilation

Personal Respirators (NIOSH Approved):

N/A

Skin Protection:

Wear gloves, lab coat, apron or coveralls as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and / or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

For All Components Unless Otherwise Indicated

Relative Vapor Density (air = 1): Not available	Evaporation Rate (BuAc = 1): Not available
Specific Gravity (water = 1): 1	Freezing/Melting Point: 0°C
Solubility in Water: Soluble in water	Boiling Point: 100°C
Vapor Pressure, mm Hg at 20°C: Not available	pH: Not available

Odor and Appearance Information

Appearance: Clear, yellow-orange liquid.

Odor: Odorless.

10. STABILITY AND REACTIVITY

Stability:

Stable under ordinary conditions of usage and storage.

Material Safety Data Sheet

Incompatibility (Materials to Avoid):

For Potassium Dichromate: Reducing agents, acetone plus sulfuric acid, boron plus silicon, ethylene glycol, iron, hydrazine and hydroxylamine. Any combustible, organic or other readily oxidizable material (paper, wood, sulfur, aluminum or plastics).

For Perchloric Acid: Acids, Acetic Anhydride, Alcohols, Aniline and Formaldehyde, Antimony III Compounds, Bismuth, Cellulose, Charcoal, Dibutyl Sulfoxide, Diethyl Ether, Dimethyl Sulfoxide, Fluorine, Glycerin and Lead Oxide, Glycol Ethers, Glycols, Hydriodic Acid, Hydrogen, Hypophosphite, Ketones, Methyl Alcohol, Nitrogen Iodide, Nitrosophenol, Organic Materials, Paper, Phosphorous Pentoxide, Phosphorous Pentoxide and Chloroform, Sodium Iodide, Steel, Sulfoxides, Sulfur Trioxide, Wood. May react violently or explosively with many of these compounds.

Hazardous Decomposition Products:

Burning may produce chrome oxides, hydrogen and sulfur oxides.

Hazardous Polymerization

Will not occur.

Conditions to Avoid:

Heat and incompatibles.

11. TOXICOLOGICAL INFORMATION

Toxicity Data:

For Potassium Dichromate: Investigated as tumorigen, mutagen, and reproductive effector.

For Perchloric Acid: Oral Rat LD50: 1100 mg/kg

Chemical name	CAS #	% W/V	NTP Carcinogen		IARC	OSHA
			Known	Anticipated		
Potassium Dichromate	7778-50-9	0.8%	Yes	No	1	
Perchloric Acid	7601-90-3	0.01%	No	No	None	
Water	7732-18-5	99.99%	No	No	None	

12. ECOLOGICAL INFORMATION

Environmental Fate:

For Chromium: When released into the soil, this material may leach into the groundwater. When released into water, this material is not expected to evaporate significantly. This material may bioaccumulate to some extent. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.

Environmental Toxicity:

No information found.

13. DISPOSAL CONSIDERATIONS

Liquid spills can be wiped up with paper and disposed as house hold garbage

14. TRANSPORTATION INFORMATION

Due to the dilution of the substances in **water**(>99% of solution) the solution is not classified as dangerous goods. Therefore the classes 6.1 and 8 for the substances in pure form are not applicable for this solution.

Code: 3201-002	Doc. no.: 251	Page 4 of 5	Ver: 4.0
----------------	---------------	-------------	----------

Material Safety Data Sheet

15. REGULATORY INFORMATION

Chemical Inventory Status:

						Canada		
Ingredient	TSCA	EC	Japan	Australia	Korea	DSL	NDSL	Philippines
Potassium Dichromate (7778-50-9)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Perchloric Acid (7601-9-3)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

US Regulations:

	SARA 302		SARA 313				
Ingredient	RQ	TPQ	List	Chem. Catag.	CERCLA	RCRA 261.33	TSCA 8(d)
Potassium Dichromate (7778-50-9)	No	No	No	Chromium com	10	No	No
Perchloric Acid (7601-9-3)	No	No	No	No	No	No	No
Water (7732-18-5)	No	No	No	No	No	No	No

16. OTHER INFORMATION

NFPA Ratings: Health: 3; Flammability: 0; Reactivity: 1; Other: Oxidizer

J.T. Baker/Avantor Ratings: Health: 4- Extreme (Cancer causing); Flammability: 0 – None; Reactivity: 3 – Severe (Oxidizer); Contact: 3 – Severe (Corrosive)

Above information is applicable for substances in pure form.

Product Use:

Calibration Standard

DISCLAIMER

The information, data and recommendations contained herein are based upon information believed by ELITechGroup B.V., after reasonable investigation and research, to be accurate; however, ELITechGroup B.V. does not warrant the accuracy of this information. All materials and mixtures may present unknown hazards and should be used with caution. When necessary or appropriate, independent opinions regarding the risk of handling or exposure should be obtained from trained professionals. ELITechGroup B.V. disclaims any warranty against patent infringement and the implied warranties of merchantability and fitness for a particular purpose. Customer's sole and exclusive remedy shall be replacement of the product or return of the product and refund of the purchase price, at ELITechGroup B.V. option. In no case shall ELITechGroup B.V. be liable for incidental or consequential damages, including lost profits.