

1. Identification

Product identifier	POTASSIUM DICHROMATE, 0.5 N, SOLUTION	
Other means of identification		
Product code	3571	
Recommended use	professional, scientific and technical activities: other professional, scientific and technical activities	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell, OH 43065 United States	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, inhalation	Category 2
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Germ cell mutagenicity	Category 1
	Carcinogenicity	Category 1A
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 1 (blood system, central nervous system, heart, kidney, liver, respiratory system)
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		



Signal word Danger

Hazard statement Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs (blood system, central nervous system, heart, kidney, liver, respiratory system). Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response

IF ON SKIN: Wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If skin irritation or rash occurs: Get medical advice/attention. IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. Take off contaminated clothing and wash before reuse.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
WATER		7732-18-5	97.55
POTASSIUM DICHROMATE	POTASSIUM BICHROMATE	7778-50-9	2.45

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Behavioral changes. Decrease in motor functions. Edema. Narcosis. Jaundice. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapors or spray mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
POTASSIUM DICHROMATE (CAS 7778-50-9)	TWA	0.005 mg/m3

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
POTASSIUM DICHROMATE (CAS 7778-50-9)	Ceiling	0.1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
POTASSIUM DICHROMATE (CAS 7778-50-9)	TWA	0.05 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
POTASSIUM DICHROMATE (CAS 7778-50-9)	TWA	0.001 mg/m3

Biological limit values

US. ACGIH. BEIs. Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
POTASSIUM DICHROMATE (CAS 7778-50-9)	25 µg/l	Total chromium	Urine	*
	10 µg/l	Total chromium	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	No personal respiratory protective equipment normally required. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Clear.
Physical state	Liquid.
Form	Liquid.
Color	Red-orange.
Odor	Odorless.
Odor threshold	Not available.
pH	3.6 - 4.0
Melting point/freezing point	32 °F (0 °C) estimated
Initial boiling point and boiling range	212 °F (100 °C) estimated
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.04 g/cm ³ estimated
Percent volatile	97.55 % estimated
Specific gravity	1.04 estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	Contact with incompatible materials.
Incompatible materials	This product may react with strong reducing agents.
Hazardous decomposition products	Chromium oxides

11. Toxicological information

Information on likely routes of exposure

Inhalation	Fatal if inhaled. May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Behavioral changes. Decrease in motor functions. Edema. Narcosis. Jaundice. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity	Fatal if inhaled. May cause an allergic skin reaction.
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Product	Species	Test Results
POTASSIUM DICHROMATE, 0.5 N, SOLUTION		
Acute		
Dermal		
LD50	New Zealand rabbit	14883 mg/kg
	Rabbit	16449 mg/kg estimated
Inhalation		
LC50	Fischer 344 rat	1.2 mg/l, 4 Hours estimated
		1.0667 mg/l
	Rat	1.2 mg/l, 4 Hours estimated
Oral		
LD50	Mouse	6333 mg/kg
	Rat	694 mg/kg estimated
Components	Species	Test Results

POTASSIUM DICHROMATE (CAS 7778-50-9)

Acute

Dermal

LD50	New Zealand rabbit	403 - 490 mg/kg
	Rabbit	403 mg/kg

Inhalation

LC50	Fischer 344 rat	0.035 mg/l, 4 Hours
		0.029 mg/l, 4 Hours
	Rat	0.029 mg/l, 4 Hours

Oral

LD50	Mouse	190 mg/kg
	Rat	17 - 26 mg/kg

Other

LD50	Mouse	37 mg/kg
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* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
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Serious eye damage/eye irritation	Causes serious eye irritation.
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Respiratory or skin sensitization

Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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Skin sensitization	May cause an allergic skin reaction.
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Material name: POTASSIUM DICHROMATE, 0.5 N, SOLUTION

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Version #: 01

Revision date: Issue date: March-03-2016

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Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

POTASSIUM DICHROMATE (CAS 7778-50-9) 1 Carcinogenic to humans.

US OSHA Hazard Categories (1)

Not regulated.

US OSHA Hazard Categories (10)

Not regulated.

US OSHA Hazard Categories (2)

Not regulated.

US OSHA Hazard Categories (3)

Not regulated.

US OSHA Hazard Categories (4)

Not regulated.

US OSHA Hazard Categories (5)

Not regulated.

US OSHA Hazard Categories (6)

Not regulated.

US OSHA Hazard Categories (7)

Not regulated.

US OSHA Hazard Categories (8)

Not regulated.

US OSHA Hazard Categories (9)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

POTASSIUM DICHROMATE (CAS 7778-50-9) Known To Be Human Carcinogen.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity - single exposure Causes damage to organs (blood system, central nervous system, heart, kidney, liver, respiratory system).

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
POTASSIUM DICHROMATE, 0.5 N, SOLUTION			
Aquatic			
Crustacea	EC50	Daphnia	142.8034 mg/l, 48 hours estimated
Fish	LC50	Fish	3397.5798 mg/l, 96 hours estimated
Components		Species	Test Results
POTASSIUM DICHROMATE (CAS 7778-50-9)			
Aquatic			
Crustacea	EC50	Water flea (<i>Moina australiensis</i>)	0.0184 - 0.0258 mg/l, 48 hours
Fish	LC50	Atlantic silverside (<i>Menidia menidia</i>)	10.497 - 14.995 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	
POTASSIUM DICHROMATE (CAS 7778-50-9)	0.1 % Annual Export Notification required.
CERCLA Hazardous Substance List (40 CFR 302.4)	
POTASSIUM DICHROMATE (CAS 7778-50-9)	Listed.
SARA 304 Emergency release notification	
Not regulated.	
US OSHA Hazard Categories (1)	
Not regulated.	
US OSHA Hazard Categories (2)	
Not regulated.	
US OSHA Hazard Categories (3)	
Not regulated.	
US OSHA Hazard Categories (4)	
Not regulated.	
US OSHA Hazard Categories (5)	
Not regulated.	
US OSHA Hazard Categories (6)	
Not regulated.	
US OSHA Hazard Categories (7)	
Not regulated.	
US OSHA Hazard Categories (8)	
Not regulated.	
US OSHA Hazard Categories (9)	
Not regulated.	
US OSHA Hazard Categories (10)	
Not regulated.	

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 No
Hazardous chemical

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
POTASSIUM DICHROMATE	7778-50-9	2.45

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

POTASSIUM DICHROMATE (CAS 7778-50-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

POTASSIUM DICHROMATE (CAS 7778-50-9)

US. Massachusetts RTK - Substance List

POTASSIUM DICHROMATE (CAS 7778-50-9)

US. New Jersey Worker and Community Right-to-Know Act

POTASSIUM DICHROMATE (CAS 7778-50-9)

US. Pennsylvania Worker and Community Right-to-Know Law

POTASSIUM DICHROMATE (CAS 7778-50-9)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

POTASSIUM DICHROMATE (CAS 7778-50-9) Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Developmental toxin

POTASSIUM DICHROMATE (CAS 7778-50-9) Listed: December 19, 2008

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

POTASSIUM DICHROMATE (CAS 7778-50-9) Listed: December 19, 2008

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

POTASSIUM DICHROMATE (CAS 7778-50-9) Listed: December 19, 2008

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	March-03-2016
Version #	01
Disclaimer	GFS Chemicals, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.
Revision information	Composition / Information on Ingredients: Ingredients Physical & Chemical Properties: Multiple Properties