

SECTION 1: Identification

1.1. Identification

Trade name : Modified Chromic Acid Solution
Product code : 38016SS12A

1.2. Recommended use and restrictions on use

Recommended use : For use with Modified Grocott's Methenamine Silver Stain Kit
Restrictions on use : Other uses

1.3. Supplier

Leica Biosystems Richmond, Inc
5205 Route 12
Richmond, IL 60071 - USA
T 844-534-2262
LBSNA-LBS-QA@leicabiosystems.com - leicabiosystems.com

1.4. Emergency telephone number

Organization/Company	Emergency number
ChemTrec	800-424-9300
International Calls (call collect)	+1 703-527-3887
Australia 24 Hr Poisons Information Centre	13 11 26

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral) Category 4	Harmful if swallowed
Acute toxicity (dermal) Category 3	Toxic in contact with skin
Acute toxicity (inhalation) Category 2	Fatal if inhaled
Skin corrosion/irritation Category 1A	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	Causes serious eye damage
Respiratory sensitization, Category 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1	May cause an allergic skin reaction
Germ cell mutagenicity Category 1B	May cause genetic defects
Carcinogenicity Category 1A	May cause cancer
Specific target organ toxicity (repeated exposure) Category 1	Causes damage to organs
Hazardous to the aquatic environment - Acute Hazard Category 1	Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 2	Toxic to aquatic life with long lasting effects

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

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Hazard statements (GHS-US)	: Harmful if swallowed Toxic in contact with skin Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage Fatal if inhaled May cause allergy or asthma symptoms or breathing difficulties if inhaled May cause genetic defects May cause cancer Causes damage to organs Very toxic to aquatic life Toxic to aquatic life with long lasting effects
Precautionary statements (GHS-US)	: Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not breathe mist/vapours/spray. Avoid breathing mists/vapors/spray Wash thoroughly after handling Do not eat, drink or smoke when using this product Use only outdoors or in a well-ventilated area Contaminated work clothing must not be allowed out of the workplace Avoid release to the environment Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell If swallowed: rinse mouth. Do NOT induce vomiting IF ON SKIN: Wash with plenty of soap and water If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower If inhaled: Remove person to fresh air and keep comfortable for breathing If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If exposed or concerned: Get medical advice/attention Immediately call a poison center or doctor/physician Call a POISON CENTER or doctor/physician if you feel unwell Get medical advice/attention if you feel unwell Rinse mouth If skin irritation or rash occurs: Get medical advice/attention Take off immediately all contaminated clothing and wash it before reuse Wash contaminated clothing before reuse Collect spillage Store in a well-ventilated place. Keep container tightly closed Store locked up Dispose of contents/container in accordance with all local/regional/national/international regulations

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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Name	Product identifier	%	GHS-US classification
Sulfuric Acid	(CAS No) 7664-93-9	< 15	Skin Corr. 1A, H314 Carc. 1A, H350
Chromium Trioxide	(CAS No) 1333-82-0	< 5	Ox. Sol. 1, H271 Acute Tox. 2 (Oral), H300 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1A, H314 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Potassium Dichromate	(CAS No) 7778-50-9	< 5	Ox. Sol. 2, H272 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1B, H314 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 1B, H340 Carc. 1B, H350 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Serious damage to eyes.
- Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sulfuric Acid (7664-93-9)		
ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³
ACGIH	Remark (ACGIH)	Pulm func
OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³

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Chromium Trioxide (1333-82-0)		
ACGIH	ACGIH TWA (mg/m ³)	0.05 mg/m ³ (Chromium, water-soluble inorgan. Cr VI compounds; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

Potassium Dichromate (7778-50-9)		
ACGIH	ACGIH TWA (mg/m ³)	0.05 mg/m ³ (Chromium, water-soluble inorgan. Cr VI compounds; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : Colorless
Odor : Sulfur
Odor threshold : No data available
pH : ≤ 1
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : No data available
Auto-ignition temperature : No data available

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Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Toxic in contact with skin. Inhalation: Fatal if inhaled.

Modified Chromic Acid Solution	
ATE US (oral)	532.71 mg/kg body weight
ATE US (dermal)	967.904 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.5 mg/l/4h
ATE US (dust, mist)	0.05 mg/l/4h

Chromium Trioxide (1333-82-0)	
LD50 oral rat	50 mg/kg (Rat)
LD50 dermal rat	55 mg/kg (Rat)
LD50 dermal rabbit	57 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.217 mg/l/4h (Rat)
ATE US (oral)	50 mg/kg body weight
ATE US (dermal)	55 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.217 mg/l/4h
ATE US (dust, mist)	0.217 mg/l/4h

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Potassium Dichromate (7778-50-9)	
LD50 oral rat	57 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; 168 mg/kg bodyweight; Rat; Equivalent or similar to OECD 401; Experimental value; 90.5 mg/kg bodyweight; Rat)
LD50 dermal rabbit	403 - 490 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.094 mg/l/4h (Rat)
ATE US (oral)	57 mg/kg body weight
ATE US (dermal)	403 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.094 mg/l/4h
ATE US (dust, mist)	0.094 mg/l/4h

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: ≤ 1
Serious eye damage/irritation	: Causes serious eye damage. pH: ≤ 1
Respiratory or skin sensitization	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: May cause genetic defects .
Carcinogenicity	: May cause cancer .

Sulfuric Acid (7664-93-9)	
National Toxicity Program (NTP) Status	2 - Known Human Carcinogens

Chromium Trioxide (1333-82-0)	
IARC group	3 - Not classifiable

Potassium Dichromate (7778-50-9)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Causes damage to organs .
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	: Burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

Chromium Trioxide (1333-82-0)	
LC50 fish 1	40 mg/l (LC50; 96 h; Colisa fasciatus)
EC50 Daphnia 2	0.01 - 2.5 mg/l (LC50; 96 h)

Potassium Dichromate (7778-50-9)	
EC50 Daphnia 1	0.035 mg/l (EC50; 48 h; Daphnia magna)

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Potassium Dichromate (7778-50-9)	
LC50 fish 2	63.6 mg/l (LC50; 96 h; Oncorhynchus mykiss)
EC50 Daphnia 2	7.8 mg/l (LC50; 48 h; Artemia salina)
Threshold limit algae 1	0.233 mg/l (ErC50; 72 h; Selenastrum capricornutum)

12.2. Persistence and degradability

Chromium Trioxide (1333-82-0)	
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Potassium Dichromate (7778-50-9)	
Persistence and degradability	Biodegradability: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

Chromium Trioxide (1333-82-0)	
BCF fish 1	4.6 - 72 (BCF)
BCF fish 2	16 (BCF)
BCF other aquatic organisms 1	192 (BCF)
BCF other aquatic organisms 2	125 (BCF)
Bioaccumulative potential	Not bioaccumulative.

Potassium Dichromate (7778-50-9)	
BCF fish 1	17.4 (BCF)
BCF other aquatic organisms 1	32 (BCF; 48 h; Mytilidae)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1755 Chromic acid solution, 8, II

UN-No.(DOT) : UN1755

Proper Shipping Name (DOT) : Chromic acid solution

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

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Packing group (DOT) : II - Medium Danger
Hazard labels (DOT) : 8 - Corrosive



DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

Transport by sea

Transport document description (IMDG) : UN 1755 CHROMIC ACID SOLUTION, 8, II
UN-No. (IMDG) : 1755
Proper Shipping Name (IMDG) : CHROMIC ACID SOLUTION
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : II - substances presenting medium danger
Limited quantities (IMDG) : 1 L

Marine pollutant : Yes



Additional information : Shipments under 5 L are not considered Marine Pollutants

Air transport

Transport document description (IATA) : UN 1755 Chromic acid solution, 8, II
UN-No. (IATA) : 1755
Proper Shipping Name (IATA) : Chromic acid solution
Class (IATA) : 8 - Corrosives
Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

Chromium Trioxide	CAS No 1333-82-0	< 5%
Potassium Dichromate	CAS No 7778-50-9	< 5%

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Sulfuric Acid (7664-93-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	1000 lb
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SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb
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Chromium Trioxide (1333-82-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag	R - R - indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
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Potassium Dichromate (7778-50-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

EPA TSCA Regulatory Flag	R - R - indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
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CERCLA RQ	10 lb
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15.2. International regulations

CANADA

Sulfuric Acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List)

Chromium Trioxide (1333-82-0)

Listed on the Canadian DSL (Domestic Substances List)

Potassium Dichromate (7778-50-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Sulfuric Acid (7664-93-9)

Listed as carcinogen on NTP (National Toxicology Program)

15.3. US State regulations

Sulfuric Acid (7664-93-9)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Chromium Trioxide (1333-82-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

Potassium Dichromate (7778-50-9)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

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SECTION 16: Other information

Full text of H-phrases:

H271	May cause fire or explosion; strong oxidizer
H272	May intensify fire; oxidizer
H300	Fatal if swallowed
H301	Toxic if swallowed
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H330	Fatal if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H340	May cause genetic defects
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS US Leica

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product