



S0411-09 Citrate Buffer/S0412 Fetal Cell Stain Kit  
S0411-06 Citrate Buffer Solution 950 ml  
SDS Preparation Date (mm/dd/yyyy): 08/05/2015

## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **S0411-09 Citrate Buffer/S0412 Fetal Cell Stain Kit**  
**S0411-06 Citrate Buffer Solution 950 ml**

**Product Code(s)** : None reported.

**Recommended use of the chemical and restrictions on use**

: Reagent  
Use pattern: Professional Use Only  
Recommended restrictions: None known.

**Chemical family** : Mixture

**Name, address, and telephone number of the supplier:**

**Simmler, Inc.**

4564 North Square Drive  
P.O. Box 350  
High Ridge, MO, USA  
63049

Supplier's Telephone # : 636-376-8347

**24 Hr. Emergency Tel #** : 800-325-0786

**Name, address, and telephone number of the manufacturer:**

Refer to supplier

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Clear odorless liquid.

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

**Label elements**

*Signal Word*

Not required

*Hazard statement(s)*

Not applicable.

*Precautionary statement(s)*

Not applicable.

**Other hazards**



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Other hazards which do not result in classification:

Ingestion may cause irritation of the mouth, throat and stomach. Contact with eyes may cause irritation. May cause skin irritation.

Environmental precautions:

Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration</u>
Citric acid	2-Hydroxypropanetricarboxylic acid	77-92-9	<2
Sodium phosphate, dibasic	Disodium phosphate	7558-79-4	<1.0
Phenylmercuric acetate	Acetoxyphenyl mercury	62-38-4	<0.1

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Get medical attention.
- Inhalation* : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact* : Wash affected areas with soap and water. Take off contaminated clothing and wash before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Flush with large amounts of water for 15 minutes. Remove contact lenses if present and easy to do. If irritation or symptoms develop, seek medical attention.

#### Most important symptoms and effects, both acute and delayed

- : Direct skin contact may cause temporary redness. Direct eye contact may cause temporary redness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause irritation to the nose, throat and upper respiratory tract.

#### Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

- Suitable extinguishing media* : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.
- Unsuitable extinguishing media* : Do not use a solid water stream as it may scatter and spread fire.

#### Special hazards arising from the substance or mixture / Conditions of flammability

:

Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.



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### Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

### Hazardous combustion products

:  
Carbon dioxide and carbon monoxide. Mercury.

### Special protective equipment and precautions for firefighters

#### Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

#### Special fire-fighting procedures

:  
Evacuate personnel to safe areas. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Dike for water control. Avoid release to the environment.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

: All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

### Environmental precautions

: Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

### Methods and material for containment and cleaning up

: Ventilate the area. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Contact the proper local authorities.

### Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).  
US CERCLA Reportable quantity (RQ): Sodium Phosphate Dibasic(5000 lbs / 2270 kg); Phenylmercuric Acetate (100 lbs / 45.4 kg)

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

: Use in well ventilated area. Wear suitable protective equipment. Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Keep away from heat and flame. Label containers appropriately. Wash thoroughly after handling. Keep containers closed when not in use.

### Conditions for safe storage

: Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

### Incompatible materials

: None known.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION



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<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Citric acid	N/Av	N/Av	N/Av	N/Av
Sodium phosphate, dibasic	N/Av	N/Av	N/Av	N/Av
Phenylmercuric acetate	N/Av	N/Av	N/Av	N/Av

### Exposure controls

#### Ventilation and engineering measures

: Provide exhaust ventilation or other engineering controls to keep the airborne concentration of vapours below their respective threshold limit value.

#### Respiratory protection

: Respiratory protection is required if the concentrations exceed the TLV. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Seek advice from respiratory protection specialists.

#### Skin protection

: Wear protective gloves. Advice should be sought from glove suppliers.

#### Eye / face protection

: Safety goggles or glasses as appropriate for the job.

#### Other protective equipment

: Wear suitable protective clothing.

#### General hygiene considerations

: Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : Clear liquid.  
**Odour** : Odorless.  
**Odour threshold** : No information available.  
**pH** : 3.1-3.3  
**Melting/Freezing point** : Not available.  
**Initial boiling point and boiling range** : Not available.  
**Flash point** : Not applicable.  
**Flashpoint (Method)** : Not applicable.  
**Evaporation rate (BuAe = 1)** : No information available.  
**Flammability (solid, gas)** : Not applicable.  
**Lower flammable limit (% by vol.)** : N/Ap  
**Upper flammable limit (% by vol.)** : N/Ap  
**Oxidizing properties** : None known.  
**Explosive properties** : Not explosive  
**Vapour pressure** : No information available.  
**Vapour density** : No information available.  
**Relative density / Specific gravity** : Not available.  
**Solubility in water** : Soluble  
**Other solubility(ies)** : No information available.

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**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**

: Not available.

**Auto-ignition temperature** : No information available.

**Decomposition temperature** : No information available.

**Viscosity** : Not available.

**Volatiles (% by weight)** : No information available.

**Volatile organic Compounds (VOC's)**

: No information available.

**Absolute pressure of container**

: N/Ap

**Flame projection length** : N/Ap

**Other physical/chemical comments**

: None reported by the manufacturer.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive.

**Chemical stability** : Stable under normal conditions.

**Possibility of hazardous reactions**

: Hazardous polymerization does not occur.

**Conditions to avoid** : Avoid contact with skin and eyes. Do not ingest. Avoid heat and open flame.

**Incompatible materials** : None known.

**Hazardous decomposition products**

: None known, refer to hazardous combustion products in Section 5.

### SECTION 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**

**Routes of entry inhalation** : YES

**Routes of entry skin & eye** : YES

**Routes of entry Ingestion** : YES

**Routes of exposure skin absorption**

: NO

**Potential Health Effects:**

**Signs and symptoms of short-term (acute) exposure**

*Sign and symptoms Inhalation*

: May cause irritation to the nose, throat and upper respiratory tract.

*Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

*Sign and symptoms skin*

: May cause mild skin irritation on prolonged contact.

*Sign and symptoms eyes*

: Direct eye contact may cause slight redness.

**Potential Chronic Health Effects**

: Prolonged exposure can cause central nervous system effects. Prolonged exposure may cause adverse effects on the liver, kidneys and thyroid.

**Mutagenicity** : Not expected to be mutagenic.

**Carcinogenicity** : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.



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### Reproductive effects & Teratogenicity

: Contains a chemical or chemicals which can cause birth defects or other reproductive harm. Contains Phenylmercuric Acetate

### Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

### Specific target organ effects

: The substance or mixture is not classified as specific target organ toxicant, single exposure.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Medical conditions aggravated by overexposure

: None expected, when used as intended.

### Synergistic materials

: No information available.

### Toxicological data

: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Citric acid	N/Av	3000 mg/kg	> 2000 mg/kg (No mortality)
Sodium phosphate, dibasic	N/Av	>2000 mg/kg (No mortality)	>2000 mg/kg (No mortality)
Phenylmercuric acetate	N/Av	41 mg/kg	N/Av

### Other important toxicological hazards

: To the best of our knowledge, the toxicological properties of this material have not been thoroughly investigated.

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

: Contains material that may be harmful in the environment.  
The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

### Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Citric acid	77-92-9	1516 mg/L (Bluegill sunfish)	N/Av	None.
Sodium phosphate, dibasic	7558-79-4	>100 mg/L (Rainbow trout)	N/Av	None.
Phenylmercuric acetate	62-38-4	0.037 mg/L (Mosquito fish)	N/Av	10



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<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Citric acid	77-92-9	1535 mg/L/24hr (Daphnia magna)	N/Av	None.
Sodium phosphate, dibasic	7558-79-4	>100 mg/L (Daphnia magna)	N/Av	None.
Phenylmercuric acetate	62-38-4	0.58 mg/L (Scyulla serrata)	N/Av	1

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Citric acid	77-92-9	> 18 000 mg/L (Green algae) (Read-across)	N/Av	None.
Sodium phosphate, dibasic	7558-79-4	>100mg/L (Green algae)	>100mg/L (Green algae)	None.
Phenylmercuric acetate	62-38-4	N/Av	N/Av	None.

**Persistence and degradability**

: No data is available on the product itself.

**Bioaccumulation potential**

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/ater (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Citric acid (CAS 77-92-9)	- 1.72	3
Sodium phosphate, dibasic (CAS 7558-79-4)	N/Av	N/Av
Phenylmercuric acetate (CAS 62-38-4)	N/Av	N/Av

**Mobility in soil** : No data is available on the product itself.

**Other Adverse Environmental effects**

: No data is available on the product itself.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Handling for Disposal**

: Handle waste according to recommendations in Section 7. Empty containers may contain hazardous residues.

**Methods of Disposal**

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA**

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

**SECTION 14. TRANSPORTATION INFORMATION**

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	None.	Not regulated.	not regulated	none	



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<b>TDG Additional information</b>	None.				
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
IMDG	None.	Not regulated.	not regulated	none	
<b>IMDG Additional information</b>	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
<b>ICAO/IATA Additional information</b>	None.				

**Special precautions for user** : Appropriate advice on safety must accompany the package.

**Environmental hazards** : See Section 12 for more environmental information.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Citric acid	77-92-9	Yes	None.	None.	No	N/Ap
Sodium phosphate, dibasic	7558-79-4	Yes	5000 lb/ 2270 kg	N/Av	No	N/Ap
Phenylmercuric acetate	62-38-4	Yes	100 lb/ 45.4 kg	500 lb lower TPQ; 10000 lb upper TPQ	No	N/Ap

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: None.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:





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Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Citric acid	77-92-9	No	N/Ap	No	No	No	No	No	No
Sodium phosphate, dibasic	7558-79-4	No	N/Ap	Yes	Yes	No	Yes	Yes	No
Phenylmercuric acetate	62-38-4	No	N/Ap	No	Yes	No	Yes	Yes	Yes

### Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Citric acid	77-92-9	201-069-1	Present	Present	(2)-1318	KE-20831	Present	HSR003138
Sodium phosphate, dibasic	7558-79-4	231-448-7	Present	Present	(1)-497	KE-12344	Present	HSR003172
Phenylmercuric acetate	62-38-4	200-532-5	Present	Present	(9)-1255	98-4-12; KE-05-1008	Present	HSR004633

## SECTION 16. OTHER INFORMATION

### Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CNS: Central Nervous System
- DOT: Department of Transportation
- EPA: Environmental Protection Agency
- EINECS: European Inventory of Existing Commercial chemical Substances
- IARC: International Agency for Research on Cancer
- IBC: Intermediate Bulk Container
- IMDG: International Maritime Dangerous Goods
- Inh: Inhalation
- LC: Lethal Concentration
- LD: Lethal Dose
- N/Ap: Not Applicable
- N/Av: Not Available
- NIOSH: National Institute of Occupational Safety and Health
- NTP: National Toxicology Program
- OSHA: Occupational Safety and Health Administration
- PEL: Permissible exposure limit
- RCRA: Resource Conservation and Recovery Act
- RTECS: Registry of Toxic Effects of Chemical Substances
- SARA: Superfund Amendments and Reauthorization Act
- STEL: Short Term Exposure Limit
- TDG: Canadian Transportation of Dangerous Goods Act & Regulations



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TLV: Threshold Limit Values  
 TWA: Time Weighted Average  
 WHMIS: Workplace Hazardous Materials Identification System

**References**

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2015.
- 2. International Agency for Research on Cancer Monographs, searched 2015
- 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
- 4. Material Safety Data Sheets from manufacturer.
- 5. US EPA Title III List of Lists - 2015.
- 6. California Proposition 65 List - 2015

**Preparation Date (mm/dd/yyyy)**

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**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b>          Simmler, Inc.          4564 North Square Drive          PO Box 350          High Ridge, MO 63049          363-376-8347</p>	
<p><b><u>Prepared by:</u></b>          ICC The Compliance Center Inc.          Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada)  <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

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