



Simmler, Inc.
2115 59th St.
St. Louis MO 63110

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

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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.
2115 59th St.
St. Louis, MO, USA
63110

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

Refer to supplier

Supplier's Telephone # : 636-376-8347

24 Hr. Emergency Tel # : 636-326-8207

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

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.



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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.

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.



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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

Exposure Limits:

| <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 |
| <u>Exposure controls</u> | | | | |

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.



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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. | |
| 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 |



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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.

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>LC₅₀(4hr)</u> <u>inh, rat</u> | <u>LD₅₀</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.

Ecotoxicity data: See the following tables for individual ingredient 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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| | | | | | |
|---|-------|----------------|---------------|------|--|
| TDG Additional information | None. | | | | |
| 49CFR/DOT | None. | Not regulated. | not regulated | none | |
| 49CFR/DOT Additional information | None. | | | | |
| IMDG | None. | Not regulated. | not regulated | none | |
| IMDG Additional information | None. | | | | |
| ICAO/IATA | None. | Not regulated. | not regulated | none | |
| ICAO/IATA Additional information | 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:

| <u>Ingredients</u> | 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 |



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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
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, CCIInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.US EPA Title III List of Lists - 2015.
5. California Proposition 65 List - 2015

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Other special considerations for handling: Provide adequate information, instruction and training for operators.

| | |
|--|--|
| <p><u>Prepared for:</u> Simmler, Inc. 2115 59th St. St. Louis, MO 63110 636-376-8347</p> |  |
| <p><u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p> |  |

DISCLAIMER

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