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1. Identification of the substance/preparation and the company/undertaking

GHS product identifier

Product name: Potassium Citrate and Citric Acid Oral Solution USP

Other mean of identification

| Product code(s): | 0121-0676-16 |
|------------------|---------------------|
| UN-Number: | NA |
| Synonyms: | Compare to Cytra-K® |

Recommended use of the chemical and restrictions on use

| Recommended use: | Pharmaceutical product used as an alkalinizing agent in those conditions where long-term maintenance of alkaline urine is desirable. |
|-----------------------|--|
| Uses advised against: | Do not use except as prescribed. |

Supplier address/information

Pharmaceutical Associates, Inc. 201 Delaware Street Greenville, SC 29605 (864) 277 -7282

Emergency telephone number: CHEMTREC 800.424.9300

2. Hazards Identification

| Classification | This product is a mixture and is a pharmaceutical product. It is considered non-Hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200). |
|---|--|
| Chemical family: | Mixture |
| Statement of Hazard: Short term: Long term: | Large doses may cause hyperkalemia and alkalosis, especially in the presence of renal disease. Not available |
| Additional Hazard Information: | Overdosage rarely causes serious hyperkalemia; however, if excretory mechanisms are impaired, hyperkalemia can result. |
| Known Clinical Effects: | Therapeutic use of this substance is usually well tolerated. |
| EU Indication of danger: | Not classified. |

Emergency overview

Seek medical attention in case of accidental exposure or overdose. The product is generally safe when used as prescribed.

Note: This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the active substance or its intermediates regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential of exposure in your workplace.



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| Precautionary state | ments | | | |
| General advice: | Seek medical attention in case of | accidental exposure or ove | erdose. | |
| Eyes: | Avoid contact with eyes. | | | |
| Skin Contact: | Avoid skin contact. | | | |
| Inhalation: | Not intended for inhalation. | | | |
| Ingestion: | Generally safe at recommended of | doses. In case of overdose, | seek medical attention in | mmediately. |
| Storage: | There are no special storage con- specified on the label. | ditions for safety. For produ | ict integrity, store under c | onditions |
| Disposal: | Dispose of in accordance with ap | plicable laws and regulatior | IS. | |

3. Composition/Information on ingredients

| Chemical name | CAS-No | mg/5 mL | Trade Secret |
|-----------------------|------------|--------------|--------------|
| Potassium Citrate | 6100-05-6 | 1100 mg/5 mL | |
| Citric Acid Anhydrous | 77-92-9 | 334 mg/5 mL | |
| Polyethylene Glycol | 25322-68-3 | | Х |
| Propylene Glycol | 57-55-6 | | Х |
| Sodium Benzoate | 532-32-1 | | Х |
| Sorbitol Solution | Mixture | | Х |
| FD&C Red No. 40 | 25956-17-6 | | Х |
| Berry Flavor | Mixture | | Х |

4. First aid measures

Description of necessary first-aid measures

Eye contact:

Flush with running water for 15 minutes holding eyelids open. Contact medical personnel if irritation persists.

Skin contact: Wash contaminated area thoroughly. If irritation persists, contact medical personnel.

Inhalation:

Remove to fresh air and contact medical personnel.



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Ingestion:

Overdosage or accidental ingestion - Contact poison control or medical personnel.

Most important symptoms/effects, acute and delayed

Overdosage rarely causes serious hyperkalemia; however, if excretory mechanisms are impaired, hyperkalemia can result. Hyperkalemia, when detected, must be treated immediately because lethal levels may be reached in a few hours.

Indication of immediate medical attention and special treatment needed, if necessary NA

Notes to Physician: NA

5. Fire-fighting measures

| Suitable extinguishing media: | Use carbon dioxide, dry chemical or water spray. |
|---|--|
| Specific hazards arising from the chemical | May burn emitting oxides of chlorine and nitrogen. |
| Explosion data: | Not applicable |
| Protective equipment and precautions for firefighters | During all firefighting activities, wear appropriate protective equipment, including self-contained breathing apparatus. |

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Environmental precautions

Personnel involved in clean-up should wear appropriate personal protective equipment (See Section 8). Minimize exposure.

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Methods and materials for containment and cleaning up

- Methods for containment:
- Methods for cleaning up:

Isolate area around spill as specified by site procedures. Absorb the liquid with suitable material. Dispose of spill material in accordance with applicable federal, state or local regulations.

7. Handling and storage

Precautions for safe handling Handling:

No special handling required for hazard control under conditions of normal product use.



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| Condition | s for safe storage | , including any incompa | itibilities | | |
| Storage: | | | | uired for hazard control. For p ge recommendations on the o nd insert. | |
| Incompatik | ole products: | | As a precautionary mea | asure, keep away from strong | g oxidizers. |

8. Exposure controls/personal protection

Control parameters

Exposure guidelines: The exposure guidelines listed below are for the individual components and not the product itself.

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-----------------------|---------------------------------|------------------------------------|---------------|
| Potassium Citrate | Not Available | Not Available | Not Available |
| Citric Acid Anhydrous | 10 mg/m ³ TWA | 15 mg/m ³ TWA | Not Available |
| Polyethylene Glycol | 10 mg/m ³ TWA (WEEL) | Not Available | Not Available |
| Propylene Glycol | Not Available | 10 mg/m ³ TWA (WEEL) | Not Available |
| Sodium Benzoate | Not Available | Not Available | Not Available |
| Sorbitol Solution | Not Available | Not Available | Not Available |
| FD&C Red No. 40 | Not Available | Not Available | Not Available |
| Berry Flavor | Not Available | Not Available | Not Available |

Appropriate engineering controls Engineering measures:

Engineering controls should be used to limit exposure.

| Individual protection measures, such as personal protective equipment | | | |
|---|---|--|--|
| Eye/face protection: | Not required under normal conditions of use. Wear safety glasses or goggles if eye contact is possible. | | |
| Skin and body protection: | Not required under normal conditions of use. Wear protective clothing when working with large quantities. | | |
| Respiratory protection: | Not required under normal use of the product. If the applicable PEL (Permissible Exposure Limit) is exceeded use an appropriate respirator. | | |
| Hygiene measures: | Wash hands thoroughly after use. | | |

9. Physical and chemical properties

Information on basic physical and chemical properties

| Physical state: | Solution |
|-----------------|------------------|
| Odor: | Berry |
| Appearance: | Clear red liquid |
| Odor threshold: | Not available |



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|--------|--|----------------|------------|--------------|
| Pro | operty | Values | Remarks/ | Method |
| рH | I | 4.9 - 5.4 | Current | USP |
| Me | elting point/range | Not applicable | | |
| Во | ling point/boiling range | Not available | | |
| Fla | ash point | Not applicable | | |
| Ev | aporation rate | Not applicable | | |
| Fla | ammability (solid, gas) | Not applicable | | |
| Fla | ammability limits in air | Not applicable | | |
| | -upper flammability limit | Not applicable | | |
| | -lower flammability limit | Not applicable | | |
| Va | por pressure | Not applicable | | |
| Va | por density | Not applicable | | |
| Sp | ecific gravity | 1.2 | Current | USP |
| Wa | ater solubility | Not applicable | | |
| So | lubility in other solvents | Not applicable | | |
| | ntition coefficient: n- tanol/water | Not applicable | | |
| Au | toignition temperature | Not applicable | | |
| De | ecomposition temperature | Not applicable | | |
| Vis | scosity | Not available | | |
| Fla | ammable properties | Not applicable | | |
| Ex | plosive properties | Not applicable | | |
| Ox | kidizing properties | Not applicable | | |

Other information

VOC content (%)

NA

10. Stability and reactivity

| Reactivity | Stable at normal conditions |
|------------------------------------|---|
| Chemical stability | Stable at normal conditions |
| Possibility of hazardous reactions | Stable at normal conditions |
| Conditions to avoid | None known |
| Incompatible materials | As a precautionary measure, keep away from strong oxidizers |



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Hazardous decomposition products None known

11. Toxicological information

Information on likely routes of exposure

Product information:

- Not Available Inhalation: •
- Eve contact: Not Available
- Skin contact: Not Available • Not Available
- Ingestion:
- LD50 oral LD50 dermal LC50 inhalation **Chemical name** Potassium Citrate Not Available Not Available Not Available Not available Citric Acid Anhydrous 5400 mg/kg Rat >2000 mg/kg Rat Polyethylene Glycol 30200 mg/kg Rat 20000 mg/kg Rabbit 13 ppm 8 hr Rat Propylene Glycol 20000 mg/kg Rat 20800 mg/kg Rabbit Not Available Sodium Benzoate 2100 mg/kg Rat Not Available Not Available Sorbitol Solution Not Available Not Available Not Available FD&C Red No.40 >10000mg/kg Rat >10000 mg/kg Rabbit Not Available Berry Flavor Not Available Not Available Not Available

Symptoms related to the physical, chemical and toxicological characteristics No data available

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization:

- No data available
- Mutagenic effects: No data available •
- Carcinogenicity: Not carcinogenetic • No data available
- Reproductive toxicity:
- STOT single exposure: No data available
- STOT repeated exposure: No data available •
- Aspiration hazard: No data available

Numerical measures of toxicity – product

No data available

12. Ecological information

Ecotoxicity:

Environmental properties for this product have not been thoroughly evaluated. Releases to the environment should be avoided.



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Persistence and Degradability No data available

Bioaccumulation No data available

Other adverse effects: No data available

The following table lists the data for the individual components, if available.

| Chemical name | Toxicity to algae | Toxicity to fish | Toxicity to micro- organisms | Daphnia Magna (water flea) |
|-----------------------|-------------------|---|---------------------------------|-------------------------------|
| Potassium Citrate | Not Available | Not Available | Not Available | Not Available |
| Citric Acid Anhydrous | Not Available | 440 mg/L 48 hr Leuciscus idus melanotus | Not Available | 1535 mg/L 24 hr. |
| Polyethylene Glycol | Not Available | >5000 mg/L 96 hr Pimephales Promelas | Not Available | Not Available |
| Propylene Glycol | Not Available | 52930 mg/L 96 hr Pimephales Promelas | Not Available | 13020 mg/L 48 hr. |
| Sodium Benzoate | Not Available | 484 mg/L 96 hr. Pimephales Promelas | Not Available | Not Available |
| Sorbitol Solution | Not Available | Not Available | Not Available | Not Available |
| FD&C Red No. 40 | Not Available | Not Available | Not Available | Not Available |
| Berry Flavor | Not Available | Not Available | Not Available | Not Available |

13. Disposal considerations

Waste disposal methods

Dispose of waste in accordance with all federal, state and local regulations.

Contaminated packaging

Dispose of waste in accordance with all federal, state and local regulations.

14. Transport information

Notes:

Not regulated for transport under USDOT, IATA, TDG, IMDG or other regulations.



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15. Regulatory information

International inventories EINECS inventories:

Citric Acid, Potassium Citrate Monohydrate, Propylene Glycol, Polyethylene Glycol, FD&C Red No. 40, and Sodium Benzoate are listed in the EINECS inventory.

Legend

TSCA:

United States Toxic Substances Control Act 8(b) inventory not applicable for product. The product contains Citric Acid, Polyethylene Glycol 400, Propylene Glycol, FD&C Red No. 40, and Sodium Benzoate which are included.

U.S. Federal regulations

Not Available

SARA 311/312 Hazard categories: Not Applicable

Clean Water Act

This product **does not** contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA:

No components are listed under CERCLA.

California Proposition 65:

This product does not contain any chemicals listed under Proposition 65.

U.S. state Right-to-Know regulations

"X" designates that the ingredients are listed on the state Right-to-Know list

| Chemical name | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|---------------------|------------|---------------|--------------|----------|--------------|
| Potassium Citrate | Х | | Х | | |
| Citric Acid | Х | | Х | | |
| Polyethylene Glycol | Х | | Х | | |
| Propylene Glycol | Х | | Х | | |
| Sodium Benzoate | Х | | Х | | |
| Sorbitol Solution | Х | | Х | | |
| FD&C Red No. 40 | | | | | |
| Berry Flavor | | | | | |

U.S. EPA label information:

Not applicable



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16. Other information

| Prepared by: | Regulatory Affairs |
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| Revision note: | NA |

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