



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name Anticoagulant citrate phosphate dextrose solution, USP
Version # 02
Revision date 01-14-2011
Chemical description Anticoagulant.
CAS # Mixture
Product use Pharmaceutical.
Synonym(s) Anticoagulant Citrate Phosphate Dextrose Solution, EP, Anticoagulant Citrate Phosphate Dextrose Solution, CPD Solution, CPD
Manufacturer information Fenwal Inc
Three Corporate Drive
Lake Zurich
IL 60047
United States
General Assistance: 1-847 550-2300
Contact person: Arlene Farrar, Fenwal, Inc.,
Environmental Health & Safety

2. Hazards Identification

Physical state Liquid.
Appearance Aqueous solution.
Emergency overview No special precautionary health measures should be needed under anticipated conditions of use.
OSHA regulatory status This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Skin contact. Eye contact.
Eyes May cause temporary eye irritation. May cause redness and pain.
Skin Prolonged contact may cause dryness of the skin.
Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Ingestion May cause discomfort if swallowed.
Target organs No specific target organs noted.
Chronic effects None known.
Potential environmental effects The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Water	7732-18-5	> 94
Dextrose, Monohydrate, EP	14431-43-7	1-5
Sodium citrate, dihydrate, EP	6132-04-3	1-5
Citric acid, anhydrous, EP	77-92-9	< 1
Monobasic sodium phosphate, monohydrate	7558-80-7	< 1

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Eye contact Rinse with water. Get medical attention if irritation persists after washing.

Skin contact	Rinse skin with water/shower. Get medical attention if irritation persists after washing.
Inhalation	No specific first aid measures noted.
Ingestion	Rinse mouth. Large quantities: Get medical attention if symptoms occur.
Notes to physician	No specific indications.
General advice	No recommendation given.

5. Fire Fighting Measures

Flammable properties	The product is non-combustible. During fire, gases hazardous to health may be formed.
Extinguishing media	
Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None.
Protection of firefighters	
Specific hazards arising from the chemical	None known.
Protective equipment and precautions for firefighters	Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
Hazardous combustion products	Carbon monoxide.

6. Accidental Release Measures

Personal precautions	Avoid prolonged or repeated contact with skin. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground unless allowed by local regulations.
Methods for containment	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
Methods for cleaning up	Absorb spillage with suitable absorbent material. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling	Avoid prolonged or repeated contact with skin. Observe good industrial hygiene practices.
Storage	Store in closed original container in a dry place. Store away from incompatible materials.

8. Exposure Controls / Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Engineering controls	Provide adequate ventilation.
Personal protective equipment	
Eye / face protection	Risk of splashes: Wear approved safety goggles.
Skin protection	For prolonged or repeated skin contact use suitable protective gloves. Suitable gloves can be recommended by the glove supplier. Risk of splashes: Use skin protection.
Respiratory protection	No personal respiratory protective equipment normally required.
General hygiene considerations	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.

9. Physical & Chemical Properties

Appearance	Aqueous solution.
Color	Clear.
Odor	None.
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	5 - 6

Melting point	Similar to water
Freezing point	Similar to water
Boiling point	Similar to water
Flash point	Not flammable
Evaporation rate	Similar to water
Flammability	Not flammable
Flammability limits in air, upper, % by volume	Not flammable
Flammability limits in air, lower, % by volume	Not flammable
Vapor pressure	Similar to water
Vapor density	Similar to water
Specific gravity	1.0278
Solubility (water)	Not applicable
Partition coefficient (n-octanol/water)	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Excessive heat. Freezing. Contact with incompatible materials.
Incompatible materials	None noted.
Hazardous decomposition products	Carbon monoxide. Chlorine. Sodium oxides.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological data

Product	Test Results
Anticoagulant citrate phosphate dextrose solution, USP (Mixture)	Acute Other LD Rabbit: 1404 g/kg estimated

Components	Test Results
Dextrose, Monohydrate, EP (14431-43-7)	Acute Other LD Rabbit: 35 g/kg
Citric acid, anhydrous, EP (77-92-9)	Acute Oral LD50 Rat: 6730 mg/kg

Acute effects	No additional adverse health effects noted.
Sensitization	Not a skin sensitizer.
Chronic effects	No additional adverse health effects noted.
Carcinogenicity	Not classified.
Mutagenicity	Not classified.
Reproductive effects	Not classified.
Teratogenicity	Not classified.

12. Ecological Information

Ecotoxicological data

Components	Test Results
Sodium citrate, dihydrate, EP (6132-04-3)	EC50 Water flea (Ceriodaphnia dubia): 655 - 825.9 mg/l 48 hours

Ecotoxicity	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Persistence and degradability	No data available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient (n-octanol/water)	Not applicable
Mobility in environmental media	No data available.

13. Disposal Considerations

Disposal instructions	This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Waste from residues / unused products	Dispose in accordance with all local, State and Federal regulations.

14. Transport Information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
TDG	Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. This material is not listed on the US TSCA 8(b) Inventory, therefore it may only be used for TSCA exempt purposes such as R&D or drug use. Regulated by FDA under Compassionate Use regulations. CERCLA/SARA Hazardous Substances - Not applicable.
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CERCLA (Superfund) reportable quantity (lbs)
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No
Drug Enforcement Agency (DEA)	Not controlled
WHMIS status	Non-controlled

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	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)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

Other information

For approved drug use in countries where registered. Keep out of reach of children.

HMIS® ratings

Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 0
Flammability: 0
Instability: 0

Disclaimer

The information in this MSDS was obtained for sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding its accuracy or correctness.

Issue date

01-14-2011

This data sheet contains changes from the previous version in section(s):

Fire Fighting Measures: Hazardous combustion products
Fire Fighting Measures: Protective equipment and precautions for firefighters
Fire Fighting Measures: Specific hazards arising from the chemical
Accidental Release Measures: Environmental precautions
Physical & Chemical Properties: Odor
Chemical Stability & Reactivity Information: Incompatible materials
Chemical Stability & Reactivity Information: Hazardous decomposition products
Other Information: Other information