

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: NuGenTec EP CO 1 AND EP CO 2 Product Number: MED921-922
Synonyms: Electropolish Solution for cobalt alloys,
Medical Device EP Solution CAS Number: Blend

Company Identification

NuGeneration Technologies, LLC www.nugentec.com
100 Professional Center Drive Suite 101
Rohnert Park, CA 94928 USA
(707) 820-4080 (For product information)
1-800-424-9300 or 1-202-483-7616 (CHEMTREC) (For emergencies)

2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0% NuGenTec EP CO 1 AND EP CO 2 CONTAINING: HAZARDOUS AND/OR
REGULATED COMPONENTS

Chemical Name	Amount	CAS Number
PHOSPHORIC ACID	< 79.0 %	7664-38-2
SULFURIC ACID	< 5.0 %	7664-93-9
CHROMIUM NITRATE	1.0 %	7789-02-8

NON-HAZARDOUS COMPONENTS

Chemical Name	Amount	CAS Number
WATER	> 15.0 %	7732-18-5

(See Section 8 for exposure guidelines)
(See Section 15 for regulatory information)

COMPOSITION COMMENT: EP Co 1 does not contain Sulfuric Acid, EP Co 2 does.
This product formulated with USP grade or higher ingredients and is
suitable for use in Medical Device manufacturing processes.

This product is Biodegradable. This product contains NO Chelates.

HAZARDS DISCLOSURE

This product contains hazardous materials as defined by the OSHA Hazard
Communication Standard 29 CFR 1910.1200.

SARA 311 Categories:

Immediate (Acute) Health Effects....: Yes
Delayed (Chronic) Health Effects....: Yes
Fire Hazard.....: No
Sudden Release Of Pressure Hazard...: No
Reactivity Hazard.....: Yes

MISCELLANEOUS:

Contains Phosphoric Acid (both Co 1 and 2).
Contains Sulfuric Acid (EP Co 2 only).

3. HAZARDS IDENTIFICATION

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***** EMERGENCY OVERVIEW *****
*
* DANGER
*
* CORROSIVE! Can cause skin/eye irritation and or
* burns. Harmful if absorbed through skin or
* swallowed. Keep out of waterways.
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*****
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HMIS Rating - Health: 2
Flammability: 0
Reactivity: 0
Personal Protection Index: G

NFPA Rating - Health: 2
Flammability: 0
Reactivity: 0
Special Hazard: Corrosive

NFPA/HMIS Definitions: (0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

POTENTIAL HEALTH EFFECTS

EYE: Corrosive, contact causes severe eye burns.

SKIN: Contact may cause severe skin irritation and possible burns.

INHALATION: Avoid breathing vapors or mists.

INGESTION: Ingestion is not considered a potential route of exposure. Corrosive and may cause severe and permanent damage to mouth, throat, and stomach. If ingested seek prompt medical attention.

SIGNS AND SYMPTOMS OF EXPOSURE: If exposed areas are flushed promptly and thoroughly with SOAP & water, there should be little or no harm. Seek medical attention as a preventative measure.

CHRONIC EFFECTS: Prolonged and/or repeated contact may produce mild to moderate skin irritation or inflammation and in some cases rashes or burns.

REPRODUCTIVE HAZARDS: No known reproductive hazards.

CARCINOGENICITY INFORMATION: Unknown.

MEDICAL CONDITIONS AGRAVATED BY EXPOSURE:

Personnel with pre-existing skin disorders and chronic respiratory diseases should avoid contact with this product.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID:

Flush eye with water for 15 minutes. Get medical attention.

SKIN CONTACT FIRST AID:

Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists.

INHALATION FIRST AID:

Although this product is not known to cause respiratory problems, if breathing is difficult, remove to fresh air and provide oxygen.

INGESTION FIRST AID:

Get medical attention immediately. Do not induce vomiting. For larger amounts, do not induce vomiting, but give one or two glasses of water or milk to drink and get medical attention.

STATEMENT OF PRACTICAL TREATMENT:

Always have plenty of water available for first aid.

NOTES TO PHYSICIAN:

Treat patient symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

COC Flash Point: None TCC Flash Point: None

Autoignition Temperature: None

FLAMMABLE LIMITS IN AIR

LEL: None UEL: None

EXTINGUISHING MEDIA: Will not burn.

FIRE FIGHTING INSTRUCTIONS: Contaminated extinguishing water must be disposed of in accordance with applicable regulations.

6. ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL): Protect skin and eyes from exposure.

INITIAL CONTAINMENT: Contain spilled material.

LARGE SPILLS PROCEDURE:

Forms smooth, slippery surfaces on floors, posing an accident risk. Dilute with water and wash to waste water treatment system. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

SMALL SPILLS PROCEDURE:

Floor may become slippery. Absorb spills with inert material. After cleaning spill with absorbent material wash area with soap and water. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

7. HANDLING AND STORAGE

RECOMMENDED STORAGE TEMPERATURE

Minimum: 4.4 C (39.9 F) Maximum: 48.9 C (120.0 F)

SHELF LIFE: (in original, sealed containers)

3 years @ 4.4 C 1 year @ 48.9 C

HANDLING (PERSONNEL): Avoid contact with eyes, skin, and clothing.

HANDLING (PHYSICAL ASPECTS):

Keep out of reach of children. Keep from freezing. Keep container closed to avoid contamination. Store in a cool dry area.

STORAGE PRECAUTIONS: Do not stack pails more than three pallets high. Do not stack drums more than two pallets high. Keep from freezing. Keep container closed when not in use.

MISCELLANEOUS: Do not stack over two pallets high.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: No special ventilation requirements.

EYE / FACE PROTECTION REQUIREMENTS: When splashing of the material may occur, chemical goggles and a face shield are recommended.

SKIN PROTECTION REQUIREMENTS:

Wear protective gloves to minimize skin contamination.

RESPIRATORY PROTECTION REQUIREMENTS: Under normal use conditions, with adequate ventilation, no special handling equipment is required.

MISCELLANEOUS: Where an apron and protective clothing.

EXPOSURE GUIDELINES:

PHOSPHORIC ACID

OSHA TWA: 1 mg/m³

SULFURIC ACID

Immediate Lethal Dosage: 15 mg/m³

OSHA PEL: 1 mg/m³

OSHA TWA: 1 mg/m³

ACGIH TWA: 1 mg/m³

ACGIH STEL: 3 mg/m³

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Liquid
COLOR: Green
ODOR: None
BOILING POINT: >212 F
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY: 1.6 (Water = 1)
BULK DENSITY: 13.3
MELTING/FREEZING POINT: <32 F
PH: ~1
% VOLATILES: 0.0 %
VOLATILE ORGANIC COMPOUNDS (VOC) ...: None

10. STABILITY AND REACTIVITY

STABILITY: Stable.

POLYMERIZATION: Hazardous polymerization will not occur.

INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with strong bases. Incompatible with alkaline and alkaline earth metals. Will react with alkaline materials (use to neutralize).

DECOMPOSITION: Decomposition will not occur if handled and stored properly.

CONDITIONS TO AVOID:

Avoid contact with this material and Ferrous metal surfaces. This material is safe under normal storage and handling conditions.

MISCELLANEOUS: Avoid high heat, sunlight and ultra-violet light.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:

Can cause severe eye irritation including burns and or permanent damage.

SKIN EFFECTS: Contact may cause skin irritation, rash or burns.

ACUTE ORAL EFFECTS:

May cause diarrhea and or vomiting along with tissue burns.

ACUTE INHALATION EFFECTS: No know hazards in normal industrial use.

REPRODUCTION AND BIRTH EFFECTS: There are no known or reported effects on reproductive function or fetal development.

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements. For additional waste disposal information contact your local NuGenTec representative at (888) 99-NuGen. Uncleaned empty containers should be disposed of in the same manner as the contents. Avoid disposal into waste water treatment facilities.

CONTAMINATED MATERIALS: Wash contaminated clothing before reuse.

CONTAINER DISPOSAL: Clean out containers prior to disposal.

14. TRANSPORTATION INFORMATION

PRODUCT LABEL: NuGenTec EP CO 1 AND EP CO 2

D.O.T. SHIPPING NAME: Corrosive Liquid

TECHNICAL SHIPPING NAME ...: Corrosive Liquid, NOS (phosphoric and sulfuric acid), PG III

D.O.T. HAZARD CLASS: Corrosive

UN NUMBER: 1760 Corrosive Liquid, NOS

PRODUCT RQ (LBS): 2,000

D.O.T. LABEL: Corrosive Liquid

D.O.T. PLACARD: #3

BULK CLASS: N/A

PACKAGE CLASS: 55

15. REGULATORY INFORMATION

EEC Symbols and Indications of Danger: Corrosive (C)

R-Phrases: R34 - Causes burns.

S-Phrases: S25 - Avoid contact with eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

WHMIS Hazard Symbols: Class E - Corrosive Material

Canadian Disclosure List
PHOSPHORIC ACID (7664-38-2)
SULFURIC ACID (7664-93-9)
SARA Title III - Section 313
PHOSPHORIC ACID (7664-38-2)
SULFURIC ACID (7664-93-9)
Chromium Nitrate (7789-02-8) --
CERCLA Hazardous Substances
PHOSPHORIC ACID (7664-38-2) -- RQ 5000 lb
SULFURIC ACID (7664-93-9) -- RQ 1000 lb

Title V
PHOSPHORIC ACID (7664-38-2)
SULFURIC ACID (7664-93-9)

SC Toxic Air Pollutants List
PHOSPHORIC ACID (7664-38-2)
SULFURIC ACID (7664-93-9)

FDA (FOOD AND DRUG ADMINISTRATION):
This product has been formulated with USP or better ingredients, and is suitable for use in FDA regulated industries.

MISCELLANEOUS INFORMATION:
This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA). This material or all of its components are listed on the Canadian Domestic Substances List (DSL). This material or all of its components are listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS).

16. OTHER INFORMATION

PREPARED BY: Donato Polignone
APPROVAL DATE: May 31, 2007
SUPERCEDES DATE ...: October 2, 2002
PRD NUMBER: MED921-MED922 (Official Copy)

ADDITIONAL INFORMATION:
The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process.

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of NuGeneration Technologies, LLC. The data on this sheet are related only to the specific material designated herein. NuGeneration Technologies, LLC assumes no legal responsibility for use or reliance upon these data.

END OF MSDS
