



MATERIAL SAFETY DATA SHEET

A-C-D Solution (Modified)

For use with Sodium Chromate Cr 51 Injection

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: A-C-D Solution (Modified)
Synonyms: A-C-D Solution
Manufacturer: Mallinckrodt Inc.
2703 Wagner Place
Maryland Heights, MO 63043

Revision Date: January 1, 2003
Information Telephone Number: (888) 744-1414
Emergency Telephone Number: (314) 654-7860
CHEMTREC: 1-800-424-9300
CANUTEC: 613-996-6666

SECTION 2. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Ingredients:

<u>Component</u>	<u>CAS #</u>	<u>Wt %</u>
Citric Acid	77-92-9	<1%
Dextrose Anhydrous	50-99-7	1.1%
Sodium Citrate	68-04-2	2.3%
Water	7732-18-5	96%

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Promptly remove any contamination from the skin, eyes, or clothing.

POTENTIAL HEALTH EFFECTS

The hazardous ingredients in the A-C-D Solution are skin and eye irritants, but due to the small quantities present, no adverse health effects are expected to occur from exposure.

Inhalation:

Not expected to be a health hazard via inhalation.

Ingestion:

Large doses may cause gastrointestinal upset.

Skin Contact:

Not expected to produce any acute adverse health effects.

Eye Contact:

No adverse effect expected, but may cause mechanical irritation.

Chronic Exposure:

Not expected to be a chronic health hazard.

Aggravation of Pre-existing Conditions:

No information found.

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SECTION 4. FIRST AID MEASURES

Inhalation:

Not expected to require first aid measures.

Ingestion:

If large amounts are swallowed, give water to drink and seek medical attention.

Skin Exposure:

Wash exposed areas with soap and water. Get medical advice if irritation develops.

Eye Exposure:

In case of contact, immediately flush eyes with running water for at least 15 minutes. Get medical advice if irritation develops.

SECTION 5. FIRE FIGHTING MEASURES

Fire: Not considered to be a fire hazard.

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Special Instructions: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Collect all non-radioactive spills and dispose of as non-hazardous waste. **For A-C-D Solution (Modified) with Sodium Chromate Cr 51 Injection added:** If any loss or release of the radioactive materials occurs, notify your Radiation Safety Department and Mallinckrodt at (314) 654-7860. All cleanup operations should be performed according to the Standard Operating Procedures (SOPs) established for your facility and by the NRC or other applicable local, state or federal regulations.

SECTION 7. HANDLING AND STORAGE

Store at 15°C to 30°C prior to the addition of Sodium Chromate Cr 51. After the addition of Sodium Chromate Cr 51, handling time should be kept to a minimum, and appropriate shielding should be used. Handling devices such as syringe shields and tongs should be used. Storage and disposal of product should be controlled in a manner which is in compliance with the appropriate regulations of the federal or state government agency authorized to license the use of this radionuclide.

SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Airborne Exposure Limits:

None established.

Engineering Controls:

Not expected to require any special ventilation.

Respiratory Protection:

Not expected to require personal respirator usage.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye/Face Protection:

Safety glasses.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid in a 100 mL glass vial.

Odor: Odorless.

Solubility: Soluble in water.

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: No hazardous decomposition products expected.

Hazardous Polymerization: Will not occur.

Incompatibilities: No information found.

SECTION 11. TOXICOLOGICAL INFORMATION

For detailed toxicological information on specific components, write to the address listed in Section 1 - Attn: Regulatory Compliance Department.

SECTION 12. ECOLOGICAL INFORMATION

Because this product is intended for use by hospital or clinic patients, it is expected to be treated by standard wastewater treatment facilities with no adverse environmental impacts.

SECTION 13. DISPOSAL CONSIDERATIONS

A-C-D Solution (Modified) with Sodium Chromate Cr 51 Injection added is Radioactive Waste until the activity has decayed to nondetectable levels. Radioactive waste must be handled in accordance with procedures established by your Radiation Safety Officer, NRC and other applicable regulations.

If medical waste is involved, such as blood, blood products, or sharps, the waste must be handled as a Biohazard and disposed of accordingly.

If not radioactive or a biohazard, waste A-C-D Solution (Modified) is considered non-hazardous. Consult local, state and federal regulations for proper disposal.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation): Not Regulated

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantities: None.

SARA Title III

302 Extremely Hazardous Substances: None

311/312 Hazard Categories: None

313 Toxic substances subject to annual release reporting requirements: None.

RCRA Hazardous Waste Status

Non-hazardous (See Section 13 for additional details.)

California Proposition 65 Warning

When radioactive material is added to this product, the resulting product contains a substance known to the State of California to cause cancer.

Australian Hazchem Code: None allocated.

Australian Poison Schedule: None allocated.

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

MSDS Status: Revised in accordance with ANSI Guideline Z400.1-1998

NFPA Ratings: Health: 0 Flammability: 0 Reactivity: 0

Product Use: Diagnostic imaging agent

Revision Information: No changes.

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