Heavyweight

CintiChem Technetium 99m Generators Are The Heaviest You’ll Find—On Purpose
Your Safety Is Our Concern, Too

Technetium 99m Generators from Cintichem, Inc. have 3.77 inches of lead surrounding the column for maximum radiation protection. The secondary shield adds 5/8" more lead to make our generators safer yet. And only MPI Generators offer depleted uranium shielding in higher calibrations, designed to maximize radiation protection, convenience and reduce costs. With 20 sizes and 2 calibration days, we can meet virtually every need.

Convenience is also designed INTO every MPI Generator. It is the only generator with rapid, easy horizontal elution via a shielded elution port. The simple, one-step elution reduces work time while eliminating direct eye exposure during the elution process. Eluate sterility is assured by the 0.22 micron filter on the terminal fluid line and an autoclaved column.

And all CintiChem Technetium 99m Generators from Medi-Physics incorporate the following important advantages:

- **A NEW STERILE NEEDLE** is utilized for each elution, reducing the chances of a septic or pyrogenic situation occurring in routine clinical usage.
- **5cc, 10cc AND 20cc EVACUATED ELUTION VIALS** are available, allowing you to optimize the elution concentration to meet your needs.
- **RIGID QUALITY CONTROL TESTING,** which includes an elution check on each Generator, assures that it meets our rigid internal specifications. The assurance that 20 years experience in nuclear medicine brings.
- **ACCESSIBLE CUSTOMER SERVICE** on toll free telephone numbers. Our service personnel have in depth backgrounds in research, development, technical and clinical applications in nuclear medicine.

We are concerned about your safety. That will be evident when you receive your first CintiChem generator from MPI.

CintiChem® Technetium Tc99m Generators are jointly manufactured by Union Carbide Corporation and Cintichem, Inc.

a wholly owned subsidiary of Medi-Physics, Inc.
New Kodak ortho M film

The speed to nip dot blooms in the bud.

Increasing the brightness of the image on your nuclear medicine monitor can result in undesirable dot "blooming" which diminishes the diagnostic value of the image. The new Kodak ortho M film has the high speed necessary to reduce the need for increasing brightness levels, thus minimizing dot blooming. Kodak ortho M film is a single-emulsion film with high contrast and halation control which delivers crisp, sharp dots and clearly defined edges of dot concentration patterns. The film's orthochromatic sensitivity matches the phosphor emissions of blue and green cathode-ray tubes. Could you ask for more? Perhaps processing in 90 seconds? New ortho M film offers that, too.

Ask your Kodak Technical Sales Representative for a demonstration, or write Eastman Kodak Company, Department 740-B, Rochester, New York 14650.

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This high sensitivity TSH also has a high count rate of 30,000 CPMs on the zero standard. This higher rate can speed throughput and improve precision.

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For clinical data on the new GAMMADAB® HS hTSH RIA Kit, technical information, or an evaluation kit, call toll-free, or collect within Massachusetts, 617-492-2526. Or write Clinical Assays, 620 Memorial Drive, Cambridge, MA 02139.

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Technetium 99m

Kit for the Preparation of Technetium Tc 99m Sulfur Colloid Injection

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- Only one five minute boil is needed.
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TECHNETIUM 99m TSC KIT FOR THE PREPARATION OF TECHNETIUM Tc 99m SULFUR COLLOID INJECTION

For complete prescribing information consult package insert, a summary of which follows:

INDICATIONS AND USAGE: Technetium Tc 99m Sulfur Colloid Injection is used as an agent for imaging areas of functioning reticuloendothelial cells in the liver, spleen, and bone marrow.

CONTRAINDICATIONS: None known.

WARNINGS: The contents of the two syringes, one syringe containing the sodium thiosulfate solution and the second syringe containing the appropriate buffer solution, are intended only for use in the preparation of the Technetium Tc 99m Sulfur Colloid Injection and are not to be directly administered to the patient. The contents of the kit are not radioactive. However, after the Sodium Pertechnetate Tc 99m is added, adequate shielding of the final preparation must be maintained.

PRECAUTIONS: The components of the kit are sterile and pyrogen-free. It is essential that the user follows the directions carefully and adheres to strict aseptic procedures during preparation of the colloid. The stability of the colloidal preparation may be decreased in the presence of polyvalent cations, thus resulting in the agglomeration of the individual colloidal particles. These larger particles may be trapped by the pulmonary capillary bed following intravenous injection. It is recommended that Sodium Pertechnetate Tc 99m solutions containing more than 10 micrograms/ml of aluminum ion not be used for formulation of the Technetium Tc 99m Sulfur Colloid Injection. The Sodium Pertechnetate Tc 99m solution must also be free of any traces of oxidizing agents such as peroxides and hypochlorites.

Technetium Tc 99m Sulfur Colloid Injection is physically unstable and as such the particles will settle with time. Failure to agitate the vial adequately before use may result in non-uniform distribution of radioactivity. It is also recommended that because of the increasing probability of agglomeration with aging, a batch of Technetium Tc 99m Sulfur Colloid Injection not be used after six hours from the time of formulation. The preparation contains no bacteriostatic preservative.

Pregnancy Category C. Animal reproduction studies have not been conducted with Technetium Tc 99m Sulfur Colloid. It is also not known whether Technetium Tc 99m Sulfur Colloid can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Technetium Tc 99m Sulfur Colloid should be given to a pregnant woman only if clearly needed.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of childbearing age should be performed during the first few (approximately 10) days following the onset of menses. It is not known whether this drug is excreted in human milk. As a general rule, nursing should not be undertaken while a patient is on a drug since many drugs are excreted in human milk.

Safety and effectiveness in children have not been established.

Technetium Tc 99m Sulfur Colloid Injection, as well as other radioactive drugs, must be handled with care and appropriate safety measures should be employed to minimize external radiation exposure to clinical personnel. Also, care should be taken to minimize radiation exposure to patients, consistent with proper patient management.

ADVERSE REACTIONS: Hypersensitivity reactions, including anaphylaxis, have been reported in patients receiving sulfur colloid preparations.

One death and several cases of lung and soft tissue uptake other than RES have been reported in the association with the use of Technetium Tc 99m Sulfur Colloid Injection.

HOW SUPPLIED: The TECHNETIUM 99m SULFUR COLLOID KIT is supplied as a sterile powder in a vial consisting of: five reaction mixtures, each containing 0.5 ml of water for injection and 1.0 ml of sodium hydroxide in 1.0 ml aqueous solution; five sterile syringes (labeled 'A'), each containing 0.5 mg sodium thiosulfate anhydrous in 1.0 ml aqueous solution; five sterile syringes (labeled 'B'), each containing 0.2 mg sodium bisulfite in 2.1 ml aqueous buffer solution containing 177 mg sodium acetate, 20 mg sodium chloride.

STORAGE: Store finished drug at room temperature.
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Because we pioneered the nuclear pharmacy field, we naturally took the name for our company. Today we operate the largest chain of centralized nuclear pharmacies in the United States because you, our customers, like the job that we’ve done and continue to do for you. Call us— not only for radiopharmaceuticals on prescription in unit and multi-doses but also for our exclusive services ranging from waste disposal to radiation safety consultation to instrument calibration, as well as many new services continually being added. We have a Pharmacy Service Center near you. Call us.

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Thyroid uptake tests have been done for decades, and multichannel analyzers have been available for decades. Now, however, the ND62T thyroid probe system marries both these proven techniques. A 2" x 2" well crystal is used in a design which makes possible a whole new range of clinical applications. A unique feature is a counterbalanced arm for quick, simple, accurate positioning. Write or phone for product brochure.
New half-lead, half-leaded glass syringe shields... a whole new angle on protection and affordability!

Our new syringe shield is a half-cylinder of lead and a half-cylinder of high density leaded glass — providing an unequalled combination of protection, visibility and lower cost.

Features of the Spectra Med Half and Half Syringe Shield:

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**Half and Half Syringe Shields... available exclusively from Spectra Med, the company trusted by nuclear pharmacies and hospitals throughout the U.S.**
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New SyntevVent is a unique aerosol system designed to deliver uniform submicronic (0.5 micron mass median diameter) droplets to the lung for ventilation scanning.

A complete, closed system, SyntevVent is easily assembled, lightweight and portable. Normal tidal breathing for 3 to 5 minutes allows up to six views of the lung.

For more complete information, call 415-856-2422, or write Synaco, Inc. at the address below.

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Designed to put more muscle into your Cardiac Testing.

Introducing the most advanced cardiac stress system — the EDC Model 8450. Now you can program any protocol in seconds — either workload or heart rate — right at the front panel by a mere touch of the programmer.

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These three new advances have been added to the already well accepted features of our classic model 8430, with its ability to be used either as a stress testing table or as a general imaging table — its fully adjustable table and ergometer — its clear, error-proof, digital readouts — its sturdy construction — and all the other excellent features that nuclear cardiology has come to expect from EDC.

We think the EDC Model 8450 has everything you will ever want, or need, for Cardiac Stress Testing. Give us a call for further details.
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Here is the most versatile, easy-to-operate, stress imaging table available today. It permits radionuclide imaging in any position...upright, supine, and between...without cranking, lifting, pushing or fussing with table hardware. Just flip one switch, and the powerful motor quietly moves the patient to the precise position desired. The patient is more relaxed...and so are you.

Whatever your nuclear cardiology requirements, this unique system fills them quickly and easily...full gamma camera clearance, complete mobility, motion-free stability, positive (but comfortable) patient restraints, unobstructed access to the patient and controls, optional ergometer, and much more. The table is guaranteed to help stress your patients, not you or your personnel.

For complete details, request Bulletin 289-B

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Volume 24, Number 10
One camera can handle all your routine studies...

The P.A.G.E. cardiac protocol allows automatic edge detection, background determination, and ejection fraction determination. This prevents intra- and inter-user variability.

Quantitative data concerning spatial distribution of thallium, and regional plotting of kinetic washout, are produced automatically or semi-automatically.

This 38-year-old male patient had a viral infection for one month. Impression: normal liver/spleen scan.

This is a 14-year-old male who had ankle pain for 16 months. Impression: ankylosis of the tarsal bones, right foot.
You can conduct nuclear studies like these—from the simplest to the most sophisticated—with General Electric’s MaxiCamera™ 400A/Star™ system. It’s the time-proven system so advanced, so versatile, that it meets today’s diagnostic needs. And leaves you with lots of room for cost-effective expansion as new procedures emerge.

Exceptional versatility in a complete system.

With the MaxiCamera 400A system you can configure equipment to meet your procedural, budgetary and spatial limitations. GE nuclear cameras let you easily and reliably perform all the routine imaging tasks—bone, liver, lung, heart and renal studies, for example. And the MaxiCamera 400A/Star system allows you to conduct complex ECT studies as well.

For sophisticated procedures, simply add the necessary options. Unlike other systems, you don’t have to buy (and find room for) additional cameras. With the right options, ours will do it all.

Take, for instance, the GE Star data processor. Designed specifically to expand department capabilities, the Star system gives you quantitative output, high speed dynamic data collection, and a host of clinically proven software protocols that let you routinely perform specialized studies, like cardiac gated analysis, quantitative thallium, renal function and ventilation/perfusion analyses. And, with the tomographic option, such advanced ECT studies as brain, bone, liver and cardiac procedures are easily performed.

If you’d like to dedicate a camera to special procedures, look into our other MaxiCamera systems. GE offers you a choice of five cameras with fields of view ranging from 200 to 500 mm.

Beautiful images from a proven performer.

No matter what you’re imaging, you’ll get great resolution from your GE system. Our unique Autotune ZS™ circuitry is one reason. It automatically stabilizes each photomultiplier tube, making real time spatial distortion and energy correction viable. Result: System performance is improved dramatically with minimal downtime.

And, like every GE product, your MaxiCamera/Star system is backed by an unsurpassed worldwide service and parts network.

Want proof? Nearly 200 complete MaxiCamera/Star systems are in clinical use today; let us put you in touch with some of their users.

The MaxiCamera/Star system from General Electric. It may be the only nuclear imaging system you’ll need.

A 62-year-old female was admitted with right paralysis. Emergency CT was negative. Carotid arteriogram demonstrated a total left carotid occlusion. SPECT results confirmed arteriographic findings, as this profile analysis of select transaxial slices shows.

and those that may soon be routine.

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High quality SPECT imaging starts with a superior gamma camera. Siemens offers you today's best—the high performance ZLC gamma camera. We'll provide you with a turnkey SPECT system which incorporates our proven ZLC cameras and a nuclear medicine computer of your choice.

The ZLC camera combines the mechanical stability and accurate rotational positioning of the Orbiter with unsurpassed detector linearity and uniformity—prerequisites for high resolution, artifact-free SPECT imaging.

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To protect your investment, our SPECT systems are offered with comprehensive service programs backed by one of the industry's largest technical service organizations dedicated to nuclear medicine. For additional information on our SPECT systems, contact your local Siemens representative or:

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Siemens. Meeting your diagnostic requirements...into the future.
Now you can perform a ventilation study immediately after a perfusion study with no interference from technetium Tc 99m radiation.

XENON 127

Xenon Xe 127 Gas—Exclusively from Mallinckrodt

Photon energies higher than technetium Tc 99m permit perfusion/ventilation study sequence not practical with Xenon Xe 133.

"The 140-keV gamma photon from 99m Tc has a Compton scatter peak at about 80 keV (which) cannot be distinguished from the [81 keV] photopeak of 127Xe." Xenon 127's higher photon energies (172 and 203-keV) give you optimal visualization without potential image degradation from technetium Tc 99m. You can perform the perfusion study first and select the best view for the ventilation study.

Higher usable photon yield than Xenon Xe 133 gives you diagnostic information you need with substantially lower millicurie dosage administered to the patient.

Longer shelf-life than Xenon Xe 133 Gas and Krypton Kr 81m Gas means Xenon Xe 127 Gas can always be at hand when you need it.

Krypton Kr 81m Gas generators must be ordered for the day needed; Xenon Xe 133 Gas must be ordered weekly. Xenon Xe 127 Gas, however, can be ordered monthly. It is available for delivery the first of each month, calibrated for the fifteenth day of the month.

Lung Perfusion Study with Technetium Tc 99m Albumin Aggregated (MAA) and Ventilation Study with Xenon Xe 127 Gas

Patient:
A 28-year old male paraplegic with recent history of chest pain.

Perfusion Study:
3.0 mCi Technetium Tc 99m MAA.

Interpretation: Perfusion defect in superior segment of lower right lobe; smaller perfusion defects noted in left mid-lung and left upper lung field.

Ventilation Study:
5.0 mCi Xenon Xe 127 Gas. Performed immediately after perfusion study with patient in right posterior oblique position.

Interpretation: Xenon Xe 127 Gas uniformly distributed in both lungs; normal clearance and washout (Scintiphotos A-F). Specifically, the area of the perfusion defect demonstrates normal ventilation.

Conclusion:
Probable pulmonary embolism.

Now... one dispenser delivers prompt, positive administration of either Xenon Xe 127 or Xenon Xe 133 Gas.

Mallinckrodt's XENOMATIC II™ Xenon Gas Dispenser

- Dual-Purpose—Accommodates all dosage vials of Mallinckrodt Xenon Xe 127 Gas and Xenon Xe 133 Gas.

- One-Squeeze Administration—No pumping. One squeeze dispenses more than 99% of the vial's contents into the delivery system.

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Diagnostic Products Division
Mallinckrodt, Inc.
Post Office Box 5840
St. Louis, MO 63134

Please see next page for Xenon 127 prescribing information.
CLINICAL PHARMACOLOGY

Xe 127 is a suitable diagnostic gas for the following tests:

1. Xe 127 (and other radionuclides) is a readily diffusible gas which is a useful tracer for the examination of many tissues.
2. Xe 127 is useful in the examination of the heart, lungs, and other structures of the thorax.

INDICATIONS AND USAGE

Xe 127 has been used to assess the ventilation of the chest and lungs.

CONTRAINDICATIONS

None known.

WARNINGS

Xe 127 gas delivery systems, i.e., respirators or spirometers, and associated tubing assemblies must be assembled to ensure that they are free of any obstructing materials. The concentration of gas inhaled by the patient should always be monitored to ensure that it is the correct concentration for the test being performed.

PRECAUTIONS

General

Xe 127 is used to test the ventilation of the chest and lungs. It is a safe and effective gas for this purpose.

Carotidography, Myography, Impairment of Fertility

No long-term animal studies have been performed to evaluate the effects of this drug on males or females.

Pregnancy Category C

Animal reproduction studies have not been performed with Xe 127. It is not known whether Xe 127 gas can cause fetal harm when administered to pregnant women or can affect reproduction capacity in males. It is recommended that the use of Xe 127 in women of childbearing potential should be avoided during pregnancy.

Nursing Mothers

If it is necessary to administer Xe 127 gas to a nursing mother, it is recommended that the use of protective clothing and equipment be considered to minimize exposure to the patient.

Pediatric Use

Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

None known.

DOSE AND ADMINISTRATION

Xe 127 Gas is administered by inhalation from a closed respirator system. The total patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration. The recommended activity range varied from 1/2 to 2 megabecquerels per liter.

Radiation Dosimetry

The estimated absorbed dose to the average patient is approximately 7.5×10^-6 mSv per liter.

Values based on 80% total activity as Xe 127 with 10% activity as Xe 131m.

Aerosol released from the dispenser may cause a sensation of discomfort and may cause transient eye irritation.

REFERENCES

Now indicated for gated cardiac blood pool imaging

**Phosphotec®**
Technetium Tc 99m Pyrophosphate Kit

**Unit-dose convenience**

- One reaction vial supplies suggested dose of 41 mg
- Low tin formulation. Each 5 ml reaction vial contains 40 mg sodium pyrophosphate and 1 mg stannous fluoride
- Kit of 10 reaction vials
- Also indicated for bone imaging and as an adjunct in the diagnosis of acute myocardial infarction.

See next page for brief summary.
PHOSPHOTEC®
Technetium Tc 99m Pyrophosphate Kit
For Diagnostic Use

DESCRIPTION: Each reaction vial contains 40 mg sodium pyrophosphate (equivalent to 23.9 mg anhydrous sodium pyrophosphate) and 0.4 mg stannous fluoride (minimum) and 0.9 mg total tin (maximum) as stannous fluoride; the product does not contain a preservative. The pH of the product is adjusted with sodium hydroxide or hydrochloric acid prior to lyophilization. At the time of manufacture, the air in the vial is replaced with a nitrogen gas atmosphere. When sterile, nonpyrogenic sodium pertechnetate Tc 99m solution is added to the vial, a diagnostic agent, technetium Tc 99m pyrophosphate, is formed for intravenous administration; the structure of this radiolabeled complex is unknown. The product as supplied is sterile and nonpyrogenic.

INDICATIONS AND USAGE: Bone Imaging
Phosphotec (Technetium Tc 99m Pyrophosphate Kit) may be used as a bone imaging agent to delineate areas of altered osteogenesis.

Cardiac Imaging
Phosphotec is a cardiac imaging agent used as an adjunct in the diagnosis of acute myocardial infarction. The infarction is best visualized one to six days after onset of symptoms. False-negative images can occur if imaging is done too early in the evolutionary phase of the infarct or too late in the resolution phase. The incidence of false-positives may range from 5 to 9 percent and of false-negatives from 6 to 9 percent but may vary even more depending on selection criteria of patient populations.

Blood Pool Imaging
Phosphotec is also a blood pool imaging agent which may be used for gated cardiac blood pool imaging.

CONTRAINDICATIONS: None known.

WARNINGS: Preliminary reports indicate impairment of brain scans using sodium pertechnetate Tc 99m injection which have been preceded by a bone scan using an agent containing stannous ions. The impairment may result in false-positive or false-negative brain scans. It is recommended, where feasible, that brain scans precede bone imaging procedures. Alternatively, a brain-imaging agent such as technetium Tc 99m pertechnetate may be employed.

PRECAUTIONS: General
The lyophilized contents of the Phosphotec reaction vial are to be administered to the patient only as an intravenous solution.

Any sodium pertechnetate Tc 99m solution which contains an oxidizing agent is not suitable for use with Phosphotec (Technetium Tc 99m Pyrophosphate Kit).

When reconstituted with sodium pertechnetate Tc 99m, Phosphotec must be used within 6 hours. When reconstituted with Sodium Chloride Injection USP for blood pool imaging, use the solution within 30 minutes.

Technetium Tc 99m pyrophosphate as well as other radiopharmaceuticals must be handled with care, and appropriate safety measures should be used to minimize radiation exposure to the patient and occupational workers consistent with proper patient management. Radiopharmaceuticals should be used only by physicians who are qualified by training and experience in the safe use and handling of radionuclides and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides.

Bone Imaging
Both prior to and following administration of the technetium Tc 99m pyrophosphate, the patient should be encouraged to drink fluids and to void as often as possible thereafter to minimize radiation exposure to the bladder and background interference during imaging.

Cardiac Imaging
The patient's cardiac condition should be stable before beginning the cardiac imaging procedure. If not contraindicated by the patient's cardiac status, patients should be encouraged to drink fluids and to void as often as possible in order to reduce unnecessary radiation exposure to the bladder. interference from chest wall lesions such as breast tumors and healing rib fractures can be minimized by employing the three recommended projections. False-positive and false-negative myocardial scans may occur; therefore, the diagnosis of acute myocardial infarction depends on the overall assessment of laboratory and clinical findings.

Blood Pool Imaging
The reconstituted agent should be injected by direct venipuncture. Heparinized catheter systems should be avoided, as interference with red blood cell tagging will result.

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long-term animal studies have been performed to determine any carcinogenic potential or impairment of fertility in males or females.

Teratogenic Effects: Pregnancy Category C
Animal reproduction studies have not been conducted with technetium Tc 99m pyrophosphate. It is also not known whether technetium Tc 99m pyrophosphate can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Technetium Tc 99m pyrophosphate should be administered to a pregnant woman only if clearly needed.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses.

Nursing Mothers
Caution should be exercised when technetium Tc 99m pyrophosphate is administered to a nursing woman. Technetium Tc 99m is excreted in human milk during lactation; therefore, formula-feedings should be substituted for breast-feedings.

Pediatric Use
Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: Some hypersensitivity reactions have been associated with pyrophosphate use.

HOW SUPPLIED: Phosphotec (Technetium Tc 99m Pyrophosphate Kit) is supplied in a kit containing 10 reaction vials (5 ml size).

For full prescribing information, consult package insert.
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*Courtesy of Shiv Gupta M.D.
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<tr>
<td>AccuSync-6</td>
<td>All AccuSync-5R features with the exception of the Strip Chart Recorder.</td>
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<tr>
<td>AccuSync-IR</td>
<td>All AccuSync-5R features with the exception of Digital CRT Monitor.</td>
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<td>AccuSync-2</td>
<td>All AccuSync-IR features incorporated into a Module designed to fit into certain Mobile cameras.</td>
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<tr>
<td>AccuSync-3</td>
<td>All AccuSync-IR features with the exception of the Strip Chart Recorder and Playback Mode.</td>
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<td>AccuSync-4</td>
<td>All AccuSync-3 features with the exception of the Heart Rate/R-R int. display.</td>
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Volume 24, Number 10 33A
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Saves radiation. An internal charcoal cartridge pack traps the xenon gas exhausted by the patient at washout. The flow of gas to the charcoal pack is completely controlled by an interface system within the breathing apparatus. A built-in alarm alerts the operator if more than 2 uCi/liter (well below NRC maximum permissible concentration) attempts to escape. Radiation shielding of 1/8" to 1/4" thickness of lead provides positive containment of radioactivity. Result: Ventil-Con II is safer.

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- Most sensitive assay available.
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PYROLITE™
Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates Kit

our new blood pool imaging agent

- High target-activity concentration
- Efficient labeling that persists for several hours
- Rapid, simple preparation

INDICATIONS AND USAGE: Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates may be used as a bone imaging agent to delineate areas of altered osteogenesis.

Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates may also be useful in myocardial imaging as an adjunct in the diagnosis of acute myocardial infarction. False-negative images may occur if done too early in the evolutionary phase of the infarct or too late in the resolution phase. False-positive images have been reported following coronary bypass graft surgery in unstable angina pectoris, old myocardial infarcts, and in cardiac contusions.

PYROLITE is a blood pool imaging agent which may be used for gated cardiac blood pool imaging. When administered intravenously thirty minutes prior to the intravenous administration of sodium pertechnetate Tc 99m approximately 75% of the injected activity remains in the blood pool.

CONTRAINDICATIONS: None known.

WARNINGS: It has been reported that false-positive or false-negative brain scans may result when brain scans using sodium pertechnetate Tc 99m are performed after a bone scan has been done using an agent containing stannous chloride, e.g., a pyrophosphate or polyphosphate bone agent. Therefore, in those cases where both brain and bone scans are indicated, the brain scan should be performed first, if feasible. Alternatively, another brain imaging agent, such as Technetium Tc 99m Pertechnetate DTPA, may be employed.

PRECAUTIONS: Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates, as well as any radioactive agent, must be handled with care. Once sodium pertechnetate Tc 99m is added to the vial, appropriate safety measures should be used to minimize external radiation exposure to clinical personnel. Care should also be taken to minimize radiation exposure to patients in a manner consistent with proper patient management.

To minimize radiation dose to the bladder, the patient should be encouraged to void when the examination is completed and as often thereafter as possible for the next 4-6 hours, if not contraindicated by the patient’s cardiac status.

Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates should be used within six hours of preparation.

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long-term animal studies have been performed to evaluate carcinogenic potential or whether Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates affects fertility in males or females.

Pregnancy Category C
Adequate reproduction studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates should be used in pregnant women only when clearly needed.

Ideally, examinations using radiopharmaceuticals, especially those effective in nature, of a woman of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses.

Nursing Mothers
Technetium Tc 99m is excreted in human milk during lactation, therefore, formula feedings should be substituted for breast feeding.

Pediatric Use
Safety and effectiveness in children have not been established.

General
Radiopharmaceuticals should be used by persons who are qualified by specific training in the safe use and handling of radionuclides produced by nuclear reactor or particle accelerator and whose experience and training have been approved by the appropriate government agencies authorized to license the use of radionuclides.

ADVERSE REACTIONS: No adverse reactions specifically attributable to the use of Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates have been reported.
DOSAGE AND ADMINISTRATION: The suggested dose range for i.v. administration to be employed in the average patient (70kg) is:

- Bone imaging: 5-10mCi Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates

Scanning post-injection is optimal at about 3-4 hours.

- Myocardial Imaging: 10-20mCi Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates

Scanning post-injection is optimal at 60-90 minutes.

- Blood pool imaging: 5-20mCi of sodium pertechnetate Tc 99m.

For blood pool imaging the PYROLITE kit is reconstituted with three to four ml of sterile sodium chloride injection, U.S.P. and sufficient solution is injected intravenously to yield a patient dose of 14-42mg Sodium (Pyro- and Trimeta-) Phosphates (to provide a range of 3-15µg of tin per kilogram body weight). Five to thirty minutes later, 5 to 20mCi of sodium pertechnetate Tc 99m is administered intravenously Imaging can begin at once for "first pass" studies and after about five minutes for static blood pool imaging.

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.

The components of the PYROLITE Kit are supplied sterile and non-pyrogenic. Aseptic procedures normally employed in making additions and withdrawals from sterile, non-pyrogenic containers should be used during addition of pertechnetate solution and the withdrawal of doses for patient administration.

Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates is prepared by simply adding 3-7 ml of sodium pertechnetate Tc 99m solution to the vial and swirling for about one minute.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration.

Shielding should be utilized when preparing the Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates.

HOW SUPPLIED: NEN'S PYROLITE™ Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates Kit is supplied as a set of five or thirty vials, sterile and non-pyrogenic. Each vial contains in lyophiilized form:

- Sodium Pyrophosphate—10mg
- Sodium Trimetaphosphate—50mg
- Stannous Chloride (SnCl₂·2H₂O) (Minimum)—0.95mg
- Total Tin, maximum (as stannous chloride SnCl₂·2H₂O)—1.8mg

Prior to lyophilization the pH is adjusted to between 4.5-5.5 with hydrochloric acid and/or sodium hydroxide solution. The contents of the vial are lyophilized and stored under nitrogen. Store at room temperature (15°-30°C). Contains no bacteriostatic preservative.

Included in each five vial kit is one (1) package insert and twelve (12) radiation labels. Included in each thirty vial kit is one (1) package insert and seventy-two (72) radiation labels.

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<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tr>
<td>56-211B</td>
<td>“All-Vue” Syringe Shield, 1 cc</td>
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<td>56-212B</td>
<td>“All-Vue” Syringe Shield, 2½ to 3 cc</td>
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<td>G-56211B</td>
<td>Replacement Window for 56-211B Shield</td>
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<td>G-56213B</td>
<td>Replacement Window for 56-213B Shield</td>
<td>$45.00</td>
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**All-Vue VIAL SHIELDS**

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An “All-Vue” Vial Shield assures the greatest safety and convenience for personnel who handle radionuclides in vials and other small containers. It consists of a lead container with a large lead-glass window for viewing the exact liquid level in the enclosed vial. An opening in the screw-on cover permits the insertion of a syringe for withdrawing the radionuclide (see photo). Has ¼" lead walls; ideal for 99mTc and other low-energy gamma emitters. Accepts vials up to 3½" high x 1½" diam. Measures 4" high x 2" O.D. Weighs 2¼ lbs.

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<tr>
<td>G-56230B</td>
<td>Replacement Lead-Glass Window</td>
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<td>5 ($7.75)</td>
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Shipping and Handling Charges

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Carcinogenesis, Mutagenesis, Impairment of Fertility: No long-term animal studies have been performed to evaluate carcinogenic potential of or whether Technetium Tc 99m Succimer affects fertility in males or females.

Pregnancy Category C: Animal reproduction studies have not been conducted with the MPI DMSA Kidney Reagent either with or without Tc 99m. It is also not known whether Technetium Tc 99m alone or with Succimer can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Technetium Tc 99m should be administered to a pregnant woman only if clearly needed.

ADVERSE REACTIONS: Rare instances of syncope, fever, nausea and maculopapular skin rash have been reported.

HOW SUPPLIED: Each kit contains the following components:

1. Five sealed glass reagent ampoules, each containing 2.2 ml of a sterile, pyrogen-free aqueous solution of 1.2 mg succimer and 0.42 mg anhydrous stannous chloride. The solution is under a nitrogen gas atmosphere.
2. Five sterile and pyrogen-free mixing vials (10 ml).
3. Five mixing vial labels.
4. Five courtesy record labels.
5. One package insert.