

CATEGORY RESOURCE GUIDE

Arterial blood gas kits

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Vizient award overview

Awarded suppliers

MS5400 – Smiths/ICU Medical

Distribution

Both direct and distributed through the following distribution channels:

Medical-surgical



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Questions? Contact supplyassurance@vizientinc.com, pharmacyquestions@vizientinc.com, novaplus@vizientinc.com.

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Making supply uncertainty a thing of the past, not the future

To help members maintain supply assurance for essential products, Vizient shares insights via [category resource guides](#) on vizientinc.com. These category-specific documents contain comprehensive manufacturing, logistics and utilization insights to help members source supplies with confidence. Category resource profiles are one way we're [building supply assurance together](#).

Market landscape

With 95% share, Smiths/ICU Medical is the market leader in this space. Having one company with such a large market share creates potential vulnerabilities in the supply chain. Smiths/ICU Medical recommends keeping a safety stock level of three to four weeks on hand and has several mitigation strategies in place to ensure supply to the market goes uninterrupted. The products in this category are manufactured in the U.S. They can be ordered direct or through a Vizient Authorized Distributor.

Manufacturing insights

Product overview

Products include the following:

- Arterial blood gas kits
- Blood gas analysis syringes and kits
- Needle caps for arterial blood gas syringes

Selection factors

These products were chosen so providers can perform the collection of arterial or venous blood draws.

OEM and manufacturing location

Smiths/ICU Medical manufactures in Keene, N.H.

Raw materials

- Syringe: polypropylene
- Plunger gasket: butyl rubber compound
- Heparin type: porcine intestinal mucosa based, neutralized for ionic Ca^{++}
- Heparin volume: about 23.5 I.U. per mL
- Low heparin (LH) volume: about 7.0 I.U per mL
- Needle hub: polypropylene
- Needle: stainless steel
- Sheath: polypropylene
- Lubricants: silicone
- Needle stopper: PVC
- Filter Pro: acrylic and polyethylene filter
- Needle protection: polypropylene
- Needle-Pro Edge: polypropylene, stainless
- Steel, acrylic adhesive

The latest manufacturing insights are available [here](#).

Regulatory and approvals

Class 1 Food and Drug Administration (FDA) regulations for arterial blood gas kits are required.

Non-awarded suppliers

Sunmed/Vyaire – arterial blood sampling kits, blood gas analysis syringe kits

Medline – blood gas analysis syringe kits

Cardinal – needle caps for arterial blood gas syringes

Logistics insights

Transportation/shipping

Freight, rail and air

Ports of entry vary depending on timing requirements.

Distribution centers are located in Olive Branch, Miss.

Products/raw materials are typically manufactured/sourced in Japan and the U.S.

Products can be ordered direct or through a Vizient Authorized Distributor. However they are typically ordered direct.

See additional freight update [here](#).

Product storage

Store products at room temperature. Shelf life is three years.

Utilization insights

Clinical contract support resources

Smiths/ICU Medical provides a Clinical Education Resource Portal with customer support.

Building supply assurance

Potential supply vulnerabilities

Supply is vulnerable because there aren't many other suppliers in the market. Smiths/ICU Medical has 95% of the market share.

Conservation strategies

- Providers can keep a safety stock level at their facility of at least three to four weeks on hand to prepare for potential disruptions. Smiths/ICU Medical has invested heavily in manufacturing and supply assurance in the last two years.
- Smiths/ICU Medical has guardrails in place to avoid demand spikes and prevent excessive product loading during global supply chain disruptions.
- In the event of a supply disruption similar to the COVID-19 global disruption, Smiths/ICU Medical has an allocation plan based on ongoing customers and volumes, and it recommends providers switch to direct ordering.

Because predicting the next supply shortage is impossible, it is important that healthcare providers not only adopt and implement care practices strategies to conserve critical products and supplies, but it is equally as important to sustain leading practices that will help ensure the availability of essential products post recovery and in the future. For example, some hospitals have reported decreasing their intravenous solution use by as much as 50% in some care areas by continuing to adhere to the conservation strategies implemented during the recent shortages.

Healthcare providers and other leading organizations have identified and recommend the following actions:

- Providers should keep a safety stock level of the products they use. Smiths/ICU medical has multiple substitution SKUs available as well.

Additionally, with other products and services:

- Assess and identify all hospital services.
- Identify and list critical products, supplies, and resources required to sustain operation of those areas identified and ranked in the first step.
- Maintain the internal planning team document with accurate information. Review and update the document on a routine basis with current employee contact information. If a team member no longer works in the organization, identify the replacement and communicate the information to all stakeholders.

- Communicate practice changes and procedures frequently to staff and stakeholders.
- Hold regularly scheduled planning meetings in the absence of a supply chain shortage or event. This will help to ensure that identified processes and protocols remain relevant and any issues requiring revisions and/or updates are addressed in advance of a shortage or disaster.

If your organization has implemented conservation strategies for arterial blood gas kits, or any other category, share your information [here](#). The information you share will be anonymous unless you grant Vizient permission to share.

Supply chain programs

Impact Standardization

Smiths Medical participates in the Impact Airway Management Standardization Program, which improves procurement processes on commonly purchased products and financially reward standardization efforts while reducing product variation and improving procurement processes on commonly purchased products. Since 1996, members have earned more than \$1.5 billion in cash rebates through the programs. With 12 programs to choose from and built-in flexibility within each program, it's easy to gain additional value beyond price for your organization. For more information, click [here](#).

Planning for disruptions

Distributor recommendations

It is best to utilize any Vizient Authorized Distributor.

Best practice strategies

Providers should keep a safety stock level of three to four weeks on hand.

Vizient offers the following best practices to help members manage disruptions. These suggestions are available to help you gain insight on how the industry is managing supply challenges.

If your inventory is low

Vizient is committed to bringing hospitals, manufacturers, distributors and the industry together to talk about this issue and any long-term implications. We feel continued dialogue around the issue by experts – hospitals, manufacturers, distributors and industry – will be crucial to ultimately arriving at a solution to vexing issue. During critical supply periods, members should continue to order their normal levels of products in order to ensure continued availability for all institutions.

If you begin to experience a shortage:

- Evaluate your current supply.
- Contact your local supplier representative and report exactly how many days' supply you have left.
- If you are not getting a response from suppliers, contact Vizient so we can facilitate communication between member and supplier; provide whether you are ordering direct or through distribution (medical/surgical or pharmacy), and indicate supplier and distributor (if applicable) when you contact Vizient.
- We encourage you to continue the conversation within your organization, with your peers and with the manufacturers and distributors to identify ways to manage your ongoing needs.
- Submit inquiries to disasterresponse@vizientinc.com.

Expedite supply resolution

To expedite resolution for supply issues, contact your local supplier and provide the following information:

- The description and item number of the product that is experiencing a shortage
- Whether you are purchasing directly or through an Authorized Distributor
- Days' supply remaining in your inventory

If expanding your facility

We suggest members notify suppliers when expanding their facilities to assist in planning and anticipate increases in allocations. You should consider notifying your suppliers at least three months ahead of the completion of your facility to ensure sufficient capacity.

Building supply assurance together

Collaboration among suppliers, distributors, members and Vizient strengthens the assurance of supply for all stakeholders. Our wealth of experience, actionable data and predictive planning helps to strengthen supply assurance. Further, our work with stakeholders focuses on improving supply chain risk mitigation as we collaborate to enhance data, increase supply visibility and expand inventory access.

Four themes keep us centered and are the pillars of our supply chain assurance efforts: insights, access, enablement and advocacy. [Learn more about our supply assurance strategy.](#)

In the event of a supply disruption, Vizient will publish a [product disruption brief](#) to the [Supply Assurance webpage](#). Curated by Vizient experts, these documents provide a summary of current conditions and strategies to manage product-level disruptions.

In addition to our disruption briefs, Vizient also compiles all known disruptions into the monthly [Supply Update Executive Summary](#) which tracks all supply chain disruptors, including current market challenges, category-specific product updates and recovering markets.

Whether a supply disruption is the result of a natural or human-made disaster, it is imperative that members are informed. The [Vizient Disaster Preparedness webpage](#) was developed to help providers meet supply chain needs before, during and after an event. The Supply Update section of the guide is updated on a frequent and routine basis with communication from all awarded suppliers that have manufacturing facilities in areas impacted by a disaster. Additionally, a status update list of those manufacturers whose operations have been affected, as well as a list of impacted product(s), will be maintained and updated as that information is received from supplier.

The importance of an internal planning team

Identifying an internal planning team is imperative to managing supply, mitigating risks and sustaining operations during a supply shortage. According to [the Supply Chain Disaster Preparedness Manual](#) developed by the Centers for Disease Control and Prevention (CDC), internal teams should consist of representatives from supply chain, purchasing, emergency management, each clinical/care delivery area, inventory staff, receiving and distribution staff. Relative to medication and solutions, Vizient member feedback indicated the pharmacy department as an integral member to the internal team, as clinical/pharmacy practice changes may occur. Additional members may include the facilities safety manager, security, risk management, legal, marketing and communications, and public relations.

A simple internal team planning document will help to identify, contact and quickly convene relevant team members. See the sample below:

Name	Title	Department/role	Phone	Email

Once an internal team is identified, additional considerations before beginning the development and implementation of a recovery plan include the following:

- The team's goals
- The responsibilities of each planning team member
- Other department/team members who may need to be involved
- Frequency of team meetings
- How the goal/mission be accomplished
- How information will be documented and communicated to the broader audience
- A current framework for success either within your facility or from a leading organization

Stakeholder communication

During supply chain product disruptions, it is vital that accurate and timely information is disseminated to internal and external stakeholders. The following actions should be considered in an effort to facilitate and ensure informed decisions:

- Designate the point person or persons who will be responsible for developing, disseminating and monitoring all communications coming from the internal planning team.
- The internal planning team should collaborate key messages/information to stakeholders, such as changes in policies and/or practice changes.
- Clearly communicate the roles and responsibilities of all staff based on the agreed upon recovery plan. If there are changes to the plan at any time, timely communication of those changes will help to increase risk mitigation and minimize interruption of patient care.
- Establish communication mechanisms for information exchange. Examples include but are not limited to regularly scheduled briefings and meetings, in-services, staff trainings, live/recorded webinars, memos and emails.
- Determine the frequency of reminders and updates regarding supply disruption status and anticipated resolution.
- Frequent updates and reminders after a supply disruption has been mitigated or eliminated help to ensure ongoing success and sustainability of best practices.

Supply management and logistics

A leading practice identified in managing recent shortages is a centralized management approach of impacted product codes. A key responsibility of the internal planning group is to identify all affected product codes and to determine the amount of supply on hand, expected and any allocation protocols implemented by the supply source. Once the current product status is determined, the following actions are recommended:

- Update and maintain an accurate inventory list. Each care area that utilizes any product code on the inventory list should identify a point person to collect on hand and usage levels on an agreed upon frequency. That information should be reported back to the internal planning team. Inventory can either be managed by care delivery areas or in a centralized manner.
- Identify space in the facility to store, manage and distribute product. Designate authorized personnel responsible for maintaining the inventory (expiration dates temperature, ventilation, utilization, equipment maintenance and repair, etc.).
- Develop and seek approval for the inventory management protocol and communicate this information to all stakeholders.
- Update and maintain accurate purchase order and allocation protocols from the contracted supplier and your group purchasing organization (GPO).
- Update and maintain accurate emergency contact information for all suppliers as well as internal stakeholders. This process should be done at least every six months.
- Review the inventory management status on an agreed upon frequency with the internal planning group. Assess for barriers to its effectiveness, implement any changes necessary and communicate those changes to all stakeholders.

Planning for all levels of care and ancillary products

Feedback from lessons learned indicated the need to include all levels of care and ancillary products, if applicable, in the conservation plan. If your provider system has children's hospitals, ambulatory surgery centers, outpatient clinics and/or long-

term care facilities, utilization and logistics of products and supplies must be incorporated into the plan. Additionally, it is vital that ancillary products are considered when contemplating allocations and purchase orders. For example, during the recent drugs and solutions shortages, as large volume solution bags went on back order, smaller volume bags, compounding products, and syringes also went on back order because of practice changes. Therefore, conservation planning should include actual and the additional ancillary products that may be required to sustain a clinical and/or operational practice change.



To learn more, please contact:
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