

## **Inhalation Anesthesia Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028**

Market Report | 2023-11-02 | 142 pages | IMARC Group

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### **Report description:**

The global inhalation anesthesia market size reached US\$ 1.6 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 1.9 Billion by 2028, exhibiting a growth rate (CAGR) of 2.9% during 2022-2028. The increasing prevalence of chronic medical disorders, collaborations between pharmaceutical companies, medical device manufacturers, and healthcare institutions, and the rising investments by governments and private healthcare providers in state-of-the-art equipment are some of the major factors propelling the market.

Inhalation anesthesia is a medical technique employed to induce a reversible state of unconsciousness and insensitivity to pain in patients undergoing various surgical procedures. This method involves administering anesthetic agents in the form of gases or vapors through a breathing mask or an endotracheal tube placed in the patient's airway. These anesthetic agents, such as nitrous oxide, sevoflurane, isoflurane, and desflurane, are carefully balanced to achieve the desired level of sedation and pain relief while maintaining vital bodily functions. The inhaled anesthetics travel through the patient's respiratory system, reaching the lungs and then entering the bloodstream, eventually affecting the brain and central nervous system.

The increasing prevalence of chronic medical disorders requiring surgical treatments is driving the global market. Moreover, as economies develop and individuals have better access to healthcare services, healthcare expenditure tends to increase. This includes investments in medical equipment and technologies, including anesthesia equipment. Governments and private healthcare providers are willing to invest in state-of-the-art equipment to improve patient care and safety. Moreover, regulations, and guidelines related to patient safety and anesthesia practices can impact the types of anesthesia agents and equipment used. Market growth is often aligned with compliance with these regulations, which can lead to the adoption of newer technologies and agents. Also, collaborations between pharmaceutical companies, medical device manufacturers, and healthcare institutions can lead to the development and promotion of new anesthesia technologies, impelling market expansion. Furthermore, the availability of skilled anesthesia professionals is crucial for administering inhalation anesthesia safely and effectively. Training programs and efforts to maintain a competent anesthesia workforce can impact the demand for these techniques.

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## Inhalation Anesthesia Market Trends/Drivers:

### Continual Advancements in Anesthetic Agents and Delivery Systems

Pharmaceutical companies and medical device manufacturers are heavily investing in research and development to create more effective and safer anesthetic gases and vapors. These innovations aim to enhance patient outcomes by reducing the risk of adverse effects and improving the overall anesthesia experience. Newer agents are being developed with improved pharmacokinetic profiles, enabling faster induction and emergence from anesthesia, thus shortening the time patients spend in the operating room. Furthermore, the development of sophisticated delivery systems, including precise vaporizers and monitoring technologies, ensures accurate administration and titration of anesthetic agents, minimizing the chances of over or under dosing. These advancements not only contribute to better patient care but also attract healthcare providers to adopt these modern solutions, thus catalyzing the growth of the inhalation anesthesia market.

### Rising Surgical Procedures and Patient Volume

Population growth, often accompanied by an aging demographic, directly correlates with a heightened demand for surgical procedures. The elderly population tends to require more medical interventions due to age-related ailments, such as cardiovascular diseases, joint replacements, and cancer treatments. Consequently, surgical specialties such as orthopedics, cardiology, oncology, and general surgery have seen a rise in demand. Inhalation anesthesia proves to be a preferred option for these procedures due to its rapid onset and controllable depth of sedation. It offers a balance between ensuring patient's unconsciousness and maintaining their physiological stability. Furthermore, the expansion of medical knowledge and technology has broadened the spectrum of feasible surgical interventions. Minimally invasive procedures, robotics-assisted surgeries, and other innovative techniques have emerged, allowing for safer and quicker interventions.

### Expansion of Ambulatory Surgical Centers

ASCs offer numerous advantages, such as cost-effectiveness, shorter patient stays, and reduced risk of hospital-acquired infections. Inhalation anesthesia aligns well with the requirements of ASCs due to its rapid onset and quick recovery profile. Patients undergoing procedures at ASCs often prefer inhalation anesthesia as it allows them to return to their daily activities more swiftly. Moreover, inhalation anesthesia's ability to minimize post-operative nausea and vomiting is particularly valuable in an outpatient setting. As the number of ASCs grows to accommodate the increasing demand for outpatient surgeries, the demand for inhalation anesthesia is expected to witness a significant rise. This trend also encourages manufacturers to develop more portable and user-friendly anesthesia delivery systems tailored to the unique needs of ASCs.

### Inhalation Anesthesia Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global inhalation anesthesia market report, along with forecasts at the global, regional and country levels from 2023-2028. Our report has categorized the market based on product, application and end user.

#### Breakup by Product:

- Desflurane
- Sevoflurane
- Isoflurane
- Others

Sevoflurane dominates the market

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The report has provided a detailed breakup and analysis of the market based on the product. This includes desflurane, sevoflurane, isoflurane, and others. According to the report, sevoflurane represented the largest segment.

Sevoflurane's popularity is largely due to its favorable pharmacokinetic profile. With its rapid induction and emergence characteristics, sevoflurane enables anesthesiologists to guide patients swiftly and smoothly into and out of anesthesia. This not only enhances operational efficiency in medical settings but also ensures that patients experience minimal delay in the start and conclusion of surgical procedures. Moreover, sevoflurane's low blood-gas solubility allows for rapid equilibration between the lungs and the bloodstream, translating into quicker adjustments in the depth of anesthesia and the potential for faster recoveries. Sevoflurane's reduced likelihood of causing organ toxicity or compromising vital functions offers a degree of reassurance to both medical professionals and patients. This safety aspect has been pivotal in cementing sevoflurane's role as a cornerstone of inhalation anesthesia practice, particularly in paediatric and geriatric populations where safety is of paramount concern.

#### Breakup by Application:

Induction

Maintenance

Maintenance dominates the market

The report has provided a detailed breakup and analysis of the market based on the application. This includes induction and maintenance. According to the report, maintenance represented the largest segment.

The prominence of the maintenance phase is attributed to its role in ensuring patient comfort, surgical precision, and optimal outcomes. Once the patient is induced into anesthesia and the initial surgical incisions are made, maintaining the appropriate anesthetic depth becomes paramount. Anesthesia providers carefully titrate inhalation anesthetic agents to balance the patient's need for complete insensitivity to pain while avoiding over-sedation, which could lead to complications or lengthened recovery times. This dynamic balance requires continuous monitoring and adjustment throughout the procedure, highlighting the importance of skilled anesthesiologists. Moreover, the maintenance phase is directly linked to surgical efficacy and precision. Surgeons rely on patients being adequately anesthetized and immobilized to perform delicate procedures with accuracy. Any fluctuation in the anesthesia depth during the maintenance phase could lead to patient movement or awareness, potentially compromising the surgery's success.

#### Breakup by End User:

Hospitals

Ambulatory Surgical Centers

Others

Hospitals dominate the market

The report has provided a detailed breakup and analysis of the market based on the end user. This includes hospitals, ambulatory surgical centers, and others. According to the report, hospitals represented the largest segment.

Hospitals offer a diverse range of medical services, encompassing routine surgeries, emergency interventions, and specialized procedures across various medical specialties. The sheer volume and variety of surgical interventions conducted in hospitals create a substantial demand for anesthesia services, and inhalation anesthesia, with its ability to provide rapid induction and

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adjustable sedation levels, aligns seamlessly with the dynamic environment of hospital operating rooms. Additionally, hospitals provide a comprehensive infrastructure for anesthesia administration and patient care. They possess well-equipped operating suites, sophisticated monitoring systems, and experienced anesthesia teams capable of managing a wide spectrum of cases. This robust setup allows hospitals to efficiently manage the complexities associated with different surgeries, including those requiring inhalation anesthesia. Furthermore, the presence of specialized units within hospitals, such as pediatric and cardiac surgery departments, highlights the versatility of inhalation anesthesia across diverse patient populations and procedural requirements.

#### Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

North America exhibits a clear dominance, accounting for the largest inhalation anesthesia market share

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada), Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others), Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others), Latin America (Brazil, Mexico, and others), and the Middle East and Africa. According to the report, North America accounted for the largest market share.

North America is characterized by its emphasis on medical advancements and innovation. The presence of renowned research institutions, academic medical centers, and cutting-edge pharmaceutical companies fosters an environment conducive to the development of new anesthetic agents, delivery methods, and monitoring technologies. This commitment to innovation not only enhances patient care but also attracts healthcare professionals to adopt state-of-the-art anesthesia practices, including inhalation anesthesia techniques. The region's regulatory landscape and adherence to stringent safety standards further contribute to its dominance. Regulatory agencies such as the U.S. Food and Drug Administration (FDA) play a pivotal role in

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ensuring the safety and efficacy of anesthesia agents and equipment. This rigorous oversight augments the confidence of healthcare providers and patients in the use of inhalation anesthesia, solidifying North America's position as a leader in the field. Also, North America's focus on medical education and training ensures that anesthesia providers are well-equipped to administer inhalation anesthesia safely and efficiently.

#### Competitive Landscape:

Pharmaceutical and medical device companies are heavily investing in research and development to create advanced anesthetic agents, delivery systems, and monitoring technologies. Moreover, companies are frequently introducing new inhalation anesthesia products and equipment to cater to the evolving needs of healthcare providers and patients. These products often incorporate the latest technological advancements, such as more precise vaporizers, integrated monitoring systems, and user-friendly interfaces. Additionally, leading players are focusing on developing innovative technologies that enhance the administration and monitoring of inhalation anesthesia. This includes the integration of electronic medical records (EMR) systems, real-time data analysis, and remote monitoring capabilities to ensure optimal patient care and safety. Additionally, numerous companies are providing training and educational programs to healthcare professionals, including anesthesiologists, nurse anaesthetists, and operating room staff. These programs help ensure that healthcare providers are well-versed in the latest techniques, technologies, and safety measures related to inhalation anesthesia.

The report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

Abbvie Inc.

Baxter International Inc.

Fresenius SE & Co. KGaA

Halocarbon Products Corporation

Hikma Pharmaceuticals PLC

Lunan Pharmaceutical Group Co. Ltd

Merck KGaA

Piramal Enterprises Ltd.

Troikaa Pharmaceuticals Ltd.

#### Recent Developments:

In May 2023, Piramal Enterprises Ltd collaborated with plus therapeutics to meet increase in investigational drug demand for ongoing and planned clinical trials.

In April 2023, Baxter International Inc. launched Zosyn Premix. It is indicated for the treatment of multiple infections caused by susceptible bacteria.

In December 2021, Hikma Pharmaceuticals PLC launched Bupivacaine HCl Injection. Bupivacaine HCl Injection is indicated in adults for the production of local or regional anesthesia or analgesia for surgery, dental and oral surgery procedures, diagnostic and therapeutic procedures, and for obstetrical procedures.

#### Key Questions Answered in This Report

1. What was the size of the global inhalation anesthesia market in 2022?
2. What is the expected growth rate of the global inhalation anesthesia market during 2023-2028?
3. What are the key factors driving the global inhalation anesthesia market?
4. What has been the impact of COVID-19 on the global inhalation anesthesia market?
5. What is the breakup of the global inhalation anesthesia market based on the product?
6. What is the breakup of the global inhalation anesthesia market based on the application?

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7. What is the breakup of the global inhalation anesthesia market based on the end user?
8. What are the key regions in the global inhalation anesthesia market?
9. Who are the key players/companies in the global inhalation anesthesia market?

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