Global High Purity Metal Organics Market By Type (Trimethyl Aluminum, Trimethyl Gallium, Dimethyl Zinc, and Ferrocene, others), By Applications (Semiconductors, LED, Solar Cells Catalyst, Reagent, LASER, and others), By Region Till 2023

Metal organic compounds are the chemical compounds that contain metals and organic ligands to form a complex organometallic framework. The metal organic compounds are volatile and soluble in organic solvents. Metal organic compounds have electrical and magnetic properties resembling those of metals. The metal organic compounds are available in both liquid as well solid forms in the market. Their application are majorly found in electronics. Apart from that organometallic compounds are widely used in various commercial chemical reactions as a catalyst or reagents. The chemical properties, exhibited by metal organic compounds, such as highly basic and reducing agent are useful to catalyze many polymerization reactions. The organometallic compounds trimethyl aluminium and trimethyl gallium are used as precursor for making semiconductors. In addition to that the organometallic compounds are also used in metal organic chemical vapor deposition (MOCVD) method to create a complex semiconductor multilayer structure. The organic metal nanoparticles embedded in solar cell provide higher light scattering and absorption efficiency.

Exponential rise in demand of semiconductors in the world is the most important factor driving the growth of global high purity metal organics market. The LASER is being used in divers sectors and its applications can be found from a household to metal industries, which is projected to fuel the demand of high purity metal organics. In addition to this, the trend of green energy with lower carbon footprint is gaining popularity all over the world. Developing countries are rapidly taking up renewable energy projects to meet their energy needs. Solar energy is the most preferred among all forms of renewable energy. The rise in demand of solar energy is anticipated to push the growth of global high purity metal organics market. Moreover, the organometallic compounds are the obvious choice for many polymerization and other commercial chemical reactions. This would help drive the overall growth of high purity metal organics. However, the constraint in global high purity metal organics which are needed to be considered include toxicity of some organometallic compounds such as mercury and lead. The remnants of the organic metal harm the natural habitat of community which may invite restrictions from environmental authority which would adversely impact the market of high purity metal organics. Furthermore, the existing production capacity is limited as compared to the demand of high purity metal organics which can result into rise in prices in near future. Nevertheless, many new players are focusing onto opportunity to invest in the high purity metal organics which is anticipated to relieve the price constraint during the forecast period.
Regional Analysis
The major regions in the global high purity metal organics are Asia Pacific, North America, and Europe. Other regions include Latin America and Middle East & Africa. Asia Pacific is the fastest growing market among the major regions. The presence of maximum number of end use industries in this region is an important factor in favor of high purity metal organics. Developing countries in this region namely, India, Taiwan, China, and Myanmar are steadily adapting the renewable energy production and conservation which is expected to witness rise in demand of high purity metal organic compounds. In terms of market share, North America was leading the market till 2011 but later Asia Pacific surpass the demand. Yet, it is estimated that North America may follow Asia Pacific closely during the forecast period. The major contributors to the regional high purity metal organics market are U.S and Canada. The demand of organometallic compounds in this region is driven by use of LED in diverse applications. Europe is the significant region in global high purity metal organics market. Western European countries use LED and semiconductors in various applications ranging from household to automobile & transportation, which is the main driver of growth in regional market. Other regions in the global high purity metal organics are Middle East & Africa and Latin America, wherein Latin America is projected to grow at slightly higher rate than Middle East & Africa owing to the rise of end use industries such as electronics and chemicals along with the growing demand of organometallic compounds from energy sector. Middle East & Africa is anticipated to join the stream with leaders in the global high purity metal organics due to the vast potential in renewable energy sector.

Segmentation
The global high purity metal organic market is segmented on the basis of type, applications, and region. On the basic of type the market is segmented into trimethyl aluminum, trimethyl gallium, dimethyl zinc, and ferrocene, and others. Trimethyl aluminium is most widely used product among them, owing to its increasing demand in making semiconductors. Based on applications the global high purity metals organics is segmented into semiconductors, LED, catalyst, reagent, solar cells, LASER, and others, in which semiconductors segment lead the market on account of the huge demand from telecommunication industry. Geographically, the market is divided into Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. Asia Pacific is poised to lead the global high purity metal organics market owing to the growing demand of electronic and telecommunication devices.

Key Players
Key players in the global high purity metal organics market are Azelis Electronics (France), The Dow Chemical Company (U.S.), Sigma-Aldrich Co. LLC (U.S.), Akzo Nobel N.V (Netherlands), American Elements (U.S.), Triveni Chemicals (India), Evans Fine Chem. (India), Albemarle Corporation (U.S.), and others
### Intended audience
- High purity metal organics manufacturer
- Traders and distributors of high purity metal organics
- Research and development institutes
- Potential investors
- Raw material suppliers
- National laboratory

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