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THE FUTURE
TODAY

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IRAN SILICATE INDUSTRIES

Company History

Iran Silicate Industries Co. has been active in production of various types of Sodium and Potassium Silicates for over 30 years, We have reached an annual production capacity of 150,000 tons. We have the capability to produce Silicates in liquid and solid forms. By our scientific and technical approaches by our dedicated experts, a high rate of production with high quality of the products are achieved ,which are among our main principals.

We have a long history of working with major companies in various industries such as Detergents, Metal Casting, Ceramic Tiles, Cardboard Box and Container Manufacturing, Electrode, Agriculture, Drilling, and other industries.

Company profile

Iran Silicate Industries Group, as the first producer of solid and liquid sodium and potassium silicates, has been able to satisfy the customers need due to the high quality and high production capacity of products. Silicates are widely used in many industries due to their alkaline phase and mineral polymer properties. Accordingly, it can be claimed that all humans have used these materials at least once a day.

Sodium Silicate

Liquid and solid forms in different purity ratios:

- Ratio of 1
- Ratio of 2
- Ratio of 2.3
- Ratio of 2.4
- Ratio of 2.6
- Ratio of 3

Potassium Silicate

This product is produced in liquid and solid forms in different purity ratios as follows:

- Ratio of 1.6
- Ratio of 2
- Ratio of 2.4

Application of Silicates

Application of sodium and potassium silicates in various industries

Sodium Metasilicate

Sodium Metasilicate is the main component of commercial sodium silicate form. This product has a ratio SiO2/Na2O of one (R=1) and has a high cleaning ability on hard objects and versatile properties in cleaning, removing grease and dust in hard water due to its equal proportion of sodium and silicate. Other applications of this product include the lubricant in the ceramic tile industry, grease removal in plating industries, and production of other detergents.

Detergent and cleaning industries

Sodium silicate (Ratio of 2)

This product is used in the production of detergents. Other applications of sodium silicate in detergent and cleanser industries include the production of moulded soaps, versatile cleaning and disinfecting sprays, and a variety of liquid detergents due to their detergent, anti-corrosion, stain removal, and other characteristics. The ratios of silicate consumed in these industries are 1.9 to 2.1.

Cardboard Box

Sodium Silicate (Ratio of 2.4)

Silicate is one of the most useful materials in the production of corrugated sheets, boxes of cartons and cardboard. Sodium Silicates are first applied on thin layers of recycled papers. Then, cartoon sheets or cardboard layers are produced from papers of the previous stage. Sodium Silicates with a ratio of 2.4 can be used in this industry (production of cartons and cardboard).

Packaging Industry (Carton adhesive: Laminate and Lip Adhesives)

Sodium silicate (Ratio of 2.4)

Sodium Silicate can be employed to increase the adhesion of paper pulp in gluing cardboard boxes. Sodium Silicate can also be used in the packaging stages of numerous industries, especially detergents. The ratio of Sodium Silicate consumed for the above processes is equal to 2.4.

Foundry and Metal Casting Industries

Sodium silicate (Ratio of 2.4-2.3)

Sodium Silicate is applied, as a suitable bonding agent for sand particles, in the manufacture of moulds to make silica bodies in the Metal Casting Industries. The optimum ratios in these industries are at ranges of 2.2-2.4.

Paper and cardboard industries

Sodium silicate (Ratio of 3.1-3.2)

Sodium Silicates, with ratios of 3.1 to 3.2, are employed in paper and cardboard industries for the production of pulp and are considered as increasing adhesion factors (pulp texture enhancer) in the pulp texture. This material is also widely used in the preparation of paint inks.

Ceramic Tiles Industry

Sodium silicate (Ratio of 2.2-2.3)

In ceramic and tile industries, soil particles are initially mixed and homogenized using a 3 ball mill, in which Sodium Silicate is used as a lubricant to facilitate the flow of slurry and increase drying propertied of products in ratios of 2.2 to 2.3.

Drilling Industries

Sodium silicate (Ratio of 2.5-2.6)

Sodium Silicate has several applications in the drilling industry. This material, as admixtures to cement, is used for the Drilling, Waste Management, a process called fixation. The ratios used in the above industry are equal to 2.6-2.5.

Steel industries

Sodium silicate (Ratio of 3.2)

In the production of the sponge iron process, called direct reduced iron (DRI), pure powders obtained by the reduction process are combined with lime and Sodium Silicate under the briquetting press that can be used in the electric arc melting process. It should be noted that a ratio of 3.2 is used in this process.

Concrete Industry

Sodium silicate (Ratio of 3.2 - 3)

Sodium Silicate, with the formation of Silicate complexes with a thickness of 1mm on the surfaces, it can be used as concrete curing and cementing compounds in the production process of cement and concrete blocks.

Sodium Silicate accelerates the reaction of calcium with silicate in cement and is used as a cement accelerator. For example, strong accelerators are needed for injected cement and cement blocks during installing cement blocks in the construction of tunnels with a TBM machine, which this process is achieved by adding Sodium Silicate.

The ratios used in such industries are equal to 2.6, 3-3.2.

Agricultural industries and fertilizer productions

Potassium silicate (Ratio of 2)

Increasing the yield and fertility of numerous crops such as cereals, especially rice, vegetables, and fruit trees, enhancing resistance to abiotic (environmental) stresses, such as extreme heat, cold, drought, and salinity, are the main functions of Potassium Silicate. In addition, improving post-harvest shelf life and storage properties and enhancing taste, colour, texture, and appearance quality of fruits are considered as other positive features of this product.

Electrode industries

Potassium silicate (Ratio of 1.6, 2, and 2.4)

Coating, covering, and flux coating of electrodes are made from different materials. Potassium Silicate is one of the most well-known materials that can be applied to form the electrode paste. Next, it is pressed on metal bars by special 4 mechanical or hydraulic presses. Since different types of electrodes are produced in this industry, several ratios of Potassium Silicate are available in specific ranges of 1.6, 2, and 2.4.

Collaborations with industrial producers in markets and commercial markets

Due to the high volume of high-quality products, Iran Silicate Industries Company has organized multilateral cooperation with major manufacturing companies in domestic and foreign countries. Accordingly, the following prideful resume can be presented as the services of the company.

IRAN SILICATE INDUSTRIES

Detergent industries

Use of sodium silicate products containing a ratio of 3.1 in companies of:

- Paxan Co.
- Pakshoo Industrial Group

Steel and Metal Casting Industries

Application of sodium silicate with ratios of 3.1 and 3.2 in companies of:

- Mobarakeh Steel Co.
- Hormozgan Steel Co.

Ceramic Tiles Industry

In this regard, our company is actively cooperating with the following companies concerning selling sodium silicate with a ratio of 2.3 and sodium metasilicate.

- Tabriz Tile Industrial Group
- Sina Tile

Paper and cardboard industries

Application of 3.1 sodium silicate ratio for the following companies.

- Iran Packaging Industries Company
- Mazandaran Wood and Paper Industries

Drilling Industries (Oil and Gas)

Use of sodium silicate with ratios of 2.5 and 2.6 in the following companies.

- BMI Drilling Company
- Pars Drilling Fluids (PDF) Company

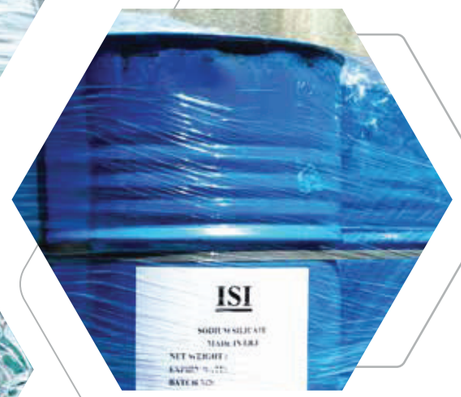
Electrode Industry

Employing potassium silicate with different ratios of 2.4-1.6 in companies of:

- Industrial Company (Electrode Factory) AMA
- Pars Electrode Mfg.co

In addition, both ABG and Beyaz are two examples of international foreign companies that have multilateral cooperation with our company.

Packing



Safety and delivery time

We use efficient transportation systems to ensure fast and safe delivery of products. By designing and manufacturing various packages, based on the volume and type of products we make sure that products are transported safely and delivered in best and optimum conditions.

Tanker (Bulk)

Barrel - Metasilicate

25kg bag

Jumbo bag - Solids

Jumbo bag

Packing and shipping

Iran Silicate Industries Co. has established a strong infrastructures for domestic and export in order to provide optimum customer service for packing, transportation and shippng.

Future goals

Iran Silicate Company has considered long-term goals in various organizational fields according to the existing facilities and current standards in the world of industry and trade, including strategies related to human resources in companies. In this regard, the Iran Silicate Company creates an incentive for staff growth in the future by establishing different branches and transferring trained personnel towards increasing customers' access to the company's services and successful staff transfers, which will increase the performance and efficiency of employees. On the other hand, despite the daily increase in the world's industrial productions, environmental health for future generations and industrial waste recycling scenarios are among the most relevant challenges for producers today.

Accordingly, Iran Silicate Company has also focused on future goals and using industrial waste toward producing construction (building) materials resulting from the recycling of industrial wastes. This goal is a small step of the mentioned company towards maintaining environmental health for future generations.