KISUMA® 5 - MAGNESIUM HYDROXIDE

UNIQUE PRODUCTS THROUGH UNIQUE TECHNOLOGIES
Product Description
Magnesium hydroxides are environmentally friendly inorganic compounds with the formula Mg(OH)$_2$. These compounds are widely used as antacids in the pharmaceutical industry. The magnesium dihydroxides (MDH) produced by our proprietary and unique technology are highly pure white powders. This product can be used as a non-toxic flame retardant in high temperature processes due to its high endothermic decomposition temperature.

Modern Factory in the Netherlands
Our factory was built in 1999, but expansion work never stopped. Today, we produce close to 30,000 tonnes of magnesium compounds per year. The plant is strategically located near raw material suppliers and logistic infrastructure, allowing us to transport our products efficiently all over the world.

Leading Products since 1947
Our parent company, Kyowa Chemical Industry, has been involved in the development and production of highly pure, specialty magnesium compounds since 1947. We supply magnesium hydroxide and hydrotalcites to customers in pharmaceutical and industrial markets across the world from our factories in Japan and Veendam, the Netherlands.

KISUMA® 5 DRASTICALLY INCREASES BRAND QUALITY AND INTEGRITY

Halogen-Free Flame Retardants
KISUMA® 5 is the brand name for our range of highly pure magnesium hydroxide compounds that have been developed as halogen-free flame retardants for thermoplastics and rubbers. The products in this range are non-toxic and generally considered to be the best of their kind.
Inorganic Flame Retardant 2.0

For halogen-free applications that require high heat stability, we recommend KISUMA® 5 as a high purity magnesium hydroxide flame retardant. When you are looking for the best non-toxic flame retardant to provide high temperature flame retardancy, KISUMA® 5 is what you need. Kisuma Chemicals is the European branch of Kyowa Chemical Industry, Japan. Products coming from our state-of-the-art factory in the Netherlands are of the highest available quality.

**Designed for Performance**

KISUMA® 5 starts decomposing endothermically at temperatures > 340 °C, resulting in the formation of magnesium oxide (MgO) and water (H₂O). When this occurs, KISUMA® 5 provides flame retardancy in three steps.

1. The release of water results in cooling and decreased pyrolysis of the polymer
2. The released water dilutes the fuel/oxygen ratio
3. The MgO that is generated works as a protective layer that provides a smoke suppressant effect

KISUMA® 5 does not generate poisonous or corrosive gas during this process.

**Available Product Grades**

Our highly pure magnesium hydroxide brand KISUMA® 5 comprises a comprehensive range of grades. We are sure that we have a KISUMA® 5 product that will fit your specific needs.

- **KISUMA® 5A**, the industry standard grade
- **KISUMA® 5B** for outstanding low temperature flexibility and mechanical properties
- **KISUMA® 5B-1G** for improved processability and mechanical properties
- **KISUMA® 5J** for extraordinary water- and acid-resistivity and wet electrical properties

**Applications of KISUMA® 5**

Having trouble to determine the appropriate KISUMA® 5 grade for your product based on the information in this brochure? Some applications for which KISUMA® 5 has already been implemented successfully might give you inspiration for your own products.

- Flame retardant in polyolefin cables
- Flame retardant in EPDM rubber
- Flame retardant in PVC
- Heat stabilizer in Ca-Zn systems for PVC

If you would like more information about these applications of KISUMA® 5, or if you have ideas for your own application, contact us today! Our experienced product managers are ready to support you with all your enquiries.

**Advantages of KISUMA® 5**

- KISUMA® 5 is an excellent flame retardant and smoke suppressant that does not generate toxic fumes or corrosive gas
- KISUMA® 5 has excellent processability resulting from a special surface treatment and its extremely fine and consistent particle size
- KISUMA® 5 can be compounded to high concentrations in polymers
- KISUMA® 5 improves the arc and tracking resistance of polymers
- KISUMA® 5 improves the MFI and flexural modulus of polypropylene
- KISUMA® 5 has synergistic effects with red phosphorus and carbon black
- KISUMA® 5 is also effective as a heat stabilizer for resins containing halogen
Continuity Through Innovation