

# MITO

MATERIAL SOLUTIONS

## UNLOCK YOUR MATERIAL'S POTENTIAL WITH FUNCTIONAL ADDITIVES

Enabling the next generation of materials, MITO Material Solutions Inc. is revolutionizing composites with robust, simple-to-use additives that combine functional chemistry with scalable use for all industries.

Every MITO product is engineered to reactively disperse at extremely low loadings—without interrupting current processes—to make composites the choice for a longer lasting, more sustainable future.

MITO makes materials MIGHTY

- ✓ **STRUCTURAL**
- ✓ **INTENTIONAL**
- ✓ **RESPONSIVE**
- ✓ **SEAMLESS**
- ✓ **VERSATILE**
- ✓ **LIGHTER**

MITO products can be used in ester resins, both BPA and BPF epoxies, and thermoplastics. All MITO additives provide the maximum benefit in fiber-reinforced systems since they increase the chemical adherence between polymer and substrate while providing physical bonding.

We're excited to explore how MITO solutions can improve your end-market application by unlocking the properties hidden in your materials.





## E-GO—THE NEW STANDARD IN GRAPHENE FUNCTIONALIZATION

MITO E-GO™ is a graphene-based additive that delivers multi-functional improvements in composite materials at extremely low concentrations.

The E-GO's chemical and physical bonding points create mechanical property improvements including: tensile, flex, compression, and adhesion. Secondary improvements include: increased electrical insulation, thermal conductivity, weatherability/corrosion resistance.

As a micron-sized material, E-GO can be added to the polymer system already in use

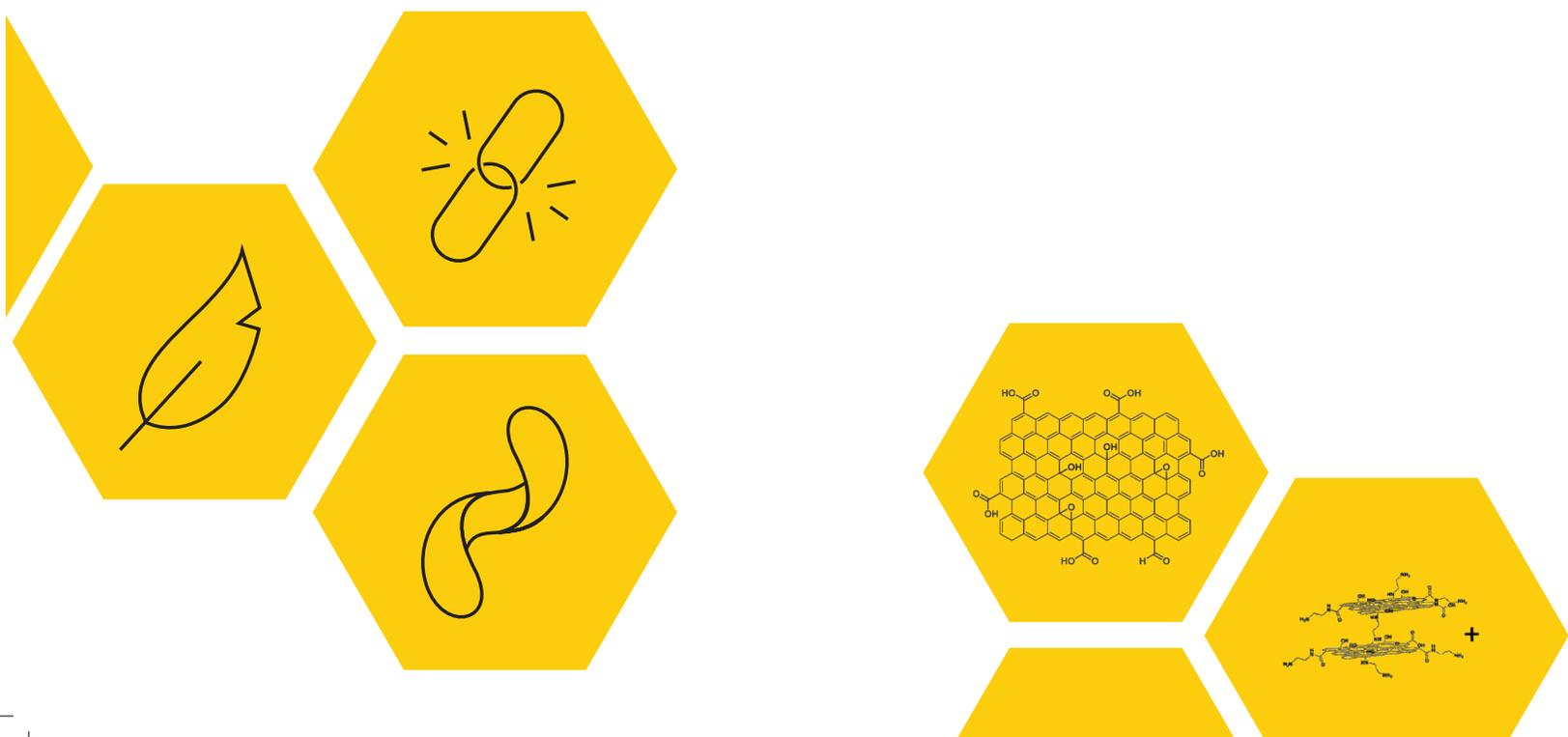
via dry powder and a shear dispersion; or masterbatched and let down into your polymer system—without changing your process—to dramatically improve your graphene dispersion. E-GO particles reactively disperses against itself, preventing agglomeration and have a recommended loading of <1%, which doesn't alter the viscosity of the host system.

E-GO enables OEMs to drastically boost their product's performance, making polymers the go-to choice in materials as the world transitions to a more sustainable, lightweight future. Applications include: Fiber reinforced composites, thermoplastics, coatings and more.

Potential Industries:

- ✓ **AEROSPACE**
- ✓ **AUTOMOTIVE/TRANSPORTATION**
- ✓ **BIO-MED**
- ✓ **CONSTRUCTION**
- ✓ **PACKAGING**
- ✓ **RECREATION/SPORTING GOODS**

## LET'S TALK ABOUT REMOVING AMALGAMATION AND IMPROVING YOUR GRAPHENE'S FUNCTIONALITY.



# ACRE - MITO'S NEXT GENERATION OF ADDITIVES

Using the process perfected with E-GO, MITO has now developed the next generation in functionalized additives—ACRE, a cornstarch-based additive.

MITO's proprietary functionalization process remains scalable for different applications and industries. By functionalizing cornstarch with silica cage particles (polyoligomeric silsesquioxanes, POSS™), MITO has created a sustainable alternative to other hazardous, mined-fillers like mica. ACRE acts as a scaffold within the polymer, adhering substrates and bonding matrices while maintaining the same reactive dispersion characteristics as the graphene additives.

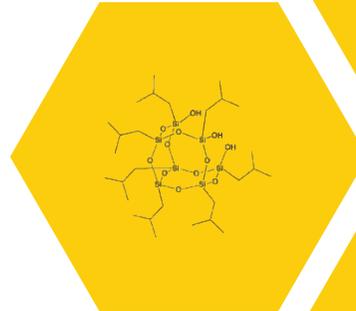
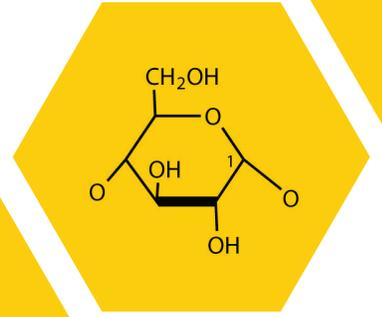
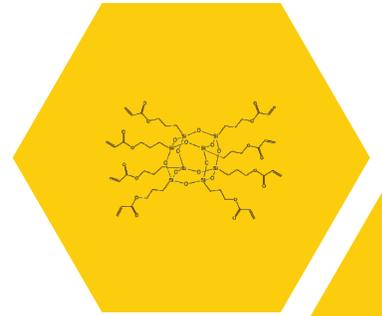
ACRE increases functionality in composite materials through mechanical property improvements, including: tensile flex compression and adhesion—with the added benefit of optical transparency plus the potential to integrate and increase the performance of recycled materials, unlocking a variety of applications.

Applications include: Bio-based polymers, fiber-reinforced composites, coatings

What SMITO's introduction means for plastics manufacturers is that sustainability is in reach. Cornstarch is a renewable resource; and ACRE makes plastics lighter, more durable, and stronger. Using recycled plastics as your base material no longer means any sacrifice in performance. ACRE can even be used as a replacement for mica, a mined product.

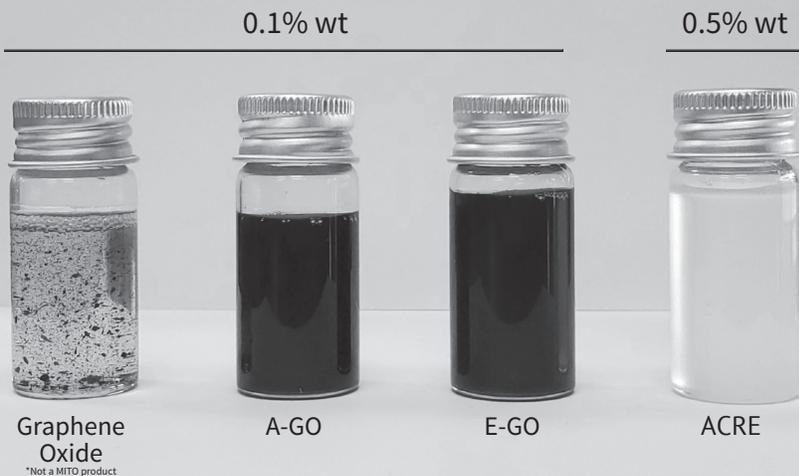
Potential Industries:

- ✓ **Coatings**
- ✓ **Packaging**
- ✓ **RV manufacturing**
- ✓ **Sporting Goods**
- ✓ **Thermoplastics/ Thermosets**



## LET'S TALK ABOUT YOUR OPPORTUNITY TO FUNCTIONALLY INCORPORATE SUSTAINABILITY INTO YOUR MATERIALS.

### DISPERSION COMPARISON



Materials are dispersed in Epon 828

# UNLOCKING THE PROMISE OF YOUR MATERIALS WITH MITO

## EXPLORE

TELL US WHAT YOU'RE LOOKING FOR—WE WANT TO KNOW YOUR STORY

MITO partners with a variety of industries interested in enhancing material performance. In order for us to help, we need to understand your current materials, processes, and goals so we can recommend the best MITO solution for your needs.

## CREATE

SIGN NDA AND SET PARAMETERS FOR EVALUATING MATERIALS

We take care of the formalities up front and protect everyone's IP. After completing the NDA, MITO's team evaluates your specifications and creates benchmarks for testing a MITO solution in your materials. This is the best way to ensure we deliver actionable results.

## EVALUATE

TEST MITO IN YOUR APPLICATION

Our base evaluation contract includes the option for MITO to provide mechanical testing services performed to ASTM standards. Once we establish the benchmarks in your polymer system, MITO can create samples and deliver a custom data set showing a direct comparison. If preferred, our responsive team can also work directly with your team at your facility.

## COLLABORATE

INTEGRATE MITO INTO YOUR EXISTING SUPPLY CHAIN

When the benchmarks are met, the MITO ops team will work to integrate into your existing supply chain. MITO solutions are designed to integrate into the base polymer—before part production—and can be distributed commercially via direct sales or by distributing through your polymer supplier/compounder. This ensures seamless integration into your supply chain without added time or process interruption.



Learn How You Can Be a  
MIGHTY Solution Hero To  
Your Boss (and Customers)

We are happy to share! Check us out:  
[mitomaterials.com/tech](http://mitomaterials.com/tech)

### GET IN TOUCH!

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Find us on:

*We'd also be delighted to host you at our Indianapolis lab.*