

V-Gard® GREEN Helmets Frequently Asked Questions



1 What are V-Gard GREEN Helmets?

V-Gard GREEN Helmets are hard hats produced from green high-density polyethylene (GHDPE), a biopolymer made from sugar cane-based ethanol. GHDPE is a renewable resource because the rate of sugarcane growth is faster than the rate of harvest.

2 Do MSA competitors make similar helmets?

MSA is the exclusive manufacturer of the world's first protective helmet produced from nearly 100 percent renewable resources. The V-Gard GREEN Helmet was first introduced by MSA Brazil in 2012, and into the North American market in September 2013. MSA is the only manufacturer to offer a sustainable hard hat in North America.

3 What are the differences between traditional V-Gard and V-Gard GREEN helmets?

The V-Gard GREEN Helmet is similar to a traditional V-Gard helmet in that it is made of high-density polyethylene (HDPE). However, unlike traditional hard hats in which the HDPE is sourced from non-renewable petrochemical fossil fuels, such as oil, GHDPE in the V-Gard GREEN Helmets is sourced entirely from sugarcane ethanol.

4 Do V-Gard GREEN helmets meet the same Standards performance criteria as the traditional V-Gard?

Yes. The V-Gard GREEN Helmet and the traditional V-Gard Helmet offer the same trusted look and quality customers have come to expect from their V-Gard.

V-Gard and V-Gard GREEN helmets are third-party SEI certified as Type I, Class E under ANSI/ISEA Z89.1-2014 and CSA Z94.1-2015.

5 How many V-Gard GREEN helmet options are available?

V-Gard GREEN helmets are available in front-brim cap style and full-brim hat style. All V-Gard GREEN helmets are standard size, non-vented helmets with the Fas-Trac® III Ratchet suspension. There are five V-Gard GREEN helmet colors available: white, yellow, blue, red and green.

6 How can you tell the difference between a traditional V-Gard helmet and a V-Gard GREEN helmet?

V-Gard GREEN Helmets have three distinguishing features:

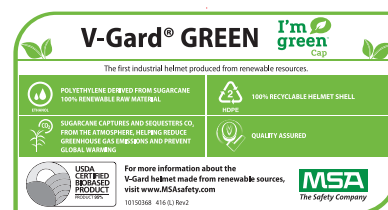
- Under the front brim, there is an ECO wheel, showing the product is made of green HDPE:



- The back lug, opposite the MSA logo, has an "I'm green" logo label:



- The helmet has an internal ID label showing that this product is produced from renewable resources:



7 Are V-Gard GREEN helmets heavier than traditional V-Gard helmets?

The V-Gard GREEN Helmet is negligibly lighter than a traditional V-Gard helmet.

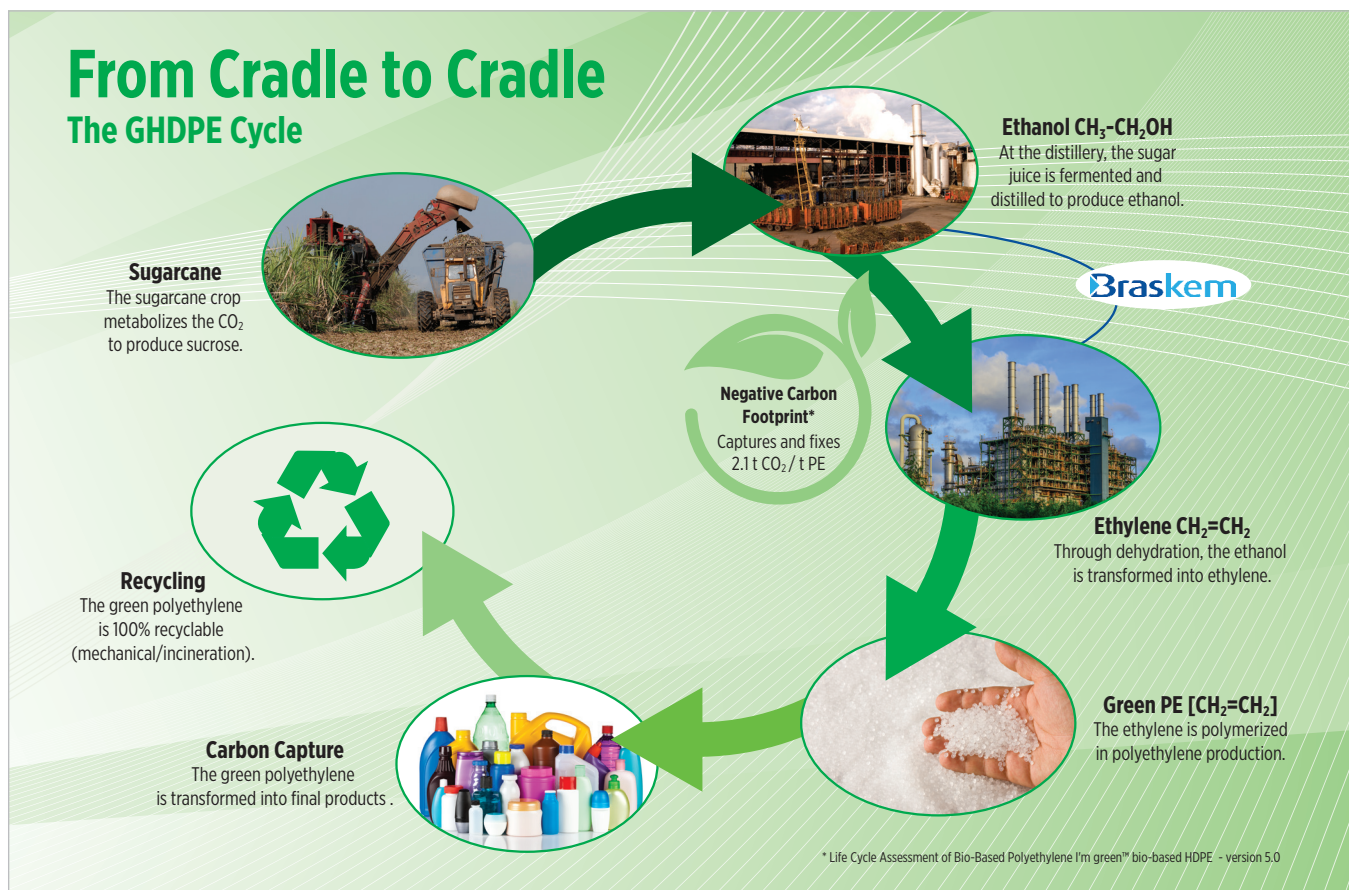
8 What is GHDPE?

- GHDPE is a high-density polyethylene that can be produced from several types of plants, including corn, sugar beets or sugarcane. The GHDPE used to make the V-Gard GREEN helmets is produced from sugarcane. Sugarcane is a fast-growing plant cultivated in tropical climates, such as Brazil.
- In Brazil, sugarcane used to produce ethanol is grown on <1% of all arable land (i.e., land set aside specifically for growing crops).
- Sugarcane is harvested and sent to mills where it is distilled to produce ethanol. The ethanol is dehydrated (or the oxygen removed) to make ethylene, a simple carbon-hydrogen (CH_2) molecule. The CH_2 is then polymerized (or linked together) to form GHDPE.



9 How is GHDPE produced?

Presented below is the GHDPE Cycle:



10 How do V-Gard GREEN Helmets help the planet?

Greenhouse gases, such as CO₂, absorb and hold heat in the atmosphere (the “greenhouse effect”). The greenhouse effect intensifies when fossil fuels are burned (and CO₂ is released), and/or deforestation occurs (and CO₂ increases because plants are no longer available to extract it from the atmosphere). This contributes to global warming, which, according to some scientists, is causing significant climate and weather changes. For every ton of GHDPE produced, 2.1 tons of carbon dioxide are captured from the atmosphere and the environment¹. Conversely, production of one ton of polyethylene sourced from petrochemicals (fossil fuels) actually emits 2.24 tons of carbon dioxide into the atmosphere². In other words, switching from a fossil fuel-derived HDPE to a sugarcane-derived GHDPE represents a reduction of carbon footprint by some 8,700 pounds of CO₂ for every ton of high-density polyethylene produced.

11 How much CO₂ is captured from the environment with each V-Gard GREEN helmet?

On average, the production of each V-Gard GREEN helmet removes approximately 1.3 to 1.5 lbs. of CO₂ from the atmosphere, according to the material supplier.

12 Are V-Gard GREEN Helmets recyclable?

Yes. V-Gard GREEN Helmets, like traditional V-Gard Helmets, are designed to stay out of landfills—both types of helmets can be recycled. Regardless of the material source, V-Gard helmets are made of High Density Polyethylene (HDPE), and therefore, carry a “Number 2 Plastics” symbol. HDPE carries low risk of leaching and is readily recyclable into many other goods, including detergent bottles, pens, recycling containers, and drainage pipes, to name a few.

13 Can customers earn LEED credits for using V-Gard GREEN Helmets on “green” jobsites?

The V-Gard GREEN Helmets can potentially contribute toward and strengthen a LEED project application if a narrative under the LEED application section titled “Innovation in Design” is submitted (www.usgbc.org/node/1732608).

Innovation in Design points are awarded to LEED projects that develop new solutions, employ new technologies, educate, or realize exemplary performance in another area. Innovation in Design points recognize design teams and projects for achieving exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in green building categories not specifically addressed by the LEED Green Building Rating System. As the world’s first helmet produced from renewable resources, the V-Gard GREEN Helmet demonstrates exemplary innovation in protecting both people and planet.

MSA has a V-Gard GREEN Helmet Innovation in Design Narrative Letter to help with any such application. Please contact MSA Customer Service at 1-800-MSA-2222 for a copy of the Letter.

14 Has there been any industry or public recognition of MSA’s innovation?

Yes. Frost & Sullivan (F&S), a 50-year old global research organization consisting of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies, presented MSA with the “2013 Global New Product Innovation Leadership Award in Head Protection”. F&S’ independent analysis of the Head Protection Market indicated that MSA addressed the sustainability needs through its V-Gard® GREEN Helmets, helping reduce human interference on environmental balance. F&S indicated that with this highly commendable product innovation, MSA pioneered the concept of sustainable nature-inspired product development into the Personal Protective Equipment (PPE) industry.

¹Life Cycle Assessment of Bio-Based Polyethylene I’m green™ bio-based HDPE - version 5.0

²Based onecoinvent v3.9.1 data 1 kg of fossil HDPE production {GLO} / market for | Cut-off, U).

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.

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