



MATERIAL SAFETY DATA SHEET (MSDS)

HDPE GEOCELL

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Prepared According to:

- Globally Harmonized System (GHS)
- OSHA Hazard Communication Standard (29 CFR 1910.1200)
- REACH Regulation (EC) No. 1907/2006

SECTION 1 – PRODUCT IDENTIFICATION

Product Name

HDPE Geocell

Product Description

HDPE Geocell is a three-dimensional cellular confinement system manufactured from High-Density Polyethylene (HDPE) strips ultrasonically welded together to form a honeycomb structure. It is designed to improve soil stabilization, erosion control, slope protection, load support, and ground reinforcement for civil engineering and environmental applications.

Recommended Uses

- Soil stabilization
- Road and pavement reinforcement
- Slope protection
- Channel protection
- Retaining walls
- Railway subgrade stabilization
- Load support platforms
- Landfill engineering
- Mining projects
- Landscaping and erosion control



Restrictions on Use

Not intended for food-contact applications unless specifically certified.

Emergency Contact

Manufacturer/Supplier:
Basekim (or authorized distributor)

SECTION 2 – HAZARD IDENTIFICATION

GHS Classification

This product is **not classified as hazardous** in its supplied solid form according to GHS.

GHS Label Elements

Signal Word

Not Applicable

Hazard Pictograms

None

Hazard Statements

- Not classified as hazardous under normal conditions of use.
- Cutting or machining may generate plastic particles.
- Thermal processing may release irritating fumes.
- Molten material may cause severe thermal burns.

Precautionary Statements

- Avoid inhalation of fumes generated during welding or heating.
- Use adequate ventilation during thermal processing.
- Wear suitable protective equipment when handling heated material.



SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number	Typical Content
High Density Polyethylene (HDPE)	9002-88-4	95–98%
Carbon Black	1333-86-4	2–3%
UV Stabilizers	Proprietary	<1%
Antioxidants	Proprietary	<1%
Processing Additives	Proprietary	Trace

No hazardous ingredients are present above reportable limits in the finished product.

SECTION 4 – FIRST AID MEASURES

Inhalation

No hazard under normal use.

If exposed to fumes from thermal processing:

- Move affected person to fresh air.
- Seek medical attention if symptoms persist.

Skin Contact

Solid Product

No treatment normally required.

Molten Product

- Cool affected area immediately with cold water.
- Do not remove solidified polymer from skin.
- Obtain immediate medical attention.

Eye Contact

Dust or plastic particles:

Flush eyes with clean water for at least 15 minutes.



Molten polymer:

Immediate emergency medical treatment required.

Ingestion

Not expected during normal industrial use.

If swallowed accidentally:

- Rinse mouth.
- Seek medical advice if discomfort occurs.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

- Water spray
- Dry chemical powder
- Carbon dioxide (CO₂)
- Alcohol-resistant foam

Unsuitable Extinguishing Media

High-pressure water jet.

Hazardous Combustion Products

During fire, decomposition may generate:

- Carbon monoxide (CO)
- Carbon dioxide (CO₂)
- Hydrocarbon vapors
- Aldehydes
- Smoke

Fire Fighting Equipment

Use:

- Self-contained breathing apparatus (SCBA)



- Full protective clothing

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Emergency Procedures

No emergency hazards expected.

Collect material mechanically.

Dispose or recycle according to local regulations.

Avoid creating slip hazards from loose panels or scraps.

Environmental Precautions

Prevent plastic waste from entering waterways or drainage systems.

SECTION 7 – HANDLING AND STORAGE

Handling

- Handle using appropriate lifting equipment.
- Avoid sharp objects that may damage the product.
- Avoid unnecessary exposure to excessive heat.
- Use ventilation when welding or cutting.

Storage

Store:

- In original packaging
- On flat surfaces
- Away from direct heat sources
- Protected from prolonged sunlight before installation
- In dry, well-ventilated areas

Do not stack pallets beyond recommended limits.



SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

General workplace ventilation.

Local exhaust ventilation during thermal welding or machining.

Personal Protective Equipment

Eye Protection

Safety glasses.

Hand Protection

Protective work gloves.

Respiratory Protection

Not normally required.

Use approved respiratory protection where processing fumes exceed occupational exposure limits.

Foot Protection

Safety footwear.

Body Protection

Protective work clothing.



SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Black cellular sheet
Physical State	Solid
Odor	Odorless
Color	Black
Density	Approximately 0.94–0.97 g/cm ³
Melting Point	125–135°C
Flash Point	Not Applicable
Auto-Ignition Temperature	Approximately 340°C
Water Solubility	Insoluble
Vapor Pressure	Not Applicable
pH	Not Applicable
Explosive Properties	None
Oxidizing Properties	None

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability

Stable under normal storage and handling conditions.

Conditions to Avoid

- Excessive heat
- Open flames
- Strong oxidizing agents

Incompatible Materials

- Strong oxidizers
- Concentrated oxidizing acids

Hazardous Decomposition Products

- Carbon monoxide



- Carbon dioxide
- Aldehydes
- Hydrocarbon fumes

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity

Not expected to present acute toxicity.

Skin Irritation

Not irritating under normal use.

Eye Irritation

Dust or plastic particles may cause temporary mechanical irritation.

Respiratory Effects

Fumes from molten polymer may cause irritation of the respiratory tract.

Carcinogenicity

Carbon black is fully encapsulated within the polymer matrix and does not present a hazard during normal use.

Mutagenicity

No known effects.

Reproductive Toxicity

No known effects.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity

Not expected to be harmful to aquatic life in solid form.



Persistence and Degradability

HDPE is not readily biodegradable.

Bioaccumulation

Not expected.

Mobility

Insoluble in water.

Environmental Advice

Recycle where facilities exist.

Prevent littering and uncontrolled disposal.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of waste in accordance with local, regional, and national regulations.

Preferred methods:

- Mechanical recycling
- Approved energy recovery
- Licensed waste disposal

Do not burn in open air.

SECTION 14 – TRANSPORT INFORMATION

Item	Status
UN Number	Not Regulated
Proper Shipping Name	Not Applicable
Hazard Class	Not Regulated
Packing Group	Not Applicable
Marine Pollutant	No



Item	Status
ADR/RID	Not Regulated
IMDG	Not Regulated
IATA	Not Regulated

The product is not classified as dangerous goods for transport.

SECTION 15 – REGULATORY INFORMATION

This product is generally considered an article under chemical regulations and is not classified as hazardous in its supplied solid form.

Manufactured using high-density polyethylene with UV stabilizers and carbon black for long-term durability and environmental resistance. Typical HDPE geocells are designed for applications such as soil stabilization, erosion control, and load support.

SECTION 16 – OTHER INFORMATION

Applicable Standards

- GHS (Globally Harmonized System)
- OSHA Hazard Communication Standard (29 CFR 1910.1200)
- REACH (EC) No. 1907/2006

Revision History

Revision	Date	Description
1.0	July 2026	Initial Release