



MATERIAL SAFETY DATA SHEET (MSDS)

HDPE GEOMEMBRANE SHEET

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Prepared According to: GHS (Globally Harmonized System), OSHA Hazard Communication Standard (29 CFR 1910.1200), REACH (EC) No. 1907/2006

SECTION 1 – PRODUCT IDENTIFICATION

Product Name

HDPE Geomembrane Sheet

Product Description

High Density Polyethylene (HDPE) waterproof geomembrane manufactured for liquid containment, waterproofing, environmental protection, mining, landfill lining, reservoirs, aquaculture, civil engineering, and industrial applications.

Recommended Uses

- Landfill liners
- Mining heap leach pads
- Reservoir lining
- Fish ponds
- Canal lining
- Wastewater treatment
- Secondary containment
- Agricultural water storage
- Environmental protection systems

Restrictions on Use

Not intended for food contact unless specifically certified.



SECTION 2 – HAZARD IDENTIFICATION

GHS Classification

The product, in solid manufactured form, is **not classified as hazardous** under GHS.

GHS Label Elements

Signal Word:

Not Applicable

Hazard Pictograms:

None

Hazard Statements

- Not classified as hazardous under normal handling.
- Mechanical processing may generate dust or fumes.
- Molten polymer may cause severe thermal burns.

Precautionary Statements

- Avoid breathing fumes generated during thermal processing.
- Use adequate ventilation during welding or cutting.
- Wear appropriate PPE when handling heated material.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number	Concentration
High Density Polyethylene (HDPE)	9002-88-4	95–99%
Carbon Black	1333-86-4	2–3%
Antioxidants	Proprietary	<1%
UV Stabilizers	Proprietary	<1%

No hazardous ingredients are present above reportable limits under normal conditions.



SECTION 4 – FIRST AID MEASURES

Inhalation

No hazards under normal conditions.

If exposed to processing fumes:

- Move person to fresh air.
- Seek medical attention if irritation persists.

Skin Contact

Solid product:

No first aid normally required.

Molten material:

- Cool affected area immediately with clean water.
- Do NOT remove solidified polymer.
- Seek immediate medical treatment.

Eye Contact

Dust:

Flush with clean water for at least 15 minutes.

Molten material:

Emergency medical treatment required.

Ingestion

Not expected during normal industrial use.



SECTION 5 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media

- Water spray
- Dry chemical
- Foam
- Carbon dioxide (CO₂)

Unsuitable Media

Direct high-pressure water jet.

Hazardous Combustion Products

During fire, decomposition may produce:

- Carbon monoxide
- Carbon dioxide
- Aldehydes
- Hydrocarbon smoke

Protective Equipment

Firefighters should wear:

- Self-contained breathing apparatus (SCBA)
- Full protective clothing

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Solid Product

No environmental hazard expected.

Collect scrap mechanically.

Dispose according to local regulations.

Avoid creating slip hazards.



SECTION 7 – HANDLING AND STORAGE

Handling

- Handle using proper lifting equipment.
- Avoid contact with molten polymer.
- Maintain ventilation during welding or heat fusion.
- Prevent sharp objects from damaging the sheet.

Storage

Store:

- Flat
- Dry
- Covered
- Away from direct sunlight for extended periods unless UV stabilized
- Away from ignition sources

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

- Local exhaust ventilation during thermal processing.
- General workplace ventilation.

Personal Protective Equipment

Eye Protection

Safety glasses.

Hands

Protective work gloves.



Respiratory

Normally not required.

Use suitable respiratory protection during thermal welding if ventilation is inadequate.

Body Protection

Safety footwear and protective clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Black smooth or textured sheet

Odor:

Odorless

Physical State:

Solid

Density:

Approximately 0.94–0.97 g/cm³

Melting Point:

Approximately 120–135°C

Flash Point:

Not Applicable

Water Solubility:

Insoluble

Vapor Pressure:

Not Applicable

Auto-Ignition Temperature:

Approximately 340°C



Decomposition Temperature:
Above processing temperatures

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability

Stable under recommended storage conditions.

Conditions to Avoid

- Excessive heat
- Open flame
- Oxidizing agents

Incompatible Materials

Strong oxidizers.

Hazardous Decomposition Products

- Carbon monoxide
- Carbon dioxide
- Hydrocarbon vapors
- Aldehydes

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity

Not expected to present acute toxicity.

Skin Irritation

Not irritating under normal use.

Eye Irritation



Dust may cause mechanical irritation.

Respiratory Effects

Thermal decomposition fumes may cause temporary respiratory irritation.

Carcinogenicity

Carbon black is encapsulated within the polymer matrix and is not expected to present exposure hazards during normal use.

Mutagenicity

Not known.

Reproductive Toxicity

Not known.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity

Not expected to be harmful to aquatic organisms.

Persistence

Polyethylene is resistant to biodegradation.

Bioaccumulation

Not expected.

Mobility

Insoluble in water.

Environmental Advice



Prevent plastic waste from entering waterways.

Recycle whenever possible.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose in accordance with:

- Local regulations
- National regulations
- Environmental legislation

Preferred disposal methods:

- Recycling
- Energy recovery where permitted

Do not burn in open air.

SECTION 14 – TRANSPORT INFORMATION

UN Number

Not regulated.

Proper Shipping Name

Not Applicable

Transport Hazard Class

Not Applicable

Packing Group

Not Applicable



Marine Pollutant

No

Applicable Regulations

- ADR
- IMDG
- IATA

Not classified as dangerous goods.

SECTION 15 – REGULATORY INFORMATION

This product is manufactured in accordance with applicable industrial quality systems.

Typical manufacturing standards may include:

- ASTM standards
- GRI GM13
- ISO Quality Management Systems (where applicable)

The supplied product is generally considered a manufactured article and is not classified as hazardous under GHS in its solid form.

SECTION 16 – OTHER INFORMATION

Prepared according to:

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