

Safety Data Sheet

According to Regulation (EC) No. 1907/2006
And OSHA HCS 2012 (29 CFR 1910.1200)



KW Plastics Recycling Division – HDPE
KWR101, All Grades KWR102, All Grades
KWR105, All Grades
High Density Polyethylene Resin

Section 1. Identification of the Substance/Mixture and of the Company Undertaking

1.1 Product Identifier

GHS Product Identifier Polyethylene (PE) resin
Other means of identification KWR101, All Grades; KWR102, All Grades; KWR105, All Grades

Product type Natural (unpigmented), Black or Mixed Color Pellets

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended use of the chemical and restrictions to use
Product use Area of Application Molded, extruded and fibrous plastic articles

1.3 Details of the supplier of the safety data sheet

Supplier's details KW Plastics Recycling Division
279 Pike County Lake Road
Troy, AL 36079
800-633-8744
334-566-1563
kwrsales@kwplastics.com

Emergency telephone number USA: 1 (800) 633-8744
Outside USA: 1 (334) 566-1563

Transportation Emergency Number (800) 424-9300 or (703) 527-3887 (CHEMTREC)

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

CLP Classification – Regulation (EC) No 1272/2008

Physical Hazards **Based on available data, the classification criteria are not met**
Health Hazards **Based on available data, the classification criteria are not met**
Environmental Hazards **Based on available data, the classification criteria are not met**

Primary Routes of Exposure Eyes or skin contact

Potential Health Effects

Acute Effects

Inhalation Health injuries not expected. Not a probable route of exposure under ordinary conditions.

Skin contact Health injuries not expected. Possible mechanical irritation.

Eye contact Health injuries not expected. Possible mechanical irritation from dust or powder.

Ingestion Health injuries not expected. Not a probable route of exposure.

Chronic effects Ongoing exposure may aggravate acute effects

Carcinogenicity See Section 11

Medical conditions aggravated by long term exposure Ongoing exposure may aggravate acute effects.

OSHA Classification of the substance or mixture

GHS label elements

Signal word: Warning
Hazard statements: May form combustible dust concentrations in air.

Precautionary statements

Prevention: Not applicable
Response: Not applicable
Storage: Not applicable
Disposal: Not applicable

Supplemental label elements:

Keep container tightly closed. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Prevent dust accumulation.

2.2 Label elements *None required*

Unknown hazards to the aquatic environment (CLP)

Polymers are not expected to be hazardous to the environment.

2.3 Other hazards

COMBUSTIBLE DUSTS. If small particles are generated during processing, handling, or by any other means, combustible dust concentrations in air may form. Fine dust clouds may form explosive mixtures with air. Combustible dust hazard is posed only by particle size. All additive materials (monomers, additives and pigment) are totally encapsulated within the resin and cannot be released in pure form, and are not a component of the combustible dust hazard.

MECHANICAL IRRITANT. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

No ingredient(s) of unknown acute toxicity is/are intentionally used in this product.

Section 3. Composition/Information on Ingredients

3.1 Substances *Not applicable*

3.2 Mixtures Polymer

Common name & synonyms PE, HDPE homopolymer, HDPE copolymer
Covers all natural, black, or mixed color commercial and experimental polyethylene homo- and copolymer products. For product specific information please see our technical documents online at www.kwplastics.com or contact your KW Plastics account representative.

Component name	CAS Number	Concentration (%)
Ethene, homopolymer	9002-88-4	>98
1-Butene, polymer with ethene	25087-34-7	>90
1-Hexene, polymer with ethene	25213-02-9	>90

Concentrations shown as ranges are to protect confidentiality or due to product variation.

No additional ingredients are present which are classified as hazardous to health, within the current knowledge of the supplier in the applicable concentrations, and therefore, do not require reporting in this section.

Section 4. First Aid Measures

4.1 Description of First Aid Measures

Description of necessary first aid measures

Eye contact Health injuries not expected. Possible mechanical irritation from dust or powder.

Immediately flush eyes with plenty of water, continuing to rinse for at least 10 minutes. Occasionally lift the upper and lower eyelids. Remove any contact lenses. If irritation persists, seek medical attention.

Inhalation Health injuries not expected. Not a probable route of exposure under normal conditions.

Solid material is not likely to be hazardous by inhalation. If symptoms persist, seek medical attention.

If affected by fumes from heated material, remove affected person from source of exposure and move into fresh air. If not breathing, provide artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention.

Skin contact Health injuries not expected. Possible mechanical irritation.

Solid, cool material contact: wash with soap and water.

If burned by contact with hot material, immediately flush skin with large amounts of cold water, submerging in cold water if possible to dissipate the heat. Do not attempt to detach polymer adhering to the skin. Do not attempt to remove clothing attached with molten material. Seek immediate medical attention for thermal burns.

Ingestion Health injuries not expected. Not a probable route of exposure.

If in the unlikely event that ingestion occurs, follow common guidelines for ingestion first aid. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick, as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Seek medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek immediate medical attention. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

See toxicological information (Section 11)

Self-Protection of the First Aider **No special precautions required.**

4.2. Most important symptoms & effects, both acute and delayed **None reasonably foreseeable**

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician **Treat symptomatically**

Section 5. Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing Media Water fog, dry chemical powder, carbon dioxide (CO₂) or foam as appropriate for material in surrounding fire.

Unsuitable extinguishing media Water jet. Avoid using direct streams of water on molten burning material to avoid scattering the material and spreading fire.

5.2. Special hazards arising From the substance or Mixture Possibly combustible at high temperature.

Material melts in proximity to fire, which may result in slippery floors and stairs.

Static charges on solid or melted materials may ignite combustible atmospheres.

Airborne dusts of this material in an enclosed space and the presence of an ignition source may pose an explosion hazard. Consult NFPA Bulletin 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids," for safe handling procedures. As with any fire, wear NIOSH/MSHA approve positive pressure self-contained breathing apparatus and full protective clothing.

Hazardous thermal decomposition products

Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Burning can produce carbon monoxide and/or carbon dioxide and other harmful products. The major decomposition products are low molecular weight oligomers (C6-18) of polyethylene. Degradation products may include trace amounts of acrolein, formaldehyde, aldehydes, and other organic vapors.

5.3. Advice for firefighters**Special protective actions for fire-fighters**

In the case of fire, promptly isolate the scene by removing all persons from the vicinity of the incident. Take no action involving any personal risk without suitable training. Remove containers from fire area if possible without risk. Use water spray to keep fire-exposed containers cool as long as material in containers are not burning.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental Release Measures**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency Personnel**

Take no action involving any personal risk or without suitable training. Evacuate surrounding areas. Prevent any unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. Allow no flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is not adequate. Wear appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with spill, take note of any information in Section 8 on suitable and unsuitable materials. See also above information in "For non-emergency personnel".

6.2. Environmental Precautions

No special environmental precautions required. Avoid dispersal of spilled material in runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up**Small spill**

Remove containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum, sweep up, or gather material and place in a designated, labeled waste container.

Large spill

Pellets spilled on the floor can present a slipping hazard on hard surfaces. Remove containers from spill area. Use spark-proof tools and explosion-proof equipment. Prevent dust cloud. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum, sweep, or gather up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

Section 7. Handling & Storage**7.1. Precautions for safe handling****Protective measures**

Wear appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid any possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is not adequate. Keep in original container or an approved alternative made from a compatible material. Keep tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. To avoid fire or explosion, take precautionary measures against electrostatic discharges. Dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers may retain product residue and can be hazardous.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Light hydrocarbon vapors can build up in the headspace of tanks or silos. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces). Tank and silo headspaces should always be regarded as potentially flammable. Avoid static electrical discharge and all ignition sources during filling and sampling from storage silos or tanks. Heated material presents a risk of being splashed with molten materials, causing thermal burns. Do not breathe gas, fumes or vapor. When handling hot material, wear heat-resistant protective gloves, clothing and face shield that are capable of withstanding the heated product temperature.

Minimize dust generation and accumulation. Pneumatic conveying of pellets can generate large static electrical charges due to friction from transfer and mixing operations. Electrical discharge in presence of air can cause an explosion. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Fine dust clouds may form explosive mixtures with air. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material, using inert atmosphere, and non-sparking tools. Consult local applicable standards for guidance. Refer to NFPA 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids" and EN 61241, "Electrical Apparatus for Use in the Presence of Combustible Dust" for safe handling. Avoid elevated temperatures for prolonged periods of time. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent small spills and leakage to avoid slip hazard. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition.

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area, in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Keep separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Protect material from direct sunlight. Care should be taken when storing and handling this product. Humidity, sunlight, and temperature have an influence on the way the product behaves during storage and handling. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Main storage hazards are pallet stock slippage and forklift truck maneuvers, which can cause injury to personnel. It is highly recommended that adequate procedures covering storage handling of pallets are established and maintained. These procedures must be kept up to date and regularly audited. In most cases, best practice is to stack pallets no more than two (2) high. However, facilities responsible for storing the material should perform a site specific risk assessment to determine whether pallets can be stacked safely.

Loading/Unloading Temperature:	Ambient	Storage Temperature & Pressure:	Ambient
Transport Temperature & Pressure:	Ambient	Static Accumulator:	Yes
Suitable Containers/Packing: Bulk Containers; Hopper Cars; Bags; Boxes; Drums; Silos			
Suitable Materials and Coatings (Chemical Compatibility): Aluminum; Polyethylene or Polypropylene Bags			

Keep container tightly closed in a dry and well-ventilated place.
 Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)
 Class 11

7.3. Specific end use(s) Professional use only

Section 8. Exposure Controls/Personal Protection

8.1. Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Polyethylene (PE) resin	ACGIH TLV (United States).
	Particulates Not Otherwise Specified
	TWA: 10 mg/m ³ 8 hours. Form: Inhalable
	Particulates Not Otherwise Specified
	TWA: 3 mg/m ³ 8 hours. Form: Respirable fraction
	OSHA PEL (United States).
Particulates Not Otherwise Specified	
TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction	
Particulates Not Otherwise Specified	
TWA: 15 mg/m ³ 8 hours. Form: Total	

Biological limit values This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) No information available

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal				
Inhalation				

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Appropriate engineering controls Use only with adequate ventilation. General room ventilation is adequate for storage and ordinary handling. If operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below recommended or regulatory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection Safety glasses with side shields or chemical goggles to prevent eye contact. If operating conditions cause high dust concentrations to be produced, use dust goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin protection

Hand protection Wear impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molten product. Cold material: None required. However, use of adequate ventilation is good industrial practice.

Body protection Personal protective equipment for the body should be selected based on the task being performed and the risks involved before handling this product. When handling hot material, wear heat resistant protective gloves, clothing and face shield that are able to withstand heated product temperature. Cold material: None required. However, use of adequate ventilation is good industrial practice.

Other skin protection Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved before handling this product. When handling hot material, wear heat-resistant protective gloves, clothing and face shield that are able to withstand the temperature of the molten product. Cold material: None required. However, use of adequate ventilation is good industrial practice.

Respiratory protection Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical & Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state, color	Natural (unpigmented), Mixed Color, or Black Solid Pellets	Bulk Density	Variable
Odor	Mild	Vapor pressure	Not applicable
Odor threshold	Not available	Vapor density (Air = 1)	Not applicable
pH	Not available	Specific Gravity (@ 23°C)	0.94 to 0.97
Melting point	110 to 167°C (230 to 332.6°F)	Solubility (H₂O)	Insoluble (cold or hot)
Boiling point	Not available	Partition coefficient: noctanol/Water	The product is insoluble in water and octanol.
Flash point	Not applicable	Auto-ignition temperature	>340°C (>644°F)
Evaporation rate	Not applicable	Decomposition temperature	>300°C (>572°F)
Flammability (solid, gas)	Not available	Viscosity	Not available
Lower and upper explosive (flammable) limits	Not available		

9.2. Other information

<i>Molecular Formula</i>	(CH ₂ CH ₂)
<i>Evaporation Rate</i>	Not applicable - Solid

Section 10. Stability & Reactivity

10.1. Reactivity

Not reactive under normal conditions of storage or use. No specific test data related to reactivity available for this product or its ingredients.

10.2. Chemical stability

The product is stable under normal conditions of storage and use.

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.
Avoid strong oxidizing agents. Avoid processing material over 300°C (572°F).

10.4. Conditions to avoid

Incompatibility Conditions to avoid

May react with strong oxidizing agents. Organic solvents, ether, gasoline, lubricating oils, chlorinated hydrocarbons and aromatic hydrocarbons may react with and degrade polyethylene. Avoid exposure to open flame or exceeding recommended processing conditions. If heated to more than 300°C (527°F), the product may form vapors or fumes which could cause irritation of the respiratory tract, coughing, and shortness of breath. Avoid the creation of dust-air mixtures when handling and avoid all possible sources of ignition (spark or flame). To avoid fire or explosion, avoid static charge buildup by dissipating static electricity during transfer by grounding and bonding containers and equipment before transferring material. Avoid contact with incompatible materials.

10.5. Incompatible materials

Reactive or incompatible with the following materials:
oxidizing materials and agents or amines

10.6. Hazardous Decomposition Products

Material does not decompose at ambient temperatures. Burning can produce carbon monoxide and/or carbon dioxide and other harmful products. The major decomposition products are low molecular weight oligomers (C₆-18) of polyethylene, waxes, and oxygenated hydrocarbons. Degradation products may include trace amounts of acrolein, formaldehyde, aldehydes, and other organic vapors, the inhalation of which may be hazardous.

Section 11. Toxicological Information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Information on toxicological effects (Listed for the components where information is available.) (a) Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
1-Butene, polymer with ethane (25087-34-7)	LD50 Oral	Rat	4 g/kg	N/A

(b) Skin Irritation/Corrosion Not available

(c) Serious eye damage/irritation No data available

(d) Respiratory or Skin Sensitization

Respiratory No data available
Skin No data available

(e) Germ cell mutagenicity No data available

(f) Carcinogenicity No data available

There are no known carcinogenic chemicals in this product

(g) Reproductive toxicity No data available

(h) STOT-single exposure No data available

(i) STOT-repeated exposure No data available

(j) Aspiration hazard Not applicable
Solid

Specific target organ toxicity (single exposure) Not available

Specific target organ toxicity (repeated exposure) Not available

Aspiration hazard Not available

Potential acute health effects

Eye contact Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact Adverse symptoms may include the following:
Irritation, redness

Inhalation Adverse symptoms may include the following:
respiratory tract irritation, coughing

Skin contact No specific data

Ingestion No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available **Potential delayed effects** Not available

Long term exposure

Potential immediate effects Not available **Potential delayed effects** Not available

Potential chronic health effects Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	4400.4 mg/kg

Mutagenicity

Conclusion/Summary: No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a mutagen.

Carcinogenicity

Conclusion/Summary: Neither this product, nor its components at concentrations greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ethene, homopolymer	N/A	3	N/A

IARC 1 1, Carcinogenic to humans

IARC 2A 2A, Probably carcinogenic to humans

IARC 2B 2B, Possibly carcinogenic to humans

IARC 3 3, Not classifiable as to its carcinogenicity to humans

IARC 4 4, Probably not carcinogenic to humans

Reproductive toxicity

Conclusion/Summary: No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary: No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

Further Information: This product has no known adverse effect on human health.

Section 12. Ecological Information

12.1. Toxicity

Ecotoxicity

Conclusion/Summary: No known or expected ecotoxicity. Wildlife may ingest plastic pellets or bags. Although not toxic, such materials may physically block the digestive system, causing starvation or death. Polyethylene is an essentially biologically inert solid. It is considered non-toxic and stable, and therefore does not decompose in landfills or aquatic systems.

12.2. Persistence and degradability

Biodegradation: More than 99% of material will remain intact after exposure to microbes.
Hydrolysis: Transformation due to hydrolysis not expected to be significant.
Photolysis: Material will embrittle in the presence of sunlight, but not completely break down.
Atmospheric Oxidation: Transformation due to atmospheric oxidation not expected to be significant.

12.3. Bioaccumulative potential Potential to bioaccumulate is low. No data available.

12.4. Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available. Polyethylene has not been found to migrate through soils.

Mobility

This product is not likely to move rapidly with surface or groundwater flows because of its low water solubility. If released to waterways, polyethylene pellets float. Product should be recovered from land or waterways following spills.

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Endocrine disrupting properties *Endocrine Disruptor Information* This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects No known significant effects or critical hazards.

Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

Section 13. Disposal Considerations

13.1. Waste treatment methods

**Waste from Residues/
Unused Products** *Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.*

**Contaminated
Packaging** *Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.*

**European Waste
Catalogue (EWC)** *According to the European Waste Catalog, Waste Codes are not product specific, but application specific.*

Other Information *Waste codes should be assigned by the user based on the application for which the product was used.*

Disposal methods

Whenever possible, this material should be recycled. Please see <http://www.plasticsrecycling.org/> for extensive information on recycling polyethylene and other polymer products.

Wherever possible, the generation of waste should be avoided or minimized.

This product is not known to generate hazardous wastes according to US RCRA and Canadian CEPA regulations. The use, mixing or processing of this material may alter this product. Please check federal, state and local environmental regulations prior to disposal. Reduce non-hazardous wastes by 1) clean and reuse where possible 2) recover and resale through recycled plastic or scrap brokers 3) incinerate with heat recovery or 4) landfill. Recycling and disposal by incineration must be in accordance with applicable regulations. **DO NOT ATTEMPT TO DISPOSE OF BY UNCONTROLLED INCINERATION.** Open burning of plastics at landfills is not acceptable.

Disposal of this product and its by-products should be in compliance with the requirements of environmental protection, waste disposal legislation and any regional local authority at all times.

Dispose of surplus and non-recyclable products. The unused product is not specifically listed by EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Untreated waste should not be disposed of to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Recycle any waste packaging. Only consider incineration or landfill whenever recycling is not feasible.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

IMDG/IMO *Not regulated*

- 14.1. UN number
- 14.2. UN proper shipping name
- 14.3. Transport hazard class(es)
- 14.4. Packing group

ADR *Not regulated*

- 14.1. UN number
- 14.2. UN proper shipping name
- 14.3. Transport hazard class(es)
- 14.4. Packing group

IATA *Not regulated*

- 14.1. UN number
- 14.2. UN proper shipping name
- 14.3. Transport hazard class(es)
- 14.4. Packing group

14.5. Environmental hazards *No hazards identified*

14.6. Special precautions for user *No special precautions required*

14.7. Maritime transport in bulk according to IMO instruments *Not applicable, packaged goods*

Land: US D.O.T. 49 CFR 172.101:

Not regulated as a hazardous material for land transport

Land: Canadian TDG:

Not regulated as a hazardous material for land transport

UN Proper Shipping Name/Number:

Not regulated

Sea: IMDG:

Not regulated as a hazardous material for sea transport according to IMDG-Code

Air: IATA and IACO:

Not regulated as a hazardous material for air transport

Transport in bulk according to Annex II MARPOL 73/78 and the IBC Code:

Not Available

Special precautions for user

Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory Information

Additional regulatory information may be available through our website, at www.kwplastics.com.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

X = listed, Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), China (IECSC), Japan (ENCS), Australia (AICS), Korea (ECL).

Inventory	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	Mexico	PICCS	ENCS	IECSC	AICS	KECI	NECI
Country	EU	EU	EU	US	CA	CA	MX	PH	JP	CN	AU	KR	TW
High Density Polyethylene (CAS:9002-88-4)	-	-		X	X	-	X	X	X	X	X	X	X
1-butene, Polymer with Ethene (CAS: 25087-34-7)	-	-		X	X			X	(6)-18	X	X	KE-04086	X
1-hexene, Polymer with Ethene (CAS: 25213-02-9)	-	-		X	X			X	(6)-1594	X	X	KE-13670	X

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

National Regulations

WGK Classification Water endangering class = 2 (self classification)

Component France - INRS (Tables of occupational diseases)
Polyethylene Tableaux des maladies professionnelles (TMP) - RG 66

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

U.S. Federal regulations

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602 Class I Substances Not listed

Clean Air Act Section 602 Class II Substances Not listed

DEA List I Chemicals (Precursor Chemicals) Not listed

DEA List II Chemicals (Essential Chemicals) Not listed

EPA Storm Water Regulations: Resin pellets are classified as "significant materials" and should be prevented from entering drains, ditches, basements, or waterways. Site emission reporting may be required, so please check applicable regulations.

OSHA HAZARD COMMUNICATION STANDARD: This material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200, if used for its intended purposes.

EPCRA: This material contains no extremely hazardous substances.

CWA / OPA: Plastic pellets are defined by the US EPA under the Clean Water Act (40CFR122.26) as a "significant material" which requires any industrial plant that may expose pellets to storm water to secure a storm water permit. Violations of the rule carry the same penalties as other Clean Water Act violations. Pellets found in storm water runoff are subject to EPA regulations with the potential for substantial fines and penalties.

SARA 302/304 **Composition/information on ingredients:** No products were found.
SARA 304 RQ: Not applicable.

SARA TITLE III Information: Hazard categories for the Superfund Amendments and Reauthorization Act (SARA) Section 311/312/313 (40 CFR 370):

Immediate Hazard: No Delayed Hazard: No Fire Hazard: No Pressure Hazard: No Reactivity Hazard: No

SARA 313 TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

Regulatory Lists Searched

1	ACGIH ALL	5	TSCA 4	9	TSCA 12b	13	IL RTK	17	NJ RTK
2	ACGIH A1	6	TSCA 5a2	10	CA P65 CARC	14	LA RTK	18	PA RTK
3	ACGIH A2	7	TSCA 5e	11	CA P65 REPRO	15	MI 293	19	RI RTK
4	OSHA Z	8	TSCA 6	12	CA RTK	16	MN RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

15.2. Chemical safety assessment

The Chemical Safety Assessment/Report (CSA/CSR) is not required.

Section 16. Other Information

Preventing Pellet Loss

Please refer to Operation Clean Sweep at <http://www.opcleansweep.org> for access to published plastic industry publications and resources on preventing pellet loss.

Dust Hazard Publications

Polyethylene fines and dust particles have been listed as a Class I combustible dust by the National Fire Protection Association in NFPA-68, Table E.1(e)). For information on minimizing potential dust and fire hazards and controlling static, please refer to NFPA-654 "Standard for the Prevention of Fire and Dust Explosions in Chemical, Dye, Pharmaceutical and Plastics Industries."

Hazardous Material Information System (U.S.A.)

Health 0 Flammability 1 Physical hazards 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) NFPA 704 Hazard Class

Health: 0 Flammability: 1 Instability: 0

- 0 (Minimal)
- 1 (Slight)
- 2 (Moderate)
- 3 (Serious)
- 4 (Severe)



Reprinted from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the above referenced subject, which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of issue/Date of revision 05/04/2021
Date of previous issue 08/22/2019
Version 3

This Safety Data Sheet conforms to regulation 1907/2006/EC (REACH). This product has been classified in accordance with European CLP regulations (1272/2008/EC) and the U.S. Hazard Communication standard (29 CFR 1910.1200).

Key to abbreviations

CAS - Chemical Abstracts Service	TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances	DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances	ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances	AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances	NZIoC - New Zealand Inventory of Chemicals
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act	CPR - Controlled Products Regulations
DSL - Domestic Substances List	DOT - Department of Transportation
EPA - Environmental Protection Agency	FDA - Food and Drug Administration
GHS - Globally Harmonized System of Classification and Labelling of Chemicals	

IBC - Intermediate Bulk Container	IDL - Ingredient Disclosure List
NIOSH - National Institute for Occupational Safety & Health	NJTSR - New Jersey Trade Secret Registry
NTP - National Toxicology Program	OSHA - Occupational Safety & Health Administration
RCRA - Resource Conservation & Recovery Act	SARA - Superfund Amendments & Reauthorization Act
TDG - Transportation of Dangerous Goods	UN - United Nations
WEL - Workplace Exposure Limit	TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists	IARC - International Agency for Research on Cancer
DNEL - Derived No Effect Level	PNEC - Predicted No Effect Concentration
RPE - Respiratory Protective Equipment	LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%	EC50 - Effective Concentration 50%
NOEC - No Observed Effect Concentration	
POW - Partition coefficient Octanol:Water	LogPow - logarithm of the octanol/water partition coefficient
PBT - Persistent, Bioaccumulative, Toxic	vPvB - very Persistent, very Bioaccumulative
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road	ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
IMO/IMDG - International Maritime Organization /International Maritime Dangerous Goods Code	MARPOL 73/78 - International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD - Organisation for Economic Co-operation & Development	ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor	VOC - (Volatile Organic Compound)

References

HCS (U.S.A.)- Hazard Communication Standard

International transport regulations

Hazardous Substances Database (HSDB): toxicology data file on the National Library of Medicine's (NLM) Toxicology Data Network (TOXNET).

Registry of Toxic Effects of Chemical Substances (RTECS)

Commission de la santé et de la sécurité du travail, Service du répertoire toxicologique (CSST): information on chemical products used in the workplace including WHMIS classification.

National Toxicology Program (NTP), Department of Health and Human Services: Report on Carcinogens

International Agency for Research on Cancer (IARC), List of Carcinogens

Occupational Safety and Health Administration (OSHA) (29 CFR 1910.1001-1052) – Carcinogens

National Institute for Occupational Safety and Health; NIOSH Pocket Guide to Chemical Hazards.

Aquatic Toxicity Information Retrieval (AQUIRE)

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <https://echa.europa.eu/en/information-on-chemicals/cl-inventory-database>.

European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>.

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END OF SAFETY DATA SHEET