MATERIAL SAFETY DATA SHEET

EQUATE PETROCHEMICAL COMPANY (K.S.C.C.)

This Material Safety Data Sheet contains current information regarding health, safety and waste considerations for EQUATE polyethylene. To best meet your standards for safety and handling, we urge you to carefully review its contents and make it available to those who are responsible for handling and processing of the product.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

IDENTIFICATION OF THE SUBSTANCE

Product Name	EPDA-5040
Chemical Name	1-Hexene, polymer with ethene
Chemical Family	Natural pelleted thermoplastic polyethylene compounds
CAS Number	25213-02-9
CAS Name	1-Hexene, polymer with ethene
Synonym(s)	None

COMPANY IDENTIFICATION

Manufacturer	EQUATE Petrochemical Company (K.S.C.C.) P.O. Box 9717, Ahmadi 61008, Kuwait
Supplier	EQUATE Petrochemical Company (K.S.C.C.) P.O. Box 9717, Ahmadi 61008, Kuwait
Telephone Number	965-434-3666
EMERGENCY PHONE NUMBER	965-326-0246 (24 hours a day)
Date of Preparation	May, 2003

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	CAS#	%W/W	HAZARDS
1-Hexene, polymer with ethene	25213-02-9	99-100	Not hazardous
Additives	various	0.1-1.0	Not hazardous

3. HAZARDS IDENTIFICATION

SKIN CONTACT

Polyethylene pellets or granules are abrasive and may cause mechanical skin irritation.

EYE CONTACT

Dust causes eye irritation, experienced as stinging and discomfort or pain.

HEALTH HAZARDS

Treat fines and dust as nuisance particulates. Avoid breathing dust and processing fumes.
Molten or hot polymer will cause thermal burns.

4. FIRST AID MEASURES

SKIN CONTACT

For thermal skin burns, remove clothing, any jewelry, and gross debris from the burned area. Leave blisters intact. Wash the area thoroughly with room temperature tap water. Do not use ice. Cover the wounded area with gauze dressing moistened with cool water; keep the dressing moist. Seek medical attention.

INHALATION

Remove to fresh air. If large amount swallowed, get medical assistance.

EYE CONTACT

In case of dust contact with eyes, flush thoroughly with water for several minutes. Remove contact lenses, if worn. Seek medical advice if irritation persists.

For thermal eye burns, immediately flush eyes with water and continue washing for several minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES

Do not direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Firefighters should wear full bunker gear (helmet with face shield, bunker coat, gloves and rubber boots) and a positive pressure NIOSH approved self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Sweep or use vacuum cleaner. Avoid generating dusty clouds. Collect in a suitable container for disposal. To prevent littering, avoid releases to surface waters. In the event of an uncontrolled release, the user should determine if the release is reportable under applicable laws and regulations.

CAUTION! Polyethylene pellets on floors are slippery and can cause fall.

7. HANDLING AND STORAGE

HANDLING

This product is for Industrial Use only

General Precaution for Resin Bags

Do not handle bag or liner in presence of flammable vapors.

Do not pull bags from bottom or middle section of stacked bags.

Care must be exercised to keep the bags from contamination.

Follow safe lifting methods while handling loose bags.

General Precautions for Sea Bulk Container

Ensure proper grounding before unloading the sea bulk container.

General Precautions for Polyethylene Resin

Avoid breathing dust and process fumes

Local exhaust ventilation is recommended for control of airborne dust, fumes and vapors, particularly in confined areas.

Other Precautions

Physical handling and processing of this product by pneumatic conveying and grinding, etc., can generate fines and dust particles that can, under certain conditions, pose an explosion hazard. We recommend that the system used be:
(1) equipped with filters of adequate size; (2) operated and maintained in a manner to ensure that no leaks develop; and (3) adequately grounded. We further recommend good housekeeping be practiced throughout the facility.

STORAGE

Store away from flames and oxidizing agents, in a dust-free, cool, dry place with adequate ventilation and absence of direct sunlight. Keep storage temperature preferably below 40C but not exceeding 48C. Pallets should be stacked two high maximum. The upper layer pallets should overlap the middle of the two adjacent bottom pallets in an interlocking position. For detailed instruction consult EQUATE Petrochemical Company's "Polyethylene Handling and Storage Guide" booklet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION

Respiratory Protection

None required; however, use of adequate ventilation is good industrial practice. Adequate engineering controls are required to prevent exposure to potentially toxic irritating fumes.

Hand Protection / Protective Gloves

None required; however, use of gloves is good industrial practice.

Eye Protection

None required; however use of eye protection is a good industrial practice. Use dust goggles if high dust concentration is generated.

Skin Protection

None required; however, use of protective clothing is good industrial practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance		Opaque translucent solid pellets
Odor		Essentially odorless
Melting Point/Range		120 –140 C
Density		0.940 – 0.960
Autoflammability		260 – 410 C
Solubility:	water	Insoluble
	Other solvents	Soluble to various extents

10. STABILITY AND REACTIVITY

STABILITY:	Stable
Conditions to Avoid:	Prolonged temperature above 250 C
Materials to Avoid:	Strong Oxidizing Agents
Incompatible Materials:	None
Polymerization:	Will Not Occur

Hazardous Decomposition Products:

At processing temperatures, some degree of thermal degradation will occur. Although highly dependent on temperature and environmental conditions, a variety of decomposition products may be present ranging from simple hydrocarbons (methane and propane) to toxic/irritating gases such as carbon monoxide/dioxide, acids, ketones, aldehydes and other organic vapors.

11. TOXICOLOGICAL INFORMATION

The product is non-toxic by composition. However, care should be taken to avoid dust or any fumes that may be generated during its processing. Pre-existing eye and respiratory disorders may be aggravated by exposure to product fines.

12. ECOLOGICAL INFORMATION

PERSISTENCE AND DEGRADABILITY

Very stable material; does not undergo biological degradation

AQUATIC TOXICITY/ECOTOXICITY

If it enters a water course or sewage works, advise proper authorities of possible floating polymer. This product does not contain nor was it directly manufactured with any Class I or Class II Ozone depleting substances. Ecological testing has not been conducted on this product.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD(S)

Reclaim the material where possible.

When disposed of, this product is not considered a hazardous waste. Dispose of in accordance with appropriate government regulations.

14. TRANSPORT INFORMATION

The material is non-hazardous. It is not regulated for transport by sea (IMO / IMDG), Air (ICAO / IATA) and Road / Rail.

15. REGULATORY INFORMATION

EXPOSURE LIMITS:

1 – Hexene, polymer with ethene

EL : 10 mg / m3 TWA-inhalable particulates
EL : 3 mg / m3 TWA-respirable particulates
LC50 : Not available
LC50 : Not available

Additives

EL : Not established
LC50 : Not available
LD50 : Not available
EL : exposure limit LC : lethal limit LD : lethal dose
Consult authorities for recommended limits.

EC Classification	:	None
EC Symbol	:	None Required
Risk Phrases	:	None Required
Safety Phrases	:	None Required

FOOD CONTACT STATUS

This grade meets FDA and EC regulations for food contact use. Specific information can be supplied upon request.

16. OTHER INFORMATION

This MSDS has been compiled as guided by European Community Directive 91 / 155 / EEC.
The product is intended for industrial use only. This MSDS and other product literature should be carefully reviewed before using the product. If necessary consult reference works or experts in fire prevention, ventilation and toxicology for proper understanding and utilization of the data in the MSDS. Enforce good housekeeping in your plant.

Specific toxicology tests have not been conducted on this product. Our toxicity evaluation is based on information from similar products, the ingredients, technical literature and / or professional experience.

List of Abbreviations

ASTM	American Society for Testing and Materials
C.A.S	Chemical Abstract Service
FDA	The U.S. Food and Drug Administration
IATA	International Air Travel Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
IMDG	International Maritime Dangerous Goods
MAK	Maximum concentration value in work place
TLV	Threshold Limit Value
TWA	Time Weighted Average
MSDS	Material Safety Data Sheet

REVISION

First Issue

The opinions expressed herein are those of qualified experts within EQUATE Petrochemical Company (K.S.C.C.). We believe that the information contained herein is current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of the product are not within the control of EQUATE Petrochemical Company (K.S.C.C.), it is the user's obligation to determine the conditions of safe use of the product.