


MATERIAL SAFETY DATA SHEET			 بترو رابغ Petro Rabigh
PRODUCT NAME : HIGH DENSITY POLYETHYLENE			
MSDS Reference No. MSDS-04-006	REV NO. 1.0 Revised on March 20, 2009	Date issued April 5, 2009	Page 1 of 4

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT DESCRIPTION	HIGH DENSITY POLYETHYLENE		
CHEMICAL FAMILY	POLYOLEFINS	24 Hrs. EMERGENCY TELEPHONE NUMBER:	
GRADE NAME	B2555, F0554, M8060, M8060U	Asia Pacific (except China) : +65 633 44 177 (Singapore)	
CHEMICAL FORMULA	(CH ₂ -CH ₂) _x	China : +86 10 5100 3039 (Beijing)	
SYNONYMS	Polyethylene resins, ethylene polymers	Europe & America : +44 208 762 8322 (UK)	
MANUFACTURER'S NAME AND ADDRESS	Rabigh Refining and Petrochemical Company PLANT: PO Box 666, Rabigh 21911, Kingdom of Saudi Arabia.	Middle East & Africa : + 961 3 487 287 (Lebanon)	
		OFFICE: P.O. Box 40448, Prince Mohammed Abdul- Aziz Street Bin Homran Center, Jeddah- 21499, Kingdom of Saudi Arabia Tel +966 2 284 5500 Fax : +966 2 284 6001	

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	% (by weight)	CAS #	EINECS #	HAZARD SYMBOL	RISK PHRASES
Ethylene-Butene Copolymer	>99	25087-34-7	-	-	-
Additives	< 1	Not available	-	-	-


Note: This product is not considered hazardous under 29 CFR 1910.1200.

SECTION 3 - HAZARDS IDENTIFICATION

<p>EMERGENCY OVERVIEW:</p> <p>Practically non toxic and with minimal odor. Negligible hazard at room temperature under normal use. Dusts and emissions released at elevated temperatures may cause respiratory tract irritation. May cause eye and skin irritation. Skin contact with molten material can cause serious thermal burns. Powders and fines can form explosive mixture with air and are potential explosion hazard. Spilled product makes the surface slippery. Product burns easily under fire emitting heavy irritating smoke.</p> <p>ROUTES OF ENTRY: Dermal Contact, Eye Contact, Inhalation and Ingestion.</p> <p>POTENTIAL HEALTH EFFECTS</p> <p>INHALATION: Inhalation of fine dust or fumes produced during thermal processing may cause irritation of upper respiratory tract, soreness In throat, coughing and possible asthma like response.</p> <p>SKIN: Essentially non-irritating to skin. May cause mechanical injury. Contact with molten material will cause thermal burns.</p> <p>EYES: May cause irritation due to mechanical abrasion. Process fumes may cause eye irritation. Splash of hot or molten material into eyes can produce serious eye effects including blindness.</p> <p>INGESTION: Not a likely route of entry. May cause choking and produce gastrointestinal disturbances. If illness or adverse symptoms develop, obtain medical help.</p> <p>CARCINOGENICITY Polyethylene is not listed by NTP or OSHA. IARC classification is IARC-3 meaning unclassifiable as to carcinogenicity to humans.</p> <p>AGGRAVATION OF PRE-EXISTING MEDICAL CONDITIONS : Diseases of eye and respiratory tract may get aggravated due to exposure to the product.</p>
--

SECTION 4 - FIRST AID MEASURES

<p>INHALATION: Remove to fresh air. If the victim has breathing difficulty or is dizzy and unresponsive give 100% oxygen or Cardio Pulmonary Resuscitation (CPR). Rush to nearest medical facility.</p> <p>SKIN: Remove any contaminated clothing. Thoroughly rinse the skin with mild soap and water. If persistent irritation occurs, obtain medical attention. On contact with molten product immediately immerse in or flush with large amounts of cold water to dissipate heat. Do not attempt to remove the material or clothes sticking to the skin. Obtain medical help.</p> <p>EYES: Check for and remove contact lenses if worn. Immediately flush eyes with running water for minimum of 15 minutes with eyelids open. Transport to nearest medical facility for additional treatment.</p> <p>INGESTION: Although first aid is normally not required, do not induce vomiting. If victim is alert, rinse mouth. Do not give liquids to a drowsy, convulsing or unconscious person. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below the hips to prevent aspiration.</p>
--

MATERIAL SAFETY DATA SHEET			 بترو رابغ Petro Rabigh
PRODUCT NAME : HIGH DENSITY POLYETHYLENE			
MSDS Reference No. MSDS-04-006	REV NO. 1.0 Revised on March 20, 2009	Date issued April 5, 2009	Page 2 of 4

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point : Not Applicable

Flammable Limits : Not Applicable

Auto ignition Temp: 360°C

GENERAL HAZARDS:

Non combustible but will easily burn under fire condition. Product when melted will spread on the surface and will catch fire easily. Accumulated or dispersed fines and powders are potential dust explosion hazard. May accumulate hazardous static charge.

EXTINGUISHING MEDIA:

Foam, water spray or fog. Dry chemical powder, carbon dioxide.

FIRE FIGHTING PROCEDURES:

Wear full protective clothing and self contained breathing apparatus with a full piece operated in a positive pressure mode. Evacuate the area of non essential personnel. Stay upwind and fight fire from safe distance. Keep the adjacent containers cool by spraying water. Control run off waters to prevent material entry into sewers and other waterways.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Dust accumulation and dispersion may cause dust explosion.

HAZARDOUS COMBUSTION PRODUCTS:

Carbon monoxide, Carbon dioxide and other Irritating and highly toxic gases vapors may be generated during combustion.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Observe relevant local regulations and notify authorities in the event of exposure to general public or environment. Remove all sources of ignition. Spilled material will make the surface extremely slippery so keep walking surface free from material. Avoid generation of dust during spill handling. Wear protective equipment (section 8). Contain the material and vacuum or sweep up to collect in labeled containers for recycle, reuse or disposal. In case of spillage of molten material, use water to cool and solidify the material and then dispose safely.

SECTION 7 - HANDLING AND STORAGE

HANDLING:

Material is solid at room temperature with negligible hazard. Use only in well ventilated areas. Use local exhaust ventilation in processing area. Spilled product will make the surface slippery. Prevent static charge build up by grounding and bonding material handling and transfer equipment. Prevent accumulation and dispersion of fines and dust. Maintain good housekeeping.

For guidance on PPE selection see chapter 8.

STORAGE:

Store in a cool dry place away from direct sunlight especially for extended storage periods, storeroom should be clean, dry and contaminant free. Keep the containers tightly closed. Storages should be well ventilated and away from incompatibles and sources of ignition.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

COMPONENTS	OSHA (2008)			ACGIH (2008)		
	TWA	STEL	CEILING	TWA	STEL	CEILING
Ethylene-Butene Copolymer (As PNOC or nuisance dust)	15 mg/m ³ (total dust) 5 mg/m ³ (Respirable)	-	-	-	-	-

ENGINEERING CONTROLS :

If the operations involve generation of dust, employ adequate ventilation to keep the airborne contaminants below the recommended occupational exposure limits. The use of closed system or adequate general or local exhaust ventilation is recommended. Controls also needed to keep vapor concentration below the flammable limits. Storage and material handling areas should have eyewash and safety shower facilities installed.


PERSONAL PROTECTIVE EQUIPMENT:

Personal Protective Equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

RESPIRATORY PROTECTION :

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect workers health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers.

When respiratory protection is required (e.g. high airborne concentrations, confined space and risk of oxygen deficiency) use appropriate NIOSH approved air purifying respirators with combination organic vapor and dust filter cartridges or positive pressure supplied air respirator. For emergency and other conditions when exposure may be greatly exceeded use an approved positive pressure Self Contained Breathing Apparatus (SCBA).

MATERIAL SAFETY DATA SHEET			 بترو رابغ Petro Rabigh
PRODUCT NAME : HIGH DENSITY POLYETHYLENE			
MSDS Reference No. MSDS-04-006	REV NO. 1.0 Revised on March 20, 2009	Date issued April 5, 2009	Page 3 of 4

SKIN PROTECTION :
 Use chemical resistant, protective clothing including insulated (for hot product) impervious gloves, boots and apron. Where hand contact with the product is expected, use of chemical resistant gloves, complying with relevant PPE standards is recommended. Suitability and durability of a glove is dependent on its usage e.g. frequency and duration of contact, glove material, thickness and dexterity. Contaminated gloves should be discarded. Wear insulated impervious protective gear to protect against splashes when working with hot or molten product.
 For glove maintenance and inspection seek advice from the supplier / manufacturer.

EYE AND FACE PROTECTION:
 Use splash proof chemical goggles or full face shield to avoid exposure to dust or hot liquid splash.

OTHER PROTECTIVE / SAFETY EQUIPMENT:
 Maintain eye wash fountain, quick drench and safety shower facility at the site of material handling.

WORK / HYGIENIC PRACTICES:
 Wash hands, fore arms and face thoroughly after handling product. Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use. Maintain the personal protective equipment in clean and hygienic conditions.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Solid opaque / translucent pellets, odorless	VAPOR PRESSURE	Not applicable	
pH	No data available	Sp. GRAVITY (WATER=1)	0.94 – 0.97
MELTING POINT	116-140°C	MOLECULAR WEIGHT	No data available
BOILING POINT/ RANGE	No data available	SOLUBILITY IN WATER	Insoluble
FLASH POINT	No data available	VISCOSITY (Kinematic)	No data available
FLAMMABLE LIMITS (% v/v In Air)	No data available	VAPOR DENSITY (AIR=1)	No data available
AUTOIGNITION TEMP.	360°C	EVAPORATION RATE	No data available
PERCENT VOLATILES	No data available	OTHER PROPERTIES	Soluble in hot aromatic, chlorinated solvents and hot strong oxidizing agents.

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:
 Stable under normal conditions of use. Reacts with strong oxidizing agents. Protect from high temperature, open flames, sparks, static discharges, incompatibles

INCOMPATIBILITY (MATERIALS TO AVOID):
 Strong oxidizing agents like chlorine, chromates, peroxides, perchlorates, nitric acid, hypochlorite etc.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:
 Carbon monoxide, carbon dioxide and other organic compounds will be evolved after combustion or thermal decomposition.

HAZARDOUS POLYMERIZATION :
 Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE –

EYE EFFECT:
 May cause irritation. Contact with molten material will cause thermal burns.

SKIN EFFECTS:
 May cause irritation. Contact with molten material will cause thermal burns.

RESPIRATORY EFFECTS:
 May cause irritation of mucous membranes of the nose, throat and upper respiratory tract.


SENSITISATION:
 No information available

REPEATED DOSE TOXICITY:
 No chronic health effects known

MUTAGENECITY :
 No information available

CARCINOGENECITY:
 Polyethylene is not listed by NTP or OSHA. IARC classification is IARC-3 meaning unclassifiable as to carcinogenicity to humans.

REPRODUCTIVE EFFECTS:
 No information available

MATERIAL SAFETY DATA SHEET			 بترو رابغ Petro Rabigh
PRODUCT NAME : HIGH DENSITY POLYETHYLENE			
MSDS Reference No. MSDS-04-006	REV NO. 1.0 Revised on March 20, 2009	Date issued April 5, 2009	Page 4 of 4

SECTION 12 - ECOLOGICAL INFORMATION

Polyethylene is essentially biologically inert and non toxic. It does not undergo decomposition in aquatic system and in landfills.

Mobility: No known applicable Information Available.

Persistence and biodegradability: No known applicable Information Available.

Bio-accumulative potential: No known applicable Information Available.

Aquatic toxicity and ecotoxicity: No known applicable Information Available.

SECTION 13 - DISPOSAL CONSIDERATIONS

MATERIAL DISPOSAL METHOD:
 Recover or recycle if possible. May be buried at authorized landfill site or be incinerated in a approved chemical incinerator. Waste material disposal should be in accordance with prevailing regional and local regulation. Do not dispose of by uncontrolled incineration or open burning.

CONTAINER DISPOSAL:
 Dispose in accordance with prevailing regulation preferably through a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

PRECAUTIONS DURING WASTE HANDLING:
 Not applicable.

SECTION 14 - TRANSPORT INFORMATION

DOT (Department of Transportation):
 Not regulated under U.S Department of Transport (DOT)

PROPER SHIPPING NAME: Not applicable.

SECTION 15 - REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material

EUROPEAN COMMUNITY
EINECS : Exempted

UNITED STATES :TSCA (Toxic Substance Control Act) 8(b) inventory: Listed

Superfund Amendments and Reauthorization Act:
SARA TITLE III Sections 311/312 Hazard Categories: Not classified
SARA TITLE III Sections 313 Reportable Ingredients : No chemicals are reportable

Comprehensive Response, Compensation and Liability Act:
CERCLA Section 102a / 103 Hazardous substances: None

CANADA: CEPA DSL / CEPA NDSL (Canadian Domestic Substances List / Non-Domestic Substances List): DSL Listed

AUSTRALIA: Australian Inventory of Chemical Substances (AICS): Listed
JAPAN: Existing & New Chemical Substances (ENCS) inventory: Listed
PEOPLE'S REPUBLIC OF CHINA: Inventory of Existing Chemical Substances (IECSC): Listed
KOREA: Existing Chemicals List (ECL): Listed
PHILIPPINES: Philippine Inventory of Chemicals and Chemical Substances (PICCS): Listed

RISK PHRASES:	SYMBOL(S) REQUIRED FOR LABEL	SAFETY PHRASES:
None	None	S 24/25 : Avoid contact with skin and eyes

SECTION 16 - OTHER INFORMATION

Notes & full R-Phrase text:
 Not Applicable

HMIS HAZARD RATINGS: HEALTH: 0 , FLAMMABILITY: 1 , PHYSICAL: - , REACTIVITY: 0 0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe * Chronic hazard	NFPA CODES: HEALTH: 0 , FLAMMABILITY : 1 , INSTABILITY: 0 , SPECIAL :-
---	---

REVISION SUMMARY: MSDS Version No. -1.0

DISCLAIMER:
 The information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Petro Rabigh makes no warranty of any kind, expressed or implied, regarding the accuracy of these data. Petro Rabigh assumes no responsibility for injury from the use of the product described herein.