SAFETY DATA SHEET

Product: High Density Polyethylene – homopolymers and copolymers
Revision: 02 Date: 10/01/2017

1- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND COMPANY/ UNDERTAKING

Product name: HD5502, HD5502H, HD6007, HM50100, HM6015, HM6150, HM0850, HD0653, HD0861, HD1856, HD1252, HD2052, HDB354, HDB763, HM0554, HM1050, HD0553, HD0645, HD50100W, HD0861UV, HD0861, HD0865UV, HD0553, HD0753, HD2055, HD4048, HM1052, HD1064, HD1064UV, HD0662UV, HDF756, HDP449
Company: Vinmar International ltd
Address: 16825 Northchase DR, Suite 1400, Houston, TX 77060 USA
Telephone: +1.281.618.1300

2- HAZARDS IDENTIFICATION

Most important hazards: Not classified as hazardous.
Product effects

Adverse effects to the human health: In case of dust, Vinmar suggests it to be treated as annoying dust or particulate, by international recommendations. Dust may cause respiratory irritation if inhaled.

Environmental effects: It's expected that the product shows high persistence and slow degradability.

Physical and chemical hazards: Not classified as physical hazards.
Classification of the substance or mixture: Not classified as hazardous.
Label elements according to Regulation 1272:2008 (GHS)
Symbol: Not applicable.
Signal word: Not applicable.
Hazard Statement: Not applicable.
Precaution Statement: Not applicable.
Label elements according to Directive 67/548/EEC
Symbol: Not applicable.
Risk Phrases: Not classified.
Safety Phrases: Not applicable.

3- COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Chemical name: Polyethylene homopolymer (CAS: 26221-73-8)
Polyethylene copolymers with hexene-1 (CAS: 25213-02-9)
Synonyms: High Density Polyethylene (HDPE)
Ingredients or impurities that contribute to the hazard (followed by CAS number):
Doesn't have ingredients or impurities that contribute to the hazard classification.

4- FIRST-AID MEASURES

-Inhalation: No risks concerning inhalation at room temperature. In case of inhalation of dusts or vapors at high temperatures, remove the victim to fresh air and keep it in rest. Seek medical attention. Take this SDS.

-Ingestion: Rinse the victim's mouth with plenty of water. DO NOT INDUCE VOMITING. Seek medical attention. Take this SDS.

-Skin contact: No health risks concerning skin contact at room temperature. In case of contact with the hot product and if irritation happens, wash with plenty of water. Remove clothing impregnated with the product. Seek medical attention. Take this SDS.

-Eye contact: Wash with running water for at least 15 minutes, keeping the eyelids open. Remove contact lenses if that's the case. Seek medical attention. Take this SDS.

Most important symptoms and effects, both acute and delayed:

In case of dust formation and inhalation, may cause cough and sneezing.

Indication of any immediate medical attention and special treatment needed:

Avoid contact with this product while helping the victim. Keep the victim in rest and warm. Do not provide anything to an unconscious person. The symptomatic treatment should include, above all, measured of support as correction of hydroelectrolytic and metabolic disturbances and respiratory care.

5- FIREFIGHTING MEASURES

Fire Extinguishing Media:

CO2, dry chemical, foam or water fog.

Special hazards arising from the substance or mixture:

When in a fire, may produce irritating and toxic gases like carbon monoxide and dioxide.

Advice for firefighters: Cool closed containers with pulverized water. Firefight at safe distance. Evacuate the area. Use self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

6- ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Control of dust: Not applicable. The product doesn't generate dust.

Removal of ignition sources:

Product isn't flammable. Eliminate preventively all the ignition sources around the area. Do not smoke in the area.

Provision of sufficient ventilation: Use in a well ventilated area.

Prevention of inhalation and skin, mucous membranes and eyes contact:

Avoid contact with eye. Use appropriate personal protective equipment as indicated in – Section 8.

Environmental precautions:

Do not let this chemical enter the environment (soil, waterways and groundwater). Do not dispose directly on the environment or the sewer.

Methods and material for containment and cleaning up:

Use a method that does not generate dust. Collect the material in proper containers and remove them to a safe place.

7- HANDLING AND STORAGE

Precautions for safe handling:

Handle in a well ventilated area or with a general system of local ventilation/exhaustion Avoid contact with eyes and clothing. Remove ignition sources and heat. Do not smoke. Use exposure control measures and personal protective equipment as indicated in Section 8.

Hygiene advice: Do not eat, drink or smoke when using this product. Wash hands before eating, drinking, smoking or going to the toilet. Take off all contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities:

Keep the product in its original packaging and in a cool, dry, safe from direct sunlight and fireproof place. Keep the containers tightly closed. Keep away from food. Keep away from children. Incompatibilities: fluorine, strong acids, strong oxidizers, chlorated solvents and aromatic compounds.

Packaging materials: The polyethylene resin, being an inert material, can be packaged in 25kg bags and big bags.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Specific control parameters

-Occupational exposure limits:

Chemical or Common name	TLV – TWA (ACGIH, 2010) (mg/m^3)	PEL – TWA (OSHA, 2004) (mg/m^3)	REL – TWA (NIOSH, 2003) (mg/m^3)
Silicon dioxide (silica)*	-	5	6
Micronized talc	1	6	2

* This substance isn't at sufficient concentration to contribute to the product's hazard classification.

-Other limits and values: - Polyethylene homopolymer: OEL – STEL (Russia) = $10mg/m^3$.

Appropriate engineering controls:

Provide mechanical ventilation or direct exhaustion to the external media. It is recommended safety shower and eye bath available near work site. The engineering controls measures are the most effective to reduce exposure to the product.

Individual protection measures, such as personal protective equipment

Eye/face protection: Safety goggles with lateral protection. Avoid using contact lenses while handling this product.

Skin and hand protection: Suitable protective suit.

Respiratory protection: It's not required specific respiratory protection equipment.

Thermal hazard: Complete air-ventilated suit, with air supply, or any thermo-resistant clothing available.

Environmental exposure controls:

Do not discharge directly into the environment or into the sewer system. The dilution water from fire-fighting can cause pollution.

9- PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Translucent /white solid

Odor:	Not available.
Odor threshold:	Not available.
pH:	Not available.
Melting point/freezing point:	Not available.
Initial boiling point and boiling range	Not available.
Flashpoint:	Not applicable.
Evaporation Rate	Not applicable.
Flammability:	Non-flammable.
Upper/lower flammability or explosive limits:	Not applicable.
Vapour density (Air=1):	Not applicable.
Vapour Pressure (mm Hg):	Not applicable.
Relative density:	0.940 – 0.970g/cm³
Solubility:	Insoluble in water. Soluble in xylene.
Partition coefficient: noctanol/water:	Not available.
Auto-ignition temperature:	350°C
Decomposition temperature:	Not available.
Viscosity:	Not available.
Explosive properties:	Not available.
Oxidizing properties:	Not available.
Other information:	Polyethylene's maximum time of storage is 24 months after production, except of IDEALIS resins, which maximum time of storage is 30 months.

10- STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions of handling and storage. Does not undergo depolymerization.

Possibility of hazardous reactions:
Reacts violently with fluorine.

Incompatible materials: Fluorine, strong acids, strong oxidizers, chlorated solvents and aromatic compounds.

Conditions to avoid: High temperatures. Incompatible materials.

Hazardous decomposition products:
Monoxide and carbon dioxide and other irritant chemical substances.

11- TOXICOLOGICAL INFORMATION

Acute toxicity: Non-toxic product.
LD50 (oral, rats) > 8000mg/Kg

Skin corrosion/irritation:
Not irritating.

Serious eye damage/irritation:
Not irritating.

Respiratory or skin sensitization:

Epidemiological studies showed a very low skin sensitization potential (one subject between 201 studied subjects).

Germ cell mutagenicity:
There aren't known germ cell mutagenicity effects.

Carcinogenicity: There aren't known carcinogenicity effects.

Reproductive toxicity: There aren't known reproductive toxicity effects.

STOT – single exposure:
At powder or dust form, may cause respiratory irritation with cough and sneezing.

STOT – repeated exposure:
There aren't known repeated exposure effects.

Aspiration hazard: here aren't known aspiration effects.

12- ECOLOGICAL INFORMATION

Toxicity: There aren't known ecological toxicity values.

Persistence and degradability:
It's expected high persistence and slow degradability.

Bioaccumulative potential:
It's expected moderated to high bioaccumulative potential.
- Polyethylene homopolymer:
logKow: 14,04 (estimated)

Mobility in soil: Not available.

Results of PBT and vPvB assessment:
Not available.

13- DISPOSAL CONSIDERATION

Product: Should be disposed as hazardous waste according to local legislations. The treatment and disposal should be evaluated specifically for each product. Recycle any unused portion of the material approved for use or return it to the manufacturer or supplier. For other methods, consult federal and state laws.

Product waste: Keep the product waste in their original containers and properly sealed. Disposal should be performed as established for the product.

Contaminated packaging:
Polyethylene package must be submitted to re-utilization in the working environment. Those may keep waste of the product and should be kept closed and sent to proper dispose. Recycle may be applied as long as followed the relevant laws. Big bag packages are returnable and may be returned to Vinmar.

14- TRANSPORT IMFORMATION

National and international regulations

Land (Road/rail): UN - "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations

Waterways (sea/inland): IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)

Air:	IATA - International Air Transport Association Dangerous Goods Regulation (DGR)
UN number:	Not classified as hazardous for transport.
Environmental hazards:	Not hazardous.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006. - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.

15- REGULATORY INFORMATION

International Labor Organization C170 Chemicals Convention, from June 25th, 1990: Occupational Safety and Health – Toxic Substances and Agents.

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

REACH - REGISTRATION, EVALUATION, AUTHORIZATION AND RESTRICTION OF CHEMICALS. Commission Regulation (EC) No 1272/2008 of 16 December 2008, amending and repealing Directives SDS SAFETY DATA SHEET Product: Low Density Polyethylene – homopolymer Revision: 05 Date: 10.26.2015 Page: 9 /10 FSP-0603-00003 67/548/EEC and 1999/45/EC.

ECB - EUROPEAN CHEMICALS BUREAU. Directive 67/548/EEC (substances); Directive 1999/45/EC (preparations). UN Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations, 17 th Edition, 2011 Restrictions: No use restrictions were found.

16- OTHER INFORMATION

Vinmar warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is responsibility of the product user enterprise to promote the training of its employees and contractors about the possible risks arising from the product.

Abbreviations:
ACGIH – American Conference of Industrial Hygienists
CAS – Chemical Abstracts Service
IARC – International Agency for Research on Cancer
LD50 – Lethal Dose 50%
NIOSH – National Institute of Occupational Safety and Health
OSHA – Occupational Safety and Health Administration
PEL – Permissible Exposure Limit

REL – Recommended Exposure Limit
STEL – Short-term Exposure Limit
TLV – Threshold Limit Value
TWA – Time Weighted Average
UN – United Nations

Bibliography:

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HSDB - HAZARDOUS SUBSTANCES DATA BANK. Available at: . Access in: Oct. 2011.
IARC - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available at: . Access in: Oct. 2011.
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IUCLID - INTERNATIONAL UNIFORM CHEMICAL INFORMATION DATABASE. [S.l.]: European chemical Bureau. Available at: . Access in: Oct 2011.
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TOXNET - TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available at: . Access in: Oct. 2011