SAFETY DATA SHEET

Lotte Chemical Titan Titanzex® HDPE

Titanzex® HM5000

Version 1.0 Revision Date: 4 May 2015

SECTION 1. Identification of the substance/mixture and of the company / undertaking

1.1 Product Identifier

Product name	Titanzex® High Density Polyethylene
Product grade	Titanzex® HM5000

1.2 Details of the manufacturer

Registered company name	Lotte Chemical Titan (M) Sdn Bhd
Address	PLO 8, Tanjung Langsat Industrial Estate, 81700 Pasir Gudang, Johor, Malaysia
Telephone	+607 – 253 8888
Website	www.lottechem.my
Email	css@lottechem.my

SECTION 2. Hazards identification

This material is not classified as hazardous material according to UN GHS criteria.

2.1 GHS classification

Physical : No classification
Health : No classification
Environmental : No classification

2.2 GHS label elements

Pictograms :

Signal word : Warning

Hazard statement:
- Spilled pellet may create slippery hazard on hard surface
- Molten plastic can cause severe thermal burn if contacted with skin
- Dust from the product may form combustible dust concentrations in air during processing or handling

Precautionary statement:
- Wear suitable and proper personal protective equipment (PPE) when necessary
- Avoid with strong oxidizing agents
- Always maintain good housekeeping to avoid potential slippery hazard

SECTION 3. Composition / information on ingredients

Not a hazardous substance according to EC directives 1272/2008/EC and Globally Harmonized System of Classification and Labeling of Chemicals (GHS) unless indicated.

Chemical Name	CAS #	Concentration, wt%
Ethylene-Based Homopolymer	9002 – 88 – 4	>99%
Additives	-	<1%

NOTE: The product may contain varying levels of additives such as antioxidants and stabilizers.

SECTION 4. First aid measures

4.1 Description of first aid measures

Eye contact	If this product comes in contact with eyes; ➢ Wash out immediately with water ➢ If irritation persist, seek medical attention
Skin contact	In case of contact with molten resin: ➢ Immediately apply cold water until cooled. ➢ **DO NOT** attempt to remove the molten resin from the skin. ➢ **DO NOT** pull away clothing which has adhered to the skin as this can cause further injury. ➢ Get immediate medical attention.
Inhalation	➢ In case of accidental inhalation of fumes from overheating or combustion quickly move to open area with fresh air available. ➢ If symptoms persist, please call doctor.
Ingestion	➢ First aid is not generally required. If in doubt, seek the advice from medical personnel.

SECTION 5. Firefighting measures

5.1 Flash point
Approximately 260˚C (500˚F)

5.2 Extinguishing media
Appropriate extinguishing media such as foam, dry chemical powder and carbon dioxide (CO2) or water spray to extinguish flames.

5.3 Inappropriate extinguishing media
Do not uses a solid water stream as it may scatter and spread fire.

5.4 Special hazards arising from the chemical fire hazard
- May be combustible at high temperature.
- May form combustible dust concentrations in air.
- Vapors generated from overheating/melting/decomposition may be flammable and may cause fire/explosion if source of ignition is present.

5.5 Advice for firefighters

Protective equipment	• Wear self-contained breathing apparatus, protective firefighting clothes and protective gloves.
Special firefighting procedures	• Standard procedures for class A fires
Unusual fire / explosion hazard	• None
Stability consideration	• Stable
Hazardous decomposition products in case of fire	• Carbon oxides (CO, CO_2) • Aldehydes • Ketones • Hydrocarbons • Dense black smoke and soot

SECTION 6. Accidental release measures

Spill and leak	• Sweep up spilled material for use or disposal. • Good housekeeping must be maintained to avoid potential slippery hazard
Environmental precautions	• Prevent from entering drains or sewers

SECTION 7. Handling and storage

Handling	• Handle in accordance with proper safety practices. • Ensure good ventilation / exhaustion at the workplace • Any unavoidable deposit of dust must be regularly removed. • Keep away from sparks and open fire. • Electrostatic charge may build up during handling hence the equipment should be grounded and bonded.
Storage	• Keep in dry conditions at temperatures below 60˚C (140˚F) and protected from UV light.

SECTION 8. Exposure controls / personal protection

8.1 Control parameters

Exposure limits	• None establish.
Engineering controls	• Provide adequate ventilation • Extruder should be properly vented

8.2 Exposure controls

Personal protective equipment

Eye / face protection	• Use safety glasses / goggles
Skin and body protection	• Wear suitable protecting clothes with long sleeved is recommended
Hand protection	• Wear heat resistance protective gloves when necessary.
Respiratory protection	• Normally no respiratory protection is required. In case of insufficient ventilation wear suitable respiratory equipment.
Hygiene measures	• Always maintain good personal hygiene practice such as wash hand after handling the material and before eating, drinking or smoking.

SECTION 9. Physical and chemical properties

9.1 Appearance

Form	• Pellets
Physical state	• Solid
Color	• Translucent to white
Odor	• Mild to no odor

9.2 Safety data

Flash point	• 260˚C (500˚F) approx
Lower explosion limit	• Not applicable
Upper explosion limit	• Not applicable
Auto-ignition temperature	• > 357˚C (674.6˚F) estimated
Boiling point	• Not applicable
Freezing point	• Not applicable
Vapor pressure @ 20˚C (68˚F)	• Not applicable
Vapor density	• Not applicable
% volatile (vol.)	• < 0.4
Melting point	• > 120˚C (248˚F)
Solubility in water	• Negligible
Specific gravity	• 0.940 to 0.965
pH	• Not applicable
Evaporation rate	• Not applicable
Kinematic viscosity	• Not applicable
Explosive properties	• Not applicable
Oxidizing properties	• Not applicable

SECTION 10. Stability and reactivity

Reactivity	• No dangerous reaction under normal condition
Stability	• Stable
Conditions to avoid	• Temperatures above 357˚C (674.6˚F) • Open flame
Materials to avoid	• Strong oxidizing agents
Decomposition products	• Carbon dioxide, carbon monoxide and organic vapors
Hazardous polymerization	• Will not occur

SECTION 11. Toxicological information

Toxicity to animal (Rat), LD50	• Not applicable
Toxicity to animal (Rat), LC50	• Not applicable
Skin irritation	• No skin irritation
Eye irritation	• No eye irritation
Inhalation	• Presumed not toxicity
Ingestion	• Presumed not toxicity
Sensitization	• Not expected to be a sensitizer
Carcinogenicity	• Classified NONE by NTP and OSHA • Group 3 (not classifiable for human) by IARC

SECTION 12. Ecological information

Eco-toxicity	• Not available
BOD5 and COD	• Not available
Biodegradable / OECD	• Not available
Mobility	• Not available
Toxicity of the products of bio-degradation	• Not available

SECTION 13. Disposal considerations

13.1 Waste disposal method
Incineration of waste material in a permitted facility in accordance to local, state, and federal regulation is the recommended disposal method. Landfilling in a licensed facility in accordance to local, state and federal regulation is a suitable alternative.

This product is not listed in federal hazardous waste regulation 40CFR 261.33 paragraphs (a) or (f), i.e. chemical products that are considered hazardous if they become wastes. It does not exhibit any of the hazardous characteristics listed in 40 CFR 261 subpart C. State or local hazardous waste regulation may apply if different from the federal.

SECTION 14. Transport information

DOT classification for bulk shipments (non-bulk shipments may differ)	• Not a DOT controlled material (United States)
DOT proper shipping name	• Not applicable
UN number	• Not applicable
Packing group	• Not applicable
USCG proper shipping name	• Polyethylene
Marine pollutant	• Not available
Hazardous substances reportable quantity	• Not available
Special provisions for transport	• Not applicable
TDG classification	• Not controlled under TDS (Canada)
ADR/RID classification	• Not controlled under ADR (Europe)
IMO/IMDG classification	• Not controlled under IMDG
ICAO/IATA classification	• Not regulated for air transport

SECTION 15. Regulatory information

Global chemical inventory

United States (TSCA)	• Listed
Europe (EINECS)	• Listed
Canada (DSL)	• Listed
Australia (AICS)	• Listed
China (IECSC)	• Listed
Japan (ENCS)	• Listed
Korea (KECI)	• Listed
New Zealand (NZIoC)	• Listed
Philippines (PICCS)	• Listed
Taiwan (ECS)	• Listed

Please visit www.lottechem.my to download the product regulatory compliance statement.
For enquiry, please contact our Technical Service Department.

SECTION 16. Other information

This information supplied has been based upon the current level of information available, for the purpose of specifying the requirements regarding environment, health and safety in conjunction with the product. They are not to be interpreted as a warranty for specific product characteristics.

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