Asterene HHM TR-144S Polyethylene

Safety Data Sheet

According to SS 586 Part 3 (2022)
SDS Reference Number: 100000102719
Issue date: 3/12/2025 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Trade name : Asterene HHM TR-144S Polyethylene
Product form : Substance

1.2. Other means of identification

Product code : 1117413, 1117412, 1117351, 1117350, 1117349, 1117348, 1117346, 1117345

1.3. Recommended use of the chemical and restrictions on use

Recommended uses and restrictions
Recommended use : Manufacture of plastics products
Restrictions on use : MEDICAL APPLICATION CAUTION: Do not use this material in medical applications involving permanent implantation in the human body or permanent contact with internal body fluids or tissues fluids or tissues.
Do not use this material in medical applications involving brief or temporary implantation in the human body or contact with internal body fluids or tissues unless the material has been provided directly from Aster Polymer Solutions Pte. Ltd. or its legal affiliates under an agreement which expressly acknowledges the contemplated use.
Aster Polymer Solutions Pte. Ltd. and its legal affiliates makes no representation, promise, express warranty or implied warranty concerning the suitability of this material for use in implantation in the human body or in contact with internal body fluids or tissues.

1.4. Supplier's details

Supplier
Aster Chemicals and Energy Pte. Ltd.
460 Alexandra Road mTower #07-01 Singapore 119963
T +65 6263 5100
SDS@Aster.com.sg

1.5. Emergency phone number

Emergency number : +800 2537 8747, +6565429595
For 24/7 multilingual advice for spill, leak, fire, exposure, or accident call CHEMTREC at +65 3158 1349 (Singapore) 800 101 2201 (toll-free) and provide CCN 1021166
Back-up Emergency Number: +65 3163 8374 (Singapore, multilingual) +1-703-527-3887 (United States, answered in English, request other languages)
See Section 16 for extended list of CHEMTREC emergency numbers

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Not classified as hazardous according to GHS
Not classified

2.2. GHS label elements, including precautionary statements

No labelling applicable

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Product form : Substance

Name	Synonyms	Concentration (%)	Formula	Product identifier	GHS SG classification
1-Hexene, polymer with Ethene	-	95 – 100	-	CAS-No.: 25213-02-9	Not classified

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of necessary first aid measures

First-aid measures general : First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

Inhalation : Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. Get medical advice/attention if you feel unwell.

Skin contact : After contact with the molten product, cool rapidly with cold water. Call a physician immediately. Wash contaminated clothing before reuse.

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion : Rinse mouth. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects : Polyolefins can release vapors and gases (aldehydes,ketones and organic acids) which are irritating to the mucous membranes of the eyes, mouth, throat, and lungs.

Symptoms/effects after inhalation : Dust of the product, if present, may cause respiratory irritation after excessive inhalation exposure.

Symptoms/effects after skin contact : May cause slight irritation.

Symptoms/effects after eye contact : May cause slight irritation.

Symptoms/effects after ingestion : Ingestion may cause nausea, vomiting and diarrhea.

Chronic symptoms : Prolonged exposure to irritating off-gases can lead to pulmonary edema.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Water fog. Carbon dioxide (CO2), dry chemical powder, foam. For small fire: Sand/earth.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Thermal decomposition generates: Carbon dioxide, Carbon monoxide. Hydrocarbons. Alcohols. Aldehydes. Ketones. Organic acids. Carbon dioxide. Carbon monoxide. Formaldehyde.

5.3. Special protective actions for fire fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Move containers away from the fire area if this can be done without risk. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all personal contact including breathing in the dust. Do not take actions involving personal risks. Absorb spillage to prevent material damage. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate the danger area. If outdoors, move to an area upwind of the danger area. Avoid contact with skin and eyes. If possible without taking personal risks, ventilate area. No flames, no sparks. Eliminate all sources of ignition. Prevent other non-emergency personnel from entering the danger area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so. Remove all sources of ignition. Ventilate spillage area.

6.2. Environmental precautions

Avoid release to the environment. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Stop leak without risks if possible.

Methods for cleaning up : Mechanically recover the product. If spill is in the molten form, confine spill until it solidifies and then recover as solid. Decontaminate surfaces and equipment with water and detergent. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid dust formation. Handling this product may result in electrostatic accumulation. Use proper grounding procedures. At elevated temperatures (>350 °F / > 177 °C), polyethylene can release vapors and gases. Following all recommendations within this SDS should minimize exposure to thermal processing emissions.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid breathing dust, mist. Do not get in eyes, on skin, or on clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store in a cool, dry and well-ventilated area away from incompatible substances. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Store locked up. Do not store in unlabelled containers.
Incompatible materials	:	Strong oxidizing agents.
Storage temperature	:	Ambient temperature
Packaging materials	:	Always store product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters/Occupational exposure limits

Asterene HHM TR-144S Polyethylene

Singapore - Occupational Exposure Limits

Local name	Nuisance dust
PEL (OEL TWA)	15 mg/m³ OSHA Z-3 Total dust
	5 mg/m3 OSHA Z-3 (respirable dust)

8.2. Appropriate engineering control measures

Appropriate engineering controls	:	Ensure good ventilation of the work station. Use general ventilation, local exhaust ventilation, or process enclosure to keep the airborne concentrations below the permissible exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

8.3. Personal protection – individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:

Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment.

Hand protection	:	Wear suitable gloves resistant to chemical penetration. The following materials are suitable for protective gloves: Nitrile rubber gloves. Neoprene. Polyvinylchloride (PVC)
Eye protection	:	Chemical goggles or safety glasses
Skin and body protection	:	Body protection should be chosen depending on activity and possible exposure
Respiratory protection	:	No respiratory protection needed under normal use conditions. Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point >65°C (149°F)].

Personal protective equipment symbol(s)



Environmental exposure controls	:	Avoid release to the environment. Take measures to reduce or limit air emissions and releases to soil and the aquatic environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Pellets.
Colour	:	Opaque
Odour	:	None to mild
Odour threshold	:	Not available
pH	:	Not available
Melting point	:	90 – 140 °C / 194 - 284 °F
Freezing point	:	Not available
Initial boiling point and boiling range	:	Not available

Flash point	:	Not available
Evaporation rate	:	Not available
Flammability	:	Not available
Explosive limits	:	Not available
Vapour pressure	:	Not available
Relative vapour density at 20°C	:	Not available
Density	:	0.91 – 0.97 g/cm³
Relative density	:	Not available
Solubility	:	Negligible in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
Viscosity, kinematic	:	Not available
Particle size	:	Not available
Particle size distribution	:	Not available
Particle shape	:	Not available
Particle aspect ratio	:	Not available
Particle specific surface area	:	Not available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Extremely high or low temperatures. Direct sunlight. Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition generates: Aldehydes. Alcohols. Hydrocarbons. Ketones. Carbon monoxide. Carbon monoxide. Organic acids. Formaldehyde.

SECTION 11: Toxicological information

11.1. Acute toxicity

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion or irritation	:	Not classified (Classification criteria are not met.)
Serious eye damage or irritation	:	Not classified (Classification criteria are not met)
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

Asterene HHM TR-144S Polyethylene	
Density	0.91 – 0.97 g/cm³

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Not classified

12.2. Persistence and degradability

Asterene HHM TR-144S Polyethylene	
Persistence and degradability	Not readily biodegradable.

1-Hexene, polymer with Ethene (25213-02-9)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

Asterene HHM TR-144S Polyethylene	
Bioaccumulative potential	Does not bioaccumulate.

12.4. Mobility in soil

Asterene HHM TR-144S Polyethylene	
Mobility in soil	insoluble and floats on water

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions. Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
14.1. UN number		
Not regulated for transport		

IMDG	IATA	UNRTDG
14.2. UN proper shipping name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class		
Not regulated	Not regulated	Not regulated
14.4. Packing group, if applicable		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for users

UN RTDG
Not regulated

IMDG
Not regulated

IATA
Not regulated

14.7. Transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

Regulation		Component / Mixture
Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations	Not applicable	
Arms and Explosives Act	Not applicable	
Chemical Weapons Prohibition Act	Not applicable	
Environmental Protection and Management (Air Impurities) Regulations	Not applicable	
Environmental Protection and Management Act (Hazardous Substances)	Not applicable	
Environmental Public Health (Quality of Piped Drinking Water) Regulations	Not applicable	
Fire Safety Act/Fire Safety (Petroleum and Flammable Materials) Regulations	Not applicable	
Maritime and Port Authority of Singapore (Dangerous, Petroleum and Explosives) Regulations	Not applicable	
Misuse of Drugs Act	Not applicable	
Poisons Act	Not applicable	
Poisons Rules	Not applicable	
Hazardous waste (Control of export, import and transit) Act	Not applicable	

Regulation		Component / Mixture
Strategic goods (Control) Act	Not applicable	

15.2. International regulations

No additional information available

15.3 Chemical inventory status

Regulatory reference

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
This product is in full compliance according to REACH regulation 1907/2006/EC

SECTION 16: Other information

Issue date : 3/12/2025

Abbreviations and acronyms : ACGIH - American Conference of Governmental Industrial Hygienists
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
BLV - Biological limit value
BOD - Biochemical oxygen demand (BOD)
CAS-No. - Chemical Abstracts Service number
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD - Chemical oxygen demand (COD)
CSA - Chemical safety assessment
DMEL - Derived Minimal Effect level
DNEL - Derived-No Effect Level
EC-No. - European Community number
EC50 - Median effective concentration
ED - Endocrine disruptor
EN - European Standard
EWC - European waste catalogue
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IMDG - International Maritime Dangerous Goods
LC50 - Median lethal concentration
LD50 - Median lethal dose
LOAEL - Lowest Observed Adverse Effect Level
Log Kow - Partition coefficient n-octanol/water (Log Kow)
Log Pow - Partition coefficient n-octanol/water (Log Pow)
MAK - maximum workplace concentration
NOAEC - No-Observed Adverse Effect Concentration
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
N.O.S. - Not Otherwise Specified
OECD - Organisation for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OSHA - Occupational Safety Health Administration
PBT - Persistent Bioaccumulative Toxic
PNEC - Predicted No-Effect Concentration

PPE - Personal protection equipment
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS - Safety Data Sheet
STP - Sewage treatment plant
TF - Technical function
ThOD - Theoretical oxygen demand (ThOD)
TLM - Median Tolerance Limit
TWA - Time Weighted Average
VOC - Volatile Organic Compounds
vPvB - Very Persistent and Very Bioaccumulative
UFI - Unique Formula Identifier

Other information : CHEMTREC Emergency telephone:
Toll Free: 1-800-424-9300 or +1-703-527-3887 (int'l)
China: 400 120 4937
Mexico: +52 55 8526 4930
Brazil: +55 21 3958-1449 (Rio De Janeiro), +55 11 4349-1359 (Sau Paulo)
Argentina: +54 11 5983-9431
Austria: +43 1 3649237
Belgium: +32 2 808 32 37
Bulgaria: +359 32 570 104
Croatia: +385 1 7776 920
Cyprus: 1-800-424-9300 or +1-703-527-3887 (int'l)
Czech Republic: +420 228 880 039
Denmark: +45 69 91 85 73
Estonia: +372 668 1294
Finland: +358 9 42725036
France: +33 9 75 18 14 07
Germany: 0800 1817059 (Toll-free)
Greece: +30 21 1176 8478
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Switzerland, Zurich: +41-435082011, Toll Free 0800 564 402
Turkey: Toll Free 0800 621 2401
United Kingdom, London: +44 20 3807 3798.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.