

1. Identification

Product identifier

Trade name: Terluran® ABS Granulate, Natural

Other means of identification:

This safety data sheet pertains to the following products:

Terluran® BX19000

Terluran® EGP-7

Terluran® EGP-7 Q713

Terluran® GP-22 G4

Terluran® GP-22 NR

Terluran® GP-22 Q551

Terluran® GP-22 Q552

Terluran® GP-25 NR

Terluran® GP-35 NR

Terluran® GP-35 Q684 NR

Terluran® HG-26

Terluran® HI-10 NR

Terluran® HI-10 Q483

Terluran® HI-10 Q520 NR

Terluran® HI-10 Q551

Terluran® HI-12 NR

Terluran® Nano

Recommended use of the chemical and restrictions on use

General use: Polymer
For industrial processing only

Supplier's details

Company name: INEOS Styrolution APAC Pte Ltd.
Address: 111 Somerset Road
#08-01/02 TripleOne Somerset, SG
Singapore 238164
WWW: www.ineos-styrolution.com
E-mail: INSTY.asia@ineos.com
Phone number: +65 6933 8350
Telefax: +65 6933 8355

Department responsible for information:
Infopoint, Phone number: + 65 (0) 6933 - 8372
E-mail: INSTY.asia@ineos.com

Additional information: Terluran® EGP-7 Q713

Emergency telephone number

Phone number:
+ 65 3158 1074

2. Hazard identification

GHS classification of the substance/mixture

GHS classification

This mixture is classified as not hazardous.

GHS label elements, including precautionary statements

Pictograms: not applicable

Hazard statements: not applicable

Precautionary statements: not applicable

Other hazards

Dust: Can cause skin, eye and respiratory tract irritation.

Fine dust: May form explosible dust-air mixture if dispersed.

In case of dust formation: Particular danger of slipping on spilled product on the ground.

The melted product can cause severe burns.

Swallowing may cause gastrointestinal irritation and pain of guts.

3. Composition/Information on ingredients

Mixtures

Chemical characterisation: Polymer mixture:

CAS No. 9003-56-9: > 98 % Styrene-acrylonitrile-butadiene copolymer

CAS No. 100-42-5: < 0.1 % Styrene

Additional information: The product does not contain dangerous substances above limits that need to be mentioned in this section according to applicable legislation.

4. First-aid measures

General information: Immediately remove any contaminated clothing, shoes or stockings.

In case of inhalation: Provide fresh air. Put victim at rest and keep warm. Seek medical attention

Following skin contact: The melted product can cause severe burns.
Do not attempt to remove molten product, or molten product that has cooled, from skin without medical assistance.
After contact with molten product, cool skin area rapidly with cold water. Consult physician.

After eye contact: In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do.
Continue rinsing.

Consult an eye specialist in the event of irritation.

After ingestion: Rinse mouth with water. Drink one or two glasses of water.
Never give an unconscious person anything through the mouth. seek medical attention

Most important symptoms and effects, both acute and delayed

Dust: Skin irritation, Eye irritations and redness

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Decontamination, vital functions

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:

Water spray jet, foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

Special hazards arising from the chemical

In case of fire may be liberated: carbon monoxide and carbon dioxide (CO₂).

In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.

Special protective actions for fire fighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation.

Wear personal protection equipment. Do not breathe dust.

Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

Methods and material for containment and cleaning up

Avoid generation of dust. Remove all sources of ignition.

Take up mechanically. Collect in closed containers for disposal.

Additional information:

Special danger of slipping by leaking/spilling product.

7. Handling and storage

Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not breathe dust.

In the case of the formation of dust: Withdraw by suction.

Molten material: Avoid contact with the substance.

Precautions against fire and explosion:

Take precautionary measures against static discharges. Keep away from sources of ignition. Use grounding equipment. Use explosion-proof equipment and non-sparking tools/utensils. Avoid open flames.

May form explosible dust-air mixture if dispersed.

Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Store in a well-ventilated place. Keep container tightly closed.

Protect against heat /sun rays. Protect from moisture contamination.

8. Exposure controls / Personal protection

Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
	Terluran® ABS Granulate, Natural	Singapore: long-term	10 mg/m ³
100-42-5	Styrene	Singapore: long-term	213 mg/m ³ ; 50 ppm
		Singapore: short-term	426 mg/m ³ ; 100 ppm
107-13-1	Acrylonitrile	Singapore: long-term	4.3 mg/m ³ ; 2 ppm
106-99-0	1,3-Butadiene	Singapore: long-term	4.4 mg/m ³ ; 2 ppm

Additional information:

The product contains very low levels of residual monomers and process chemicals (mainly styrene and ethylbenzene and very low levels of acrylonitrile, vinylcyclohexene, butadiene) that may be evolved during thermal processing, along with possible decomposition products. As the identity and levels of these impurities evolved will depend upon the processing conditions (temperature etc.) it is the responsibility of the user to determine the adequacy of any protection or safety measures.

Appropriate engineering control measures

Provide good ventilation in the work area. Additional controls are not normally necessary when handling the polymer.

Thermal extrusion: Provide local exhaust ventilation to ensure that the workplace exposure limit is not exceeded.

Use of respiratory protection may be necessary during maintenance activities.

Individual protection measures, such as personal protective equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded. Use filter type A-P2 according to EN 14387.

Hand protection: Protective gloves according to BS EN ISO 374-1.
Protective gloves made of fabric or leather
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
In case of melting: Impervious heat protective gloves according to EN 407
Glove material: Leather
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to BS EN ISO 16321-1.

Body protection: Wear suitable protective clothing. Boots or safety shoes.

General protection and hygiene measures:

Molten material: Avoid contact with skin.

Avoid breathing dust and vapours. Keep away from sources of ignition.

Wash hands before breaks and after work.

In case of dust formation: Particular danger of slipping on spilled product on the ground.

Environmental exposure controls

Do not allow to penetrate into soil, waterbodies or drains.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Physical state at 20 °C and 101.3 kPa: solid Form: pellets Colour: natural colour (whitish) Odour: weak, characteristic Odour threshold: No data available
pH:	Not applicable
Melting point/freezing point:	> 100 °C (DIN EN ISO 306)
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	Not applicable
Evaporation rate:	No data available
Flammability:	Not highly flammable.
Explosion limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	at 20 °C: approx. 1.04 g/cm ³ (DIN 53479)
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	not self-igniting
Thermal decomposition:	approx. 300 °C To avoid thermal decomposition, do not overheat.
Viscosity:	No data available
Particle characteristics:	No data available

Additional information

Explosive properties:	In case of dust formation (Fine dust): May form explosive dust-air mixture if dispersed.
Oxidizing characteristics:	not oxidising
Bulk density:	at 20 °C: approx. 600 kg/m ³ (DIN 53466)

10. Stability and reactivity

Reactivity:	No data available
Incompatible materials:	Strong oxidizing agents
Chemical stability:	Stable under recommended storage conditions.

Possibility of hazardous reactions:

In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.

Conditions to avoid:

Protect from excessive heat. Keep away from sources of ignition and heat.
Avoid dust formation.

Hazardous decomposition products:

When greatly overheated, material may release hazardous decomposition products: monomers, hydrocarbons, gases/vapours, cyclic low molecular weight oligomers, carbon monoxide and carbon dioxide.

Thermal decomposition:

approx. 300 °C
To avoid thermal decomposition, do not overheat.

11. Toxicological information

Information on toxicological effects

Toxicological effects:

Acute toxicity (oral): Lack of data. No evidence of acute toxicity.
Acute toxicity (dermal): Lack of data. No evidence of acute toxicity.
Acute toxicity (inhalative): Lack of data. No evidence of acute toxicity.
Skin corrosion/irritation: Lack of data.
Dust: Can cause skin, eye and respiratory tract irritation.
Processing, thermal hazards: Vapours: Can cause skin, eye and respiratory tract irritation.
Serious eye damage/irritation: Lack of data.
Dust: Can cause skin, eye and respiratory tract irritation.
Processing, thermal hazards: Vapours: Can cause skin, eye and respiratory tract irritation.
Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.
Skin sensitisation: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.
Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.
Carcinogenicity: Based on available data, the classification criteria are not met. No indications of human carcinogenicity exist.
Reproductive toxicity: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.
Effects on or via lactation: Lack of data.
Specific target organ toxicity (single exposure): Lack of data.
Dust: Can cause skin, eye and respiratory tract irritation.
Processing, thermal hazards: Vapours: Can cause skin, eye and respiratory tract irritation.
Specific target organ toxicity (repeated exposure): Lack of data. Chronic toxic effects are not expected. The product has not been tested. The statement is derived from products of similar structure or composition.
Aspiration hazard: Lack of data.

Other information: When handled appropriately, even after long years of experience with this product, no adverse health effects are known.

Symptoms

Dust: Can cause skin, eye and respiratory tract irritation.

The melted product can cause severe burns.

Thermal treatment, Processing: Irritating to eyes, respiratory system and skin.

In case of ingestion: Swallowing may cause gastrointestinal irritation and pain of guts.

12. Ecological information**Toxicity**

Aquatic toxicity: no evidence of aquatic toxicity

Effects in sewage plants: In sewage treatment plants it may be separated mechanically.

Persistence and degradability

Further details: Biodegradation: Product is not readily biodegradable.
The product is likely to persist in the environment.

Bioaccumulative potential

To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.

Partition coefficient: n-octanol/water:

No data available

Mobility in soil

No data available

Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations**Waste treatment methods****Product**

Recommendation: With due observance of the regulations laid down by the local authorities, this must be brought to a suitable incineration plant/waste disposal site.

Package

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

14. Transport information**UN number**

ADR/RID, IMDG, IATA-DGR:

not applicable

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

Not restricted

Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:

not applicable

Packing group

ADR/RID, IMDG, IATA-DGR:

not applicable

Environmental hazards

Dangerous for the environment:

Substance/mixture is not environmentally hazardous according to the criteria of the UN model regulations.

Marine pollutant:

no

Transport in bulk according to IMO instruments

No data available

Special precautions for user

Land transport (ADR/RID)

Product designation:

Not restricted

Sea transport (IMDG)

Proper shipping name:

Not restricted

Marine pollutant:

no

Air transport (IATA)

Proper shipping name:

Not restricted

Further information

No dangerous good in sense of these transport regulations.

15. Regulatory information

National regulations - Singapore

No data available

National regulations - Korea

Industrial Safety and Health Act

Styrene:	Hazardous Substances Requiring Management: listed Harmful factors subject to work environment measurement: listed Harmful factors subject to special health examination: listed
Acrylonitrile:	Hazardous Substances Requiring Management: listed Harmful factors subject to work environment measurement: listed Harmful factors subject to special health examination: listed Hazard substances subject to PSM submission: listed
1,3-Butadiene:	Hazardous Substances Requiring Management: listed Harmful factors subject to work environment measurement: listed Harmful factors subject to special health examination: listed

Chemicals Control Act

Styrene:	Toxic substances: listed Permitted Substances: listed
Acrylonitrile:	Permitted Substances: listed Accident preparedness substances: listed
1,3-Butadiene:	Toxic substances: listed

National regulations - Japan

Product:	Fire Service Act: Designated flammable goods
Styrene-acrylonitrile-butadiene copolymer:	ENCS: listed; MITI 6-176
Styrene:	ENCS: listed; MITI 3-4 Chemical Substances Control Law: Priority Assessment Chemical Substances (Article 2, Paragraph 5 of the Law) Former Type 2 Monitoring Chemical Substance (Old Law, Article 2, Paragraph 5) Industrial Safety and Health Law: Hazardous substances to be indicated in terms of whose names (Article 57 of the Law, Article 18 of the Enforcement Ordinance, Appendix 9) Hazardous substances to be notified in terms of whose names (Article 57-2 of the Act, Article 18-2 of the Enforcement Ordinance, Appendix 9) hazardous substance Specified Chemical Substances Class 2 Substances, Specified Class 2 Substances (Ordinance on Prevention of Hazards Due to Specified Chemical Substances, Article 2, Paragraph 1, Items 2 and 3) Control concentration specified in the working environment evaluation standards Substances published in Health Disorder Prevention Guidelines (Article 28, Paragraph 3 of the Act) Pollutant Release and Transfer Register Law (PRTR): Class 1 Designated Chemical Substances
Acrylonitrile:	ENCS: listed; MITI 2-1513 Chemical Substances Control Law: Priority Assessment Chemical Substances (Article 2, Paragraph 5 of the Law) Former Type 2 Monitoring Chemical Substance (Old Law, Article 2, Paragraph 5) Industrial Safety and Health Law: Hazardous substances to be indicated in terms of whose names (Article 57 of the Law, Article 18 of the Enforcement Ordinance, Appendix 9) Hazardous substances to be notified in terms of whose names (Article 57-2 of the Act, Article 18-2 of the Enforcement Ordinance, Appendix 9) hazardous substance Specified Chemical Substances Class 2 Substances, Specified Class 2 Substances (Ordinance on Prevention of Hazards Due to Specified Chemical Substances, Article 2, Paragraph 1, Items 2 and 3) Control concentration specified in the working environment evaluation standards Existing chemical substances with mutagenicity recognised (Article 57-5 of the Act, Notification of Director of Labor Standards Bureau) Poisonous and Deleterious Substances Control Law: Deleterious Substances Pollutant Release and Transfer Register Law (PRTR): Class 1 Designated Chemical Substances

1,3-Butadiene:

ENCS: listed; MITI 2-17

Chemical Substances Control Law: Priority Assessment

Chemical Substances (Article 2, Paragraph 5 of the Law)

Former Type 2 Monitoring Chemical Substance (Old Law, Article 2, Paragraph 5)

Industrial Safety and Health Law: Hazardous substances to be indicated in terms of whose names (Article 57 of the Law, Article 18 of the Enforcement Ordinance, Appendix 9) Hazardous substances to be notified in terms of whose names (Article 57-2 of the Act, Article 18-2 of the Enforcement Ordinance, Appendix 9) hazardous substance

Existing chemical substances with mutagenicity recognised (Article 57-5 of the Act, Notification of Director of Labor Standards Bureau)

Pollutant Release and Transfer Register Law (PRTR): Class 1 Designated Chemical Substances, Specified Class 1 Designated Chemical Substances

Further regulations, limitations and legal requirements

No data available

16. Other information

Abbreviations and acronyms:

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
AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
EN: European Standard
ENCS: Inventory of Existing and New Chemical Substances
EQ: Excepted quantities
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
IMO: International Maritime Organization
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
MFSU: Manufacture, formulation, supply and use
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

Reason of change: Changes in section 1: Emergency telephone number

Date of first version: 30/1/2013

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.