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

Product identifier

Trade name: Terblend® N Natural

This safety data sheet pertains to the following products:
Terblend® N NM-19 NR07400
Terblend® N NM-19 Q448 NR
Terblend® N NM-19XP SPL
Terblend® N NM-21EF NR
Terblend® N NM-21EF SPL

Relevant identified uses of the substance or mixture and uses advised against

General use: Polymer
Basic material for chemical industry processing

Details of the supplier of the safety data sheet

Company name: INEOS Styrolution APAC Pte Ltd.
Street/POB-No.: 111 Somerset Road
Postal Code, city: #08-01/02 TripleOne Somerset, SG
Singapore 238164
WWW: www.styrolution.com
E-mail: INSTY.asia@ineos.com
Telephone: +65 6933 8350
Telefax: +65 6933 8355

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

Emergency telephone number

Telephone: +86 512 8090 3042 (Country); + 65 3158 1074 (regional)

2. Hazards identification

Classification of the substance or mixture

GHS classification

This mixture is classified as not hazardous.

Label elements

Hazard statements: not applicable

Precautionary statements: not applicable

Other hazards

Dust: Can cause skin, eye and respiratory tract irritation.
In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed..
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. 25038-54-4: 30 - 50 % Polyamide (PA 6)
CAS No. 27812-34-6: Styrene-acrylonitrile-Maliec anhydride copolymer
CAS No. 9003-56-9: 20 - 50 % Styrene-acrylonitrile-butadiene copolymer

Hazardous ingredients:

CAS No.	Designation	Content	Classification
CAS 52829-07-9	Bis(2,2,6,6-Tetramethyl-4-piperidyl)sebacate	< 1 %	Eye Dam. 1. Aquatic Acute 1 (M-factor = 1). Aquatic Chronic 2.

4. First aid measures

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 remove the product from the skin without medical assistance.
After contact with molten product, cool skin area rapidly with cold water. Consult physician.

After eye contact: Immediately flush eyes 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 swallowing: Rinse mouth with water. Drink one or two glasses of water. Seek medical aid in case of troubles.
Never give an unconscious person anything through the mouth.

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. Firefighting measures

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 substance or mixture

In case of fire may be liberated: Smoke, hydrocarbons, carbon monoxide and carbon dioxide (CO2).
In case of dust formation (Fine dust): Danger of dust explosion

Advice for firefighters

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

Storage

Requirements for storerooms and containers:
Store in a well-ventilated place. Keep container tightly closed.
Protect against heat /sun rays. Protect from moisture.

Further details: Special danger of slipping by leaking/spilling product.

8. Exposure controls/personal protection

Control parameters

Additional information: The product contains very low levels of residual monomers and process chemicals (styrene, ethylbenzene, acrylonitrile and 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.

Exposure controls

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.
See also information in chapter 7, section storage.

Personal protection 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 EN 374.
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 EN 166.

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: granulate 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:	not applicable
Vapour density:	No data available
Density:	at 20 °C: approx. 1.05 - 1.40 g/cm³ (DIN 53479)
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	not applicable
Auto-ignition temperature:	not self-igniting
Thermal decomposition:	300 °C

Additional information

Viscosity, dynamic:	not relevant
Explosive properties:	Product is not explosive. In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed..
Oxidizing characteristics:	not oxidising
Bulk density:	at 20 °C: approx. 650 kg/m³ (DIN 53466)

10. Stability and reactivity

Reactivity: No hazardous reaction when handled and stored according to provisions.

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

Incompatible materials: Strong oxidizing agents

Hazardous decomposition products:
In case of fire may be liberated: Smoke, hydrocarbons, carbon monoxide and carbon dioxide (CO_2).

Thermal decomposition: 300 °C

11. Toxicological information

Information on toxicological effects

Acute toxicity: LD50 Rat, oral: > 5000 mg/kg

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on available data, the classification criteria are not met.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data. Not to be expected

Skin sensitisation: Lack of data. Not to be expected

Germ cell mutagenicity/Genotoxicity: Lack of data. Not to be expected

Carcinogenicity: Lack of data. Not to be expected

Reproductive toxicity: Lack of data. Not to be expected

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Other information: When handled appropiately, 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: Information about Bis(2,2,6,6-Tetramethyl-4-piperidyl)sebacate: Very toxic to aquatic life with long lasting effects.
Algae toxicity:
EC50 Pseudokirchneriella subcapitata (green algae): 0.705 mg/L/72h (OECD 201)
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): 8.58 mg/L/48h (OECD 202)
NOEC Daphnia magna (Big water flea): 0.23 mg/L/21d (OECD 211)
Fish toxicity:
LC50 Lepomis macrochirus (bluegill): 4.4 mg/L/96h (OECD 203)
Bacterial toxicity:
IC50 activated sludge: >100 mg/L/3 h (OECD 209)

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.

Mobility in soil

No data available

Additional ecological information

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

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 - Korea

Industrial Safety and Health Act: not applicable

Chemicals Control Act: not applicable

National regulations - Japan

Fire Service Act: Designated flammable goods

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
Aquatic Acute: Hazardous to the aquatic environment - acute
Aquatic Chronic: Hazardous to the aquatic environment - chronic
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
EC50: Effective Concentration 50%
EN: European Standard
EQ: Excepted quantities
Eye Dam.: Eye damage
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
IC50: Inhibition Concentration 50%
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
M-factor: Multiplication factor
MFSU: Manufacture, formulation, supply and use
NOEC: No Observed Effect Concentration
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

Date of first version: 17/5/2013

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.