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

Product identifier

Trade name: Novodur® ABS Pellets (Polycarbonate-modified)
This safety data sheet pertains to the following products:
Novodur® Ultra 4105
Novodur® Ultra 4140PG

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

General use: For the production of moulded plastic articles
Reserved for industrial and professional use.

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

Under the recommended processing conditions small amounts of emitted substance (e.g. residual monomers, residual solvents, decomposition products) may be discharged. In succession of overheating during the melting process potentially substances are released, which are considered as harmful and carcinogen. The maximum workplace exposure limits are, where necessary, listed in section 8.

The melted product can cause severe burns.
In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.

3. Composition / information on ingredients

Mixtures

Chemical characterisation: A blend of polymers based on acrylonitrile butadiene styrene/bisphenol A - polycarbonate copolymer

Additional information: Preparation 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: In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still. In case of breathing difficulties administer oxygen. If breathing has stopped, give artificial respiration immediately. Seek medical attention.

Following skin contact: After contact with molten product, cool skin area rapidly with cold water. Do not use force or solvents to remove product incrustations from affected skin areas. Cover with sterile dressing material to protect against infection. Seek medical attention.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. In case of troubles or persistent symptoms, consult an opthalmologist.

After swallowing: 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

The melted product can cause severe burns.
Thermal treatment, Processing: Can cause skin, eye and respiratory tract irritation.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

Extinguishing media

Suitable extinguishing media:

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

Special hazards arising from the substance or mixture

In case of fire may be liberated:
Chlorine decomposition products, nitrogen oxides (NOx), carbon monoxide and carbon dioxide.

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

Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus. Suitable protective clothing.

Additional information: Seal off endangered area. Remove persons to safety.
Do not allow water used to extinguish fire to enter drains, ground or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep the molten mass away from the eyes and the skin.
Where there is a risk of exothermal decomposition as a result of overheating (rise in temperature, formation of fumes or smoke) cool the melt in a water bath. Do not breathe vapours. Provide adequate ventilation. Provide a conveniently located respiratory protective device.

Environmental precautions

Avoid release to the environment.

Methods and material for containment and cleaning up

Take up mechanically.

Additional information: Granulate: Special danger of slipping by leaking/spilling product.

7. Handling and storage

Precautions for safe handling

Advices on safe handling: In case of melting: To avoid thermal decomposition, do not overheat.
Make sure there is sufficient air exchange and / or that working rooms are air suctioned.
Avoid exceeding WEL threshold levels. Do not breathe vapours.
After work, wash hands and face.

For mechanical processing:
Do not breathe dust. Vent dust from the work area.
Avoid dust formation during regranulation.

Precautions against fire and explosion:

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

Storage

Requirements for storerooms and containers:

Keep container dry. Store only in original container.

8. Exposure controls/personal protection

Control parameters

Additional information: The product contains very low levels of residual monomers and process chemicals (styrene, ethylbenzene, acrylonitrile, phenol, 4,4'-Isopropylidenediphenol, Chlorobenzene, 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.

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.
In case of dust formation: Overall

General protection and hygiene measures:
Change contaminated clothing.
Wash contaminated clothing prior to re-use.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.
Safety shower and eye wash station should be easily accessible to the work area.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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: varying, depends on colouring
Odour:	characteristic
Odour threshold:	No data available
pH value:	not applicable
Melting point/freezing point:	(Softening temperature: 100 - 115 °C) 100 - 115 °C
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	Not applicable
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	No data available
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	> 300 °C

Additional information

Viscosity	-
Explosive properties:	In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.
Bulk density:	500 - 700 kg/m³
Additional information:	Softening temperature: 100 - 115 °C

10. Stability and reactivity

Reactivity: exothermic reactions

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: Heating (Decomposition).

Incompatible materials: none

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

Thermal decomposition: > 300 °C

11. Toxicological information

Information on toxicological effects

Toxicological effects:
Acute toxicity (oral): Lack of data.
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.
Skin sensitisation: Lack of data.
Germ cell mutagenicity/Genotoxicity: Lack of data.
Carcinogenicity: Lack of data.
Reproductive toxicity: Lack of data.
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

The melted product can cause severe burns.
Thermal treatment, Processing: Can cause skin, eye and respiratory tract irritation.

12. Ecological information

Toxicity

Further details: No data available

Persistence and degradability

Further details: Product is not readily biodegradable.
Due to the consistency along with the low water solubility of the product a bioavailability is unlikely.

Mobility in soil

No data available

Additional ecological information

General information: Discharge into the environment must be avoided.

13. Disposal considerations

Waste treatment methods

Product

Recommendation: Recycling or special waste incineration.
After appropriate treatment the product can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

Contaminated packaging

Recommendation: Non-contaminated packages may be recycled. If recycling is not practicable, dispose of in compliance with local regulations.

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

Further regulations, limitations and legal requirements

No data available

16. Other information

Reason of change: Changes in section 8: Exposure limit values
Date of first version: 4/9/2012

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.