SAFETY DATA SHEET

1. IDENTIFICATION

PRODUCT IDENTIFIER

Product Name:	**NISSEKI POLYBUTENE SV-7000**
Reference Number:	91141

SUPPLIER'S DETAILS

Name	**ENEOS Corporation**
Address	1-2**,** Otemachi 1-chome, Chiyoda-ku**,** Tokyo 100-8162 Japan
Phone	+81-(0)3-6257-7295
Fax	+81-(0)3-6213-3296
Contact	C4 Derivatives Group, Olefins Dept.
Emergency Phone Number	+81-(0)3-6257-7295 (Available time; 9:00am - 5:00pm JST on Monday - Friday)

RECOMMENEDED USE OF THE CHEMICAL AND RESTRICTIONS OF USE	Chemical feedstock Industrial use only. Do not use for medical or food without advice of experts.

2. HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see SDS Section 15).

OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION:

Physical/Chemical Hazards

Thermal burn hazard - contact with hot material may cause thermal burns.

Health Hazards

No additional hazards.

Environmental Hazards

No additional hazards.

Note: Contact with hot material can cause thermal burns.

This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

3. COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a substance.

Hazardous Substance(s) or Complex Substance(s)

Name	CAS RN®	Concentration*	GHS Hazard Codes
Polybutene	9003-29-6	100 %	-

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume. Concentration values may vary.

4. FIRST-AID MEASURES

DESCRIPTION OF NECESSARY FIRST-AID MEASURE

Inhalation

Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. When mouth-to-mouth resuscitation, responder should be careful to not expose material. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection.

Skin contact

For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

Eye contact

Flush thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

Ingestion

No adverse effects due to ingestion are expected.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DALAY

Contact with hot material can cause thermal burns.

INDICATION OF MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY

None

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable Extinguishing Media: Foam, dry chemical, carbon dioxide (CO2)

Inappropriate Media: Straight streams of water

SPECIFIC HAZARDS ARISING FROM THE CHEMICALS

Specific Hazards Arising from the Chemicals: Combustible When heated, material can decompose and release flammable gas that readily form flammable mixtures. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, carbon monoxide, smoke, fume

SPECIFIC PROTECTIVE ACTIONS FOR FIRE-FIGHTERS

Specific protective actions for fire-fighter:

Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Fire Fighting Instructions:

Evacuate non-emergency personal to safe area. Extinguish fire with appropriate media. Stop leak if you can do it without risk. Move container if you can do it without risk. Use water spray or fog for cooling tanks or containers surround fire. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak or to move container. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for spilled

material and, when applicable, Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended.

If contact with hot material is likely, thermally protective work gloves are recommended. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of antistatic material is recommended.

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Material is combustible. Evacuate non-emergency personal to safe area.

ENVIRONMENTAL PRECAUTIONS

No additional information

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Land Spill: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Liquid Spills: Collect with pump. If liquid is too viscous for pumping, scrape it up with shovels into a suitable container for recycle or disposal. Dry Spills: With clean shovel place material into clean, dry container If liquid is too viscous for pumping, scrape it up with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

When heating, material may release flammable gases. Use only with adequate ventilation. Prevent small spills and leakage to avoid accident.

When heating to normal handling temperatures, avoid handling at more than local 190 °C or overheating as material may release flammable decomposition products. Use only with adequate ventilation, when heating material.

Avoid contact with hot material.

CONDITION FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store material less than 190°C. Do not localheat containers of material. Do not store in open or unlabelled containers.

Suitable Materials and Coatings (Chemical Compatibility): Cardboard, Stainless Steel, Steel

Unsuitable Materials and Coatings: No additional information

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

Occupational exposure limits/standards (Note: Exposure limits are not additive)

Not allocated

Biological limit values

No biological limits allocated

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

APPROPRIATE ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: No special requirements under ordinary conditions of use and

with adequate ventilation.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage. Any specific protective equipment information provided is based on published literature and protective equipment manufacturer data.

Eye/Face Protection:

If contact is likely, safety face protections are recommended.

Skin and Body Protection:

The types of clothing to be considered for this material include: Thermally protective chemical resistant clothing (non-permeable) is recommended.

Respiratory Protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: for mist/dust

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, if concentration is high, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection:

Use suitable protective glove. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

When handling hot materials, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

Physical State:	Liquid - semi-solid
Colour:	Colorless/Clear
Odour:	No data
Melting Point/Freezing Point:	No data
Boiling Point or Initial Boiling Point and Boiling Range:	No data
Flammability :	Combustible solid
Lower and Upper Explosion Limit /Flammable Limits (Approximate volume % in air):	No data
Flash Point:	≧ 160 °C
Auto-ignition Temperature:	approximately 400°C
Decomposition Temperature:	approximately 190 - 350 °C
pH:	N/A
Kinematic Viscosity:	No data@ 40 °C 1580–2050 cSt (1580–2050 mm2/sec) @ 100 °C

Solubility:	Negligible
Partition Coefficient n-Octanol/Water (log value):	No data
Vapor Pressure:	No data
Density and/or Relative Density (at 20 ºC):	0.90 - 0.92 g/cm³ @15°C
Relative Vapour Density (Air = 1):	>1 at 101 kPa
Particle Characteristics:	N/A

10. STABILITY AND REACTIVITY

REACTIVITY: No reactivity under normal conditions.

CHEMICAL STABILITY: Stable at normal conditions. Thermal decomposition may start at about 190°C and the product decomposes almost completely at about 350°C.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization or reaction will not occur.

CONDITIONS TO AVOID: Heat >190°C, flames.

INCOMPATIBLE MATERIALS: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures. When heated (>190°C), material can release decomposition products that readily form flammable mixtures.

11. TOXICOLOGICAL INFORMATION

Information described here are based on the data for this material, structurally similar materials and/or components.

Information	**Conclusion/Remarks**
Acute toxicity	
Oral No data available	Classification not possible
Dermal No data available	Classification not possible
Inhalation No data available	Classification not possible
Skin corrosion/irritation No data available	Classification not possible
Serious eye damage/irritation No data available.	Classification not possible
Sensitization	
Respiratory No data available	Classification not possible
Skin No data available	Classification not possible
CMR hazard	
Germ cell mutagenicity No data available	Classification not possible
Carcinogenicity No data available	Classification not possible

Reproductive toxicity No data available	Classification not possible
Additional category for effects on or via lactation No data available	Classification not possible
Specific target organ toxicity	
Single exposure No data available	Classification not possible
Repeated exposure No data available	Classification not possible
Aspiration hazard	
This material is solid. This material has a dynamic viscosity (1580 - 2050mm2/s@100°C)	Not classified

OTHER INFORMATION
IARC Classification: None

12. ECOLOGICAL INFORMATION

Information described here are based on the data for this material, structurally similar materials and/or components.

TOXICITY

No information available for toxicity to aquatic organisms.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

No information available for biodegradation.

Hydrolysis:

Transformation due to hydrolysis not expected to be significant.

Photolysis:

Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

No additional information

BIOACCUMULATION POTENTIAL

No information available.

MOBILITY IN SOIL

No information available.

OTHER ADVERSE EFFECTS

Hazard to the Ozone Layer

Not expected to be harmful to ozone layer.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Disposal Recommendations

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

Empty Container Warning

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty containers should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably contractor and in accordance with governmental regulations.

14. TRANSPORT INFORMATION

LAND - Precautionary Transportation Measures & Conditions:
Comply with applicable laws and regulations.

SEA (IMDG) / AIR (IATA)

UN Number:	-
UN Proper Shipping Name:	-
Transport Hazard Class(es):	-
Packing Group:	-
Environmental hazards:	No
EMS Number:	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code :
Not applicable This product is not liquid substances.

15. REGULATORY INFORMATION

This material is not considered hazardous according to the Classification of Chemicals based on Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT IN QUESTION

National Laws and Regulations:
Comply with applicable laws and regulations.

16. OTHER INFORMATION

N/A = Not applicable

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