

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : SUNDICSHEET
 Synonym(s) : Oriented Polystyrene Sheets
 Product Code : 210
 General Use : Thermoforming sheets
 Product Description : Extrusion sheets of polystyrene
 MSDS Number : OPS-BE-01

MANUFACTURER

Company Name : SUNDIC, Incorporated
 Address : Moritani Building 83 4-22, Yaesu 1-Choume, Chuo-ku, Tokyo, 103-0028, Japan
 Telephone No. : +81-3-5205-8667

EMERGENCY TELEPHONE NUMBER :

SUNDIC, Incorporated
 Telephone: +81-748-72-7576 (9 a.m.~6 p.m., JST) (Technical Dept.)
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2. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | Chemical name | Wt% | CAS Registry No. | Chemical Formula |
|-----------|---------------|-----|------------------|--|
| A | Polystyrene | >99 | 9003-53-6 | -(C ₈ H ₈) _n - |

OSHA HAZARDOUS INGREDIENTS (29CFR1910.1200):

All components are not hazardous substances.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Odorless and clear Sheets.
 Toxic fumes are released in fire situation.

POTENTIAL HEALTH EFFECTS:

CARCINOGEN STATUS : IARC Group: 3 (Polystyrene)
 PRIMARY ROUTE OF EXPOSURE
 Inhalation : Single exposure to dust is not likely to be hazardous.
 Vapors are unlikely due to physical properties.
 Eye : Solid or dust of sheet may cause irritation or corneal injury due to mechanical

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action.
Skin : Essentially non-irritating to skin. Mechanical injury only.

POTENTIAL ENVIRONMENTAL EFFECTS

Odorless and clear Sheets.

Flammable in fire.

Firefighters and others who may be exposed to vapors or products of decomposition due to fire should wear self-contained breathing apparatus and full protective clothing.

Water spray, foam, powder, carbon dioxide and dry sands can be used on fires.

4. FIRST AID MEASURES

INHALATION:

In case of inhaling plenty of vapors, remove person to fresh air.

If person feels unwell, arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

EYE: Immediately flush eyes with plenty of water.

Continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.

SKIN: Wash off in flowing water or shower.

In case of sticking hot melt resin to clothing, cool affected area with plenty of water and take off clothing, apply ointment or get medical attention.

INGESTION: Vomit the material and if person feels unusual, get medical attention.

PROTECTION TO FIRST-AIDERS:

When the gas and/or the dust occur, the aiders wear a mask for the protection against dust , goggles.
Also, when handling a hot melt resin, it wears a heat-resistant glove.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

Flash Point :345-360°C (653-680°F)

Polystyrene Sheets are thermoplastic material and may melt but not drip.

Dense black smoke and hazardous gases containing carbon monoxide or styrene may be emitted when burned.

EXTINGUISHING MEDIA:



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Water spray, foam, powder, carbon dioxide and dry sand.

FIRE FIGHTING INSTRUCTIONS:

Firefighters and others who may be exposed to vapors or products of decomposition due to fire should wear full bunker gear including a positive pressure self-contained breathing apparatus and full protective clothing in any closed space.
Equipment should be cleaned after use.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL: As solid and dust of Sheets on the floor makes the floor slippery, collect and sweep up them.

WATER SPILL: All spilled materials should be recovered to avoid the adverse effects on fishes and birds.

7. HANDLING AND STORAGE

HANDLING:

Handle in accordance with good industrial hygiene and safety practices.
These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing.
Avoid eye contact and avoid breathing dusts if generated.
Good housekeeping is in order to prevent the accumulation of dust.
Normal good ventilation practices should be used.

STORAGE:

Avoid direct sunlight.
Fires and heat sources should be kept away from Sheets.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES:

for Polystyrene

PEL (OSHA) : Not established

TLV (ACGIH) : Not established

But it is proper to follow the values.

Unclassified particulate (ACGIH(2002)): Respirable 3 mg/m³ (TWA)

Inhalable 10 mg/m³ (TWA)

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EXPOSURE CONTROLS

Occupational Exposure Controls

Engineering controls: Good general and/or local exhaust ventilation should be sufficient to control airborne levels below the exposure guidelines.

Personal Protection

Respiratory Protection: Under usual conditions, no respiratory protection.

Hand Protection : Unnecessary in usual handling.

Eye Protection: SUNDICSHEET does not cause significant eye irritation or eye toxicity requiring special protection.

Use good industrial practice to avoid eye contact.

Namely, use safety glasses. If there is a potential for exposure to dusts which could cause mechanical injury to the eye, wear chemical goggles.

Skin Protection: Unnecessary in usual handling.

Environmental Exposure Controls: Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless Sheets

Odor: Odorless

Melting Point/Melting Range: No data available (Softens at 90-100°C (194-212°F))

Flash Point: 345-360°C (653-680°F)

Auto Ignition Temperature: 488-496°C (910-925°F)

Flammability: No data available

Specific Gravity: 1.05 (Water=1)

Solubility: water: insoluble

toluene, ethyl acetate, ethyl benzene, 2-butanon : soluble

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Avoid fires and high temperatures.

STABILITY: Stable product

MATERIALS TO AVOID: Hydrocarbons, alcohols, esters, amines, ketones and aldehydes.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS:

Carbon monoxide, Carbon dioxide, Styrene, Toluene, Benzene



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11. TOXICOLOGICAL INFORMATION

Acute Toxicity: No data available.
Eye Irritation: May cause eye irritation.
Skin Irritation: May cause skin irritation.
Sensitization: No data available.
Mutagenicity: No data available
Carcinogenicity: IARC Group: 3 (Polystyrene)

12. ECOLOGICAL INFORMATION

ECOTOXICITY: In order to prevent sea animals and birds from taking, never discard in any seas and water areas.

PERSISTENCE AND BIODEGRADABILITY: Not biodegradable.

BIOACCUMULATIVE POTENTIAL: No data available.

13. DISPOSAL CONSIDERATIONS

Comply with all federal, state and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

14. TRANSPORT INFORMATION:

US DEPARTMENT OF TRANSPORTATION (DOT)

Hazardous Materials: Not applicable

SEA TRANSPORT

IMDG

Class: Not applicable

Packing Group (PG): Not applicable

UN Number: Not applicable

Proper Shipping Name: SUNDIC SHEET (Oriented Polystyrene Sheets)

Marine Pollutant: Not applicable

AIR TRANSPORT

ICAO/IATA

Class: Not applicable

Packing Group (PG): Not applicable



MATERIAL SAFETY DATA SHEET

UN Number: Not applicable

Proper Shipping Name: SUNDICSHEET(Oriented Polystyrene Sheets)

15. REGULATORY INFORMATION

OSHA STATUS: This product is not a hazardous under the Federal OSHA hazard communication standard 29 CFR 1910.1200.

TSCA STATUS: On TSCA Inventory

CERCLA REPORTABLE QUANTITY (40CFR117,302): Not Applicable

SARA TITLE III

SECTION 302 (40 CFR 355) :

This product does not contain ingredients listed in Appendix A&B as Extremely Hazardous Substances.

SECTION 311/312 (40 CFR 370) :

This product is not hazardous under 29 CFR 1910.1200.

SECTION 313 (40 CFR 372):

This product does not contain ingredients (at a level of 1% or greater) on the list of TOXIC CHEMICALS.

Please refer to any other federal, state and local regulations.

16. OTHER INFORMATION

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of SUNDIC, Incorporated.

It relates only to the specific product designated herein, and does not relate to use in combination with any other material or in any process. SUNDIC, Incorporated assumes no legal responsibility for use of or reliance upon this information.
