

SAFETY DATA SHEET

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Ref. No. : SDS-E-4-15-B

Revised: May. 16, 16

1. Product identification

Product name : Hi-Temp Shrink Tubes

Figuration: Plastic tube (This product is an Article. This product is not a chemical Substance or Mixture.)

Recommended use of the product: Electrical insulation , etc.

Restrictions on use:

Supplier : Design Engineering, Inc.

Emergency Tel. No.: Design Engineering, Inc.
604 Moore Rd., Avon Lake, Ohio 44012
440-930-7940

2. Hazards identification

GHS classification

Physical hazards:

1. Explosives . . . Not applicable
2. Flammable gases (including chemically unstable gases) . . . Not applicable
3. Aerosols . . . Not applicable
4. Oxidizing gases . . . Not applicable
5. Gases under pressure . . . Not applicable
6. Flammable liquids . . . Not applicable
7. Flammable solids . . . Not classified
8. Self-reactive substances and mixtures . . . Not applicable
9. Pyrophoric liquids . . . Not applicable
10. Pyrophoric solids . . . Not classified
11. Self-heating substances and mixtures . . . Not applicable
12. Substances and mixtures which, in contact with water, emit flammable gases . . . Not applicable
13. Oxidizing liquids . . . Not applicable
14. Oxidizing solids . . . Not classified
15. Organic peroxides . . . Not applicable
16. Corrosive to metals . . . Not classified

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Health hazards:

1. Acute toxicity . . . No data
2. Skin corrosion/irritation . . . No data
3. Serious eye damage/eye irritation . . . No data
4. Respiratory or skin sensitization . . . No data
5. Germ cell mutagenicity . . . No data
6. Carcinogenicity . . . No data
7. Reproductive toxicity . . . No data
8. Specific target organ toxicity-single exposure . . . No data
9. Specific target organ toxicity-repeated exposure . . . No data
10. Aspiration hazard . . . Not applicable

Environmental hazards

1. Hazardous to the aquatic environment . . . No data
2. Hazardous to the ozone layer . . . No data

Other hazards:

If the product is overheated or burned, harmful vapors may be formed.

3. Composition/ Information on ingredients

Product type: Article

Composition:

Substance name	CAS No.	Rate(wt%)
Crosslinked polyolefin	-	> 50
Other	Confidential	< 50

4. First aid measures

Inhalation : If vapors from the burning or overheated product are inhaled, provide fresh air. If symptoms are not reduced, seek medical advice.

Skin contact: If the heated product contacts skin, remove the product immediately. If there is evidence of reddening or burn, seek medical advice.

Eye contact : If the heated product contacts eyes, rinse thoroughly with plenty of water for at least 15 minutes and seek medical advice.

Ingestion : Seek medical advice.

5. Fire-fighting measures

Recommended extinguishing methods: Suitable extinguishing media: Water spray, dry powder, CO₂ foam

Fire extinguishing method that should be avoided:

Specific hazards:

Precautions for firefighters: To wear a protective mask

6. Accidental release measures

No risk at room temperature.

It can be recovered by hand.

Avoid contact with organic solvents to melt the polyolefin-based material.

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7. Handling and storage

Handling : No special handling advice required.
Storage : Store at room temperature in unopened packs to avoid direct sunlight.

8. Exposure controls/personal protection

Exposure limit values: Without information. (In a normal state without the exposure.)
Personal protection equipment : Under normal handling, not necessary.
Respiratory protection : Under normal handling, not necessary.
Hand protection : Gloves may be required to handle the product, when hot.
Eye protection : Under normal handling, not necessary.
Other protection : Under normal handling, not necessary.
During thermal contraction work: Do the work wear heat-resistant gloves at the location of the local exhaust system.

9. Physical and chemical properties

Appearance(physical state): Tube (solid)
Color: Black

Upper/lower flammability or explosive limits: No data
Odor: Slight odor
Vapor pressure: Not applicable
Odor threshold: No data
Vapor density: Not applicable
pH: Not applicable
Relative density: 1.35 nominal
Melting point/range : The material has melting point, 90 °C nominal, but it will not flow over the melting temperature due to the cross-linked structure

Solubility(ies) Small in water
Initial boiling point and range: No data
Flash point: 300 °C nominal
Evaporation: Not applicable
Flammability(solid,gas): No data
Partition coefficient:n-octanol/water: No data
Auto-ignition temperature: 350 °C nominal
Decomposition t temperature and: No data
Viscosity: Not applicable
Pyrophoric gas: It does not occur under normal handling
Asphyxiant: Not applicable
Flammable dust: It does not occur under normal handling

10. Stability and Reactivity

Stability : Stable at normal conditions. Recommended max. operating temperature is 135 °C..
Do not heat over 300 ° C to avoid harmful vapors which may be formed at high temperatures.

Material to avoid : None

Hazardous decomposition products : None under normal conditions. If the product is overheated or burned, harmful vapors(e.g. carbon monoxide and hydrogen halides) may be generated.

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11. Toxicological information

Acute toxicity : Unknown
Skin : Not irritating, but the heated product has potential to cause thermal burn.
Eyes : If the product is overheated or burned, vapors may irritate eyes.
Inhalation : Harmful vapors produced by overheating or burning may cause irritation to the upper respiratory tract.
Ingestion : Not digestible.
Further information : During heating process of the product, slight plastic smell may cause discomfort for susceptible persons.

12. Ecological information

Biodegradability : Unknown (No data)
Aquatic toxicity : Unknown (No data)
Further information : Unknown (No data)

13. Disposal considerations

Proper disposal container: Special container is not required.
Appropriate disposal methods: Please properly disposed of in accordance with local laws and regulations.

14. Transport information

Not classified as dangerous with regard to the transport regulation.

15. Regulatory information

TSCA···Not applicable (By reason of article).

16. Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or property assurances. The information relates only to the specific material designed and may not be valid for such a material used in combination with any other materials or in any process, unless specified in this text.