

Control of Substances Hazardous to Health Regulations 1994

Third Party Assessed May 1995 Material Safety Data

Visqueen Building Products HDPE, LDPE, MDPE & Polypropylene films.

Background

This data sheet describes the precautions that should be taken to safeguard Health & Safety when handling Visqueen Building Products Polythene & Polypropylene Film Products. Its scope does not include the suitability of these products for specific applications.

Introduction

HDPE, MDPE and LDPE Polythene & Polypropylene Films do not present any specific hazards to health and safety when used for their intended purpose in accordance with good standards of industrial hygiene and safe working practice.

1) Scrap or Waste Polythene

Scrap lengths of polythene & Polypropylene film should always be placed in an appropriate receptacle and not left lying on the ground as this could cause people to lose their footing, which may lead to injury. Discarded scrap Polythene & Polypropylene left loose will blow away and cause a litter problem. Unsecured scrap Polythene and Polypropylene film could, if placed over the head, constitute a suffocation hazard to young children.

2) Potential Hazards

2.1. Food Contact: If the film is required to come into contact with food, then the materials used in the manufacture of these grades of film must meet the requirements for food contact usage of EEC, USA.

All countries outside these areas, please refer to Visqueen Building Products Technical Services Department, for additional information.

2.2. Toxicity: HDPE, MDPE, LDPE, Polythene and Polypropylene are chemically non-reactive and are regarded as being biologically inert.

2.3. Ingestion: Although HDPE, MDPE, LDPE, Polythene & Polypropylene are inert and can be regarded as harmless, certain films do contain additives that may be harmful and ingestion is not recommended. In the unlikely event of accidental ingestion of Polythene & Polypropylene film, flake or dust, it is recommended that medical assistance be called.

2.4. Eye Contact: HDPE, MDPE, LDPE, Polythene and Polypropylene flake dust or particles are not dangerous, however may cause eye irritation. In the event of flake or dust particles entering the eye, flush with cold water. If eye irritation continues or develops, medical assistance should be called.

All publications are subject to revision and the latest edition should be consulted.

2.5. Skin Contact: Isolated cases of dermic symptoms have been associated with personnel handling plastic films, which have been attributed to very rare forms of allergy. The use of barrier creams and/or protective gloves can usually eliminate such problems, however, in extreme cases, the personnel concerned may need to be removed from such an environment.

2.6. Smoking, Eating & Drinking: Smoking, eating and drinking in working areas are not desirable practices and should be prohibited.

2.7. Static: Polythene & Polypropylene film can acquire static electrical charges under certain conditions. The rapid leaking of such charges to earth in the form of static sparks is potentially dangerous in areas where flame or explosion hazards exist.

3) Transportation, Handling and Storage

3.1. Handling: Polythene & Polypropylene films do not present an unusual hazard in handling. It is recommended that, when handling large reels, adequate lifting equipment be used.

3.2. Transportation: Reels in bulk should be strapped and/or stretch wrapped securely on pallets.

3.3. Working & Storage Areas: Working and storage areas should be kept clean and tidy. Spillage of loose Polythene and Polypropylene on to the floor should be cleared immediately, so as to reduce the risks of falls. Polythene films should be stored dry and shielded from direct sunlight. Indoor, unheated storage areas with natural ventilation are adequate. Badly stacked reels, pallets, etc may slip and cause injury to personnel. Regular inspection is recommended.

3.4. Footwear: Safety shoes should be worn at all times by all personnel involved in the handling and movement of film reels.

3.5. Ventilation: Adequate ventilation of workshops is essential in order to minimise the concentration of any fumes evolved. Local exhaust ventilation should also be provided in the vicinity of processing machinery.

4) Fire

Should fire involving polythene occur, any commonly available fire extinguishers may be used. Powder extinguishers are very effective in quenching flames, although they do not have the cooling ability required in a deep-seated fire, but the use of solid jets of water from fire hoses in the early stages of fire is not recommended since they could help to spread the flames.

It is recommended that advice be sought from the local Fire Authority on fire-fighting equipment and procedures. Polythene & Polypropylene film is unlikely to be the only factor involved in a total fire situation and other materials will have their own particular hazards.

5) Flammability

When Polythene & Polypropylene film is heated, melting will occur at 105°C - 115°C and decomposition will commence at about 300°C. When heated above this temperature in poorly ventilated areas, polythene films will pyrolyse oxidatively to produce carbon monoxide and water plus a small amount of various hydrocarbons and aldehydes. The evolved gases may ignite and provide heat that will accelerate pyrolysis and allow combustion of more polythene or any other combustible material in the vicinity. Burning is accompanied by the release of flaming molten droplets of polythene that could ignite adjacent flammable material. Carbonisation also occurs and some of the carbon is released as a soot.

The main combustion product in flaming conditions is generally carbon dioxide, though lack of oxygen or rapid extinguishing of fire often leads to the smoke still containing appreciable quantities of carbon monoxide, acrolein and other toxic aldehydes.

These comments can only be of a general nature; since the conditions experienced in a fire cannot be fully predicted and will depend on many factors.

6) Additional Precautions

6.1. HD Polythene (Effect of Heat): HD Polythene can be used in all normal applications. Small quantities of fumes are evolved at about 230°C; these gradually increase until, at about 300°C, the heat of oxidation may produce a rapid rise in temperature that accelerates the pyrolysis.

Under these conditions, carbon monoxide (TLV 50 p.p.m), formaldehyde (TLV 2 p.p.m) and acrolein (TLV 0.1 p.p.m) can be evolved

The irritant factor of the aldehydes, which is not noticeable even at levels TL provides a good warning of excessive exposure. The self-ignition temperature of HD polythene as measured by A.S.T.M D 1929-77 is 349°C.

6.2. EVA Polythene (Effect of Heat): EVA Polythene is more heat sensitive than HD Polythene and the upper temperatures should be limited to 230°C. At higher temperatures, in addition to fumes mentioned in 6.1, EVA film will decompose, with evolution of acetic acid, which is also an irritant.

6.3. Ventilation: When heat sealing Polythene and Polypropylene film, involving the use of a heated wire or blades with surface temperatures in the range of 400 - 600°C, it is possible that small quantities of the film may adhere to the surface of the heat sealing instruments, giving rise to the decomposition products described in 5, and cleanliness of the instruments and adequate ventilation are again essential.

7) Waste Disposal

Scrap Polythene & Polypropylene may be disposed of at approved landfill sites or by incineration under approved conditions.

Polythene & Polypropylene film is recyclable and should be segregated and contact Visqueen Building Products on 01685 846154, who will provide advice on its suitability and condition of storage.

If in doubt about your legal requirements for the handling and storage of all controlled wastes under the Environmental Protection Act 1990, 'Duty of Care Regulations', contact your local Waste Disposal Authority.

8) Summary

The information contained in this Health and Safety Data Document relates only to the material described and is not valid for such material used in combination with any other materials or in any other process. Such information is, to the best of the Company's knowledge and belief, accurate and reliable. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the responsibility of the user to satisfy himself as to the suitability and completeness of such information for his own particular use.

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