



# MATERIAL SAFETY DATA SHEET

ISSUED by PAKAFLEX PTY LTD August 2009

## LDPE/LLDPE FILM PRODUCTS

*Not classified as hazardous according to criteria of NOHSC*

### 1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY UNDERTAKING

Product Name	LDPE/LLDPE FILMS	
Product Use	LDPE and LLDPE blended films for industrial packaging and outdoor use.	
Company Name	PAKAFLEX PTY LTD	
Address	2e Cochrane Street, Mitcham VIC	
Emergency Tel.	0423 688 338	
Telephone	+61 (3) 9874 4555	
Fax	+61 (3) 9874 4111	
Web	www.pakaflex.com.au	
Other Names	Supatuff, Timberwrap, LLDPE, LDPE, mDPE	Pakaflex grades beginning with ST, TW, LD, LL, CU, LF, UW, BT

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterisation	Solid	
Ingredients/CAS/%	Polyethylene	90-98%
	Antioxidant/Eurucamide/silica	1-2%
	Colour additive	0-7%
	Proprietary additives	1-2%

### 3. HAZARDS IDENTIFICATION

Chronic Effects	None known.
Inhalation	Fumes given off during processing can cause respiratory irritation, headache and nausea.
Ingestion	No known effects/minimal toxicity. May cause choking if swallowed. Bags should be kept away from children.
Skin	Skin contact may result in mechanical injury or abrasion. This is a low risk hazard. Thermal burns may result from exposure to hot material.
Eye	Fumes given off during processing may cause eye irritation. Flakes of film may cause mechanical irritation to eyes.

### 4. FIRST AID MEASURES

Inhalation	Remove any film from airway. Take victim to fresh air.
Ingestion	Not expected to be a problem. Remove any film from airway. If uncomfortable seek medical assistance.
Skin	Not expected to be a problem. Molten material will adhere to skin and cause burns. Cool material as quickly as possible with water and see a physician for prompt removal of the adhering material and treatment of the burn. Do not remove material or clothing from skin. Removal may result in further damage to skin.
Eye	Flush with water in order to remove particulates. For contact with molten material treat as for skin burns.
Advice to doctor	Treat symptomatically. Advice as per above information.



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### 5. FIRE FIGHTING MEASURES

Extinguishing Media	Carbon Dioxide, Foam, Dry Chemical, Water Fog or Fine Water Spray;
Specific Hazards	Build up of airborne dusts may cause a dust explosion.
Decomposition Temp.	>250°C
Precautions in connection with Fire	Fire fighters must use self contained breathing apparatus;
Flash Point	Not applicable
Ignition Temperature	350°C approx.
Flammable Limits LEL	None Allocated
Flammability	Combustible solid. Rolls of film or bags may burn in presence of extreme heat and oxygen. Avoid extreme heat.

### 6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal	Disposal of recovered material should conform to local regulations. Loose film is slippery and may be a trip hazard.
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### 7. HANDLING AND STORAGE

Packaging Handling	No special requirements. Storing < 35 deg C in dry conditions recommended. Rolls can be heavy. Care should be taken when cutting strapping to ensure rolls don't drop unexpectedly and safe lifting practices should be utilised when handling rolls or cartons.
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### 8. EXPOSURE CONTROL /PERSONAL PROTECTION

Other Exposure Information	No exposure standard has been published by the National Occupational Health & Safety Commission (Worksafe Australia).
Personal Protective Equipment	Thermal resistant gloves should be worn when handling hot materials. Dust respirators to AS/NZ1715 and AS/NZ1716 should be worn to avoid exposure by inhalation as required.
Eng. Controls	Good general ventilation is required when heat sealing film. Avoid inhaling dusts and fumes that may be generated. Use with local exhaust ventilation if required.
Technical Protective Measures	<p><i>NOTES REGARDING THERMAL DEGRADATION of POLYETHYLENE</i></p> <p>When discussing the degradation of Polyethylene it is important to distinguish between the burning and fuming of the product.</p> <p><b>Fumes from Polyethylene:</b> During processing of polyethylene ie whenever the polymer is heated, fumes will be evolved — the extent and content of which will largely depend on the temperature and duration of the exposure. Because of the wide range of processing conditions which will influence the degradation process and therefore the composition of the fumes, the precise nature of which will vary according to conditions but likely to include butane and other alkanes and alkenes, the general recommendation is given that the inhalation of fumes should be avoided and that the area be well ventilated ie. the level of fumes evolved should be kept as low as possible. It is recommended that general ventilation be provided at the rate of at least six air changes per hour. In some circumstances, based on risk assessment, local exhaust ventilation may be required. (1)</p> <p>Where continued inhalation of the fumes has occurred or there has been a build up of fumes, a number of effects have been reported relating to irritation of the eyes, respiratory tract and throat. Headaches may also occur.</p>



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In certain situations, based on risk management processes, respiratory protection (eg supplied air or organic canister) may also be used to control exposure to polyethylene fume. Only approved respiratory protective equipment to AS/NZ1715 and AS/NZ1716 should be worn.

**Burning of Polyethylene:** Polyethylene film is a hydrocarbon and therefore will burn readily. It will not however easily self ignite. When burning, polyethylene will drip and run ignited particles. Rolls of polyethylene films and paper, particularly tissue paper, should be stored separately if at all possible — the former is hard to ignite, but burns strongly once alight, the latter will easily ignite and smoulder. Once established, burning polyethylene has at least 50% higher calorific value, therefore the flame will be more than twice the intensity.

If separate storage is not possible, extra high hazard sprinkler system should be concentrated over the area reserved for polyethylene film. The fire brigade code does not treat rolls of polyethylene film any differently than for paper with respect to hazards from fumes evolved during a fire.

The gases evolved during burning will differ with increasing temperature. However, the major component of the gases will be carbon monoxide, carbon dioxide, very low levels of acrolein, formaldehyde, other aldehydes, ketones, methane, ethane and acetylene. Probably the most attention has been given to the formation of acrolein which can be evolved in toxicologically significant amounts. It is this chemical which causes irritation to the nose, eyes and throat and can cause headaches, and hence the need for any enclosed area to be well ventilated.

It is recommended that fire crew wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.

(1) UK HSE Publication; Plastics Processing Sheet No 13.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, white or coloured film in rolls or as individual bags or sheets from 0.02mm to 0.3mm thickness.
Decomposition Temperature	>250°C
MeltingPoint	100 — 130°C
Boiling Point	None allocated
Vapour Pressure	Not applicable
Flash Point	Not applicable
Flammability	Combustible solid. May form flammable dust clouds in air. Polymer may burn in presence of extreme heat and oxygen. Avoid extreme heat.
Ignition Temperature	350°C approx.
Flammable Limits LEL	None allocated
OtherInformation	Density (Range): 0.910 — 1.050 g/cm <sup>3</sup> Water Solubility: Negligible



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### 10. STABILITY AND REACTIVITY

Stability (Thermal, Light)	Stable
Materials to Avoid	Strong oxidising agents
Hazardous Decomposition Products	Carbon Monoxide, Aldehydes, Acetic Acid, Ketones, Acrolein, Ethane and Methane;
Conditions to Avoid	Extreme Heat

### 11. TOXICOLOGICAL INFORMATION

Toxicology Information	Polyethylene has been classified by the international Agency for research on Cancer (IARC) as a Group 3 agent. Group 3 — The agent is not classifiable as to its carcinogenicity to humans. Data available is insufficient for assessment to be made. (IARC Monograph Sup.7, P.70, UK 1987)
Inhalation	Fumes given off during processing can cause respiratory irritation, headache and nausea. No known effects/minimal toxicity.
Chronic Effects	May cause choking if swallowed.

### 12. OTHER INFORMATION

Environ.Protection Disposal	Plastic film considered environmentally inert. Dispose of in compliance with Federal, state and local government regulations. Disposal options include: recycling, incineration and landfilling.
Transport	The products listed in this MSDS are not classified as dangerous goods in the Australian Dangerous Goods Code.
Regulatory Manufacturers advice	No special packaging or labelling requirements Conveying lines and equipment in material handling systems should be grounded to eliminate or reduce the build up of static electricity.
References	Commonwealth of Australia, 'Australian Code for the Transport of Dangerous Goods by Road and Rail', Australian Government Publishing Service (1992).
Other Information	This MSDS summarises to our best knowledge at the date of issue, the health, safety and environmental hazards of the material and general guidance on how to safely handle the material in the workplace. Since Pakaflex cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material. If clarification or further information is needed, the user should contact Pakaflex at the contact details on page 1.