## MATERIAL SAFETY DATA SHEET

## 1. PRODUCT IDENTIFICATION

Product identification: thermal lamination BOPP film

### 2. COMPOSITION

Chemical characterization:

Outer layer: Biaxially-Oriented Polypropylene (BOPP) films (60%) Inner layer: ethylene vinyl acetate (also known as EVA) (40%)

Form: Film Colour: Transparent, White, Metallised

### 3. HAZARDOUS IDENTIFICATION

No specific danger is associated to the normal industrial utilization of the product. However, it is to be considered that

plastic film left on the ground of working areas are slippery, and that during converting of film rolls electrostatic

discharges can be generated.

### 4. FIRST-AID MEARURES

Inhalation/Ingestion: thermal lamination BOPP films are non toxic. However, in the unlikely event of ingestion of BOPP

film, flake or dust particles, it is recommended to seek medical advice.

Skin Contact: Isolated cases of dermic symptoms have been associated with handling of plastic films, and have been

attributed to very rare forms of allergy. The use of barrier creams and protective gloves can usually eliminate such

problems, but in extreme cases the person concerned should be removed from the environment.

Eye Contact: Thermal lamination BOPP films flakes or dust particles are not dangerous, but may cause eye irritation due

to their mechanical action. In special cases the use of a protective facemask or eye goggles would be advisable. In the

event of film flake or dust particles contacting the eyes, flush eyes with water. If eye irritation persists seek medical

advice.

# 5. FIRE – FIGHTING MEASURES

Thermal lamination BOPP films is not a flammable material but it will burn if exposed to flame, giving off harmful fumes

which should not be inhaled.

If films are involved in a fire they will ignite and continue to burn freely, provided sufficient oxygen is present and even

if the source of the ignition is removed.

NB: Ignition temperature of the film is 280°C

Molten droplets of polymer can be produced which could ignite adjacent flammable and / or combustible materials.

Skin or clothing contaminated by molten polymer should be drenched with clean water until cooled. In case of the former

the patient should be referred for immediate medical attention and under no circumstances should any attempt be made to

peel the solidified polymer off the skin.

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Thermal lamination BOPP films generate little smoke when burning under conditions of free air supply. The major

constituents of the fumes evolved are:

Voided and metallised films

-water vapor, carbon dioxide and carbon monoxide (H2O, CO2,CO)

Carbon monoxide is toxic. Care must be taken therefore not to inhale these decomposition fumes evolved during a fire

involving the films.

Fires involving thermal lamination BOPP films can be dealt with by any commonly available fire extinguisher, although

restrictions may be imposed by the presence of other materials such as flammable solvents or electrical equipment. It is

advisable in such situation to obtain advice from the local fire authority.

### 6. ACCIDENTAL RELATED MEASURES

Collect the film in order to avoid possible slipping of personnel on the floor. The stacking of film pallets on top of each

other is not recommended. Pallets should not be climbed on but properly approached and handled. Pallet strapping is

under tension and when cut, will recoil exposing sharp corners. It is recommended that eye protection and protective

gloves are worn at all times during cutting and handling of strapping. Various materials are utilized in the packaging,

overwrapping of rolls and pallets during transit and storage. In any event care should be taken in the handling and

disposal on these materials and the appropriate health and safety guidelines should be observed.

### 7. HANDLING AND STORAGE

It is recommended that dry conditions below  $30^{\circ}\text{C}$  be employed to minimize any deterioration on surface characteristics.

Thermal lamination BOPP films are suitable for use upto 6 months from the date of delivery. Film stocks should be used

in rotation according to dates of delivery. All films should be allowed to reach operating room temperatures for 24 hrs

before use.

Thermal lamination BOPP films are slippery. Film should not be allowed to litter floors or obstruct access areas where

people may walk or stand.

### 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

During normal handling protective gloves and the usual protective equipment are recommended. If there is any possibility of contacting molten film (e.g. nearby the sealing bars or the heated rollers of packing

machines), heat protective gloves are recommended.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

Relevant safety data Change in physical state: Softening point: 85 °C Density (20°C): 0.91 g/cm3

Flash point: 350 °C Vapour pressure: n.a. Viscosity: n.a. Solubility in water: insoluble

pH-value: n.a. n.a. = not applicable

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### 10. STABILITY AND REACTIVITY

The product is stable at normal handling and storage conditions.

### 11. TOXICOLOGICAL INFORMATION

Non-toxic

### 12. ECOLOGICAL INFORMATION

When disposed of under orderly conditions no environmental damage occur. When burning under free air conditions only

CO2, CO and water arises. Does not contain additives based on heavy metal like cadmium (Cd), lead (Pb), mercury (Hg)

or chromium vi (Crvi).

### 13. DISPOSAL CONSIDERATIONS

Thermal lamination BOPP films are water insoluble, ground and ground water neutral, effectively non-toxic solids, which

present no environmental hazards.

The disposal of OPP in supervised waste tips is clean and effective.

The most economic method of disposal involves incineration, which regenerates the energy content of the material. The

major products of well-managed incinerators are water and carbon dioxide.

Consequently it is recommended that officially authorized, modern incinerators in keeping with the latest technological

development involving high temperatures and long residence time within the combustion chamber be employed together

with flue gas scubbing techniques which meet the requirement of the local regulatory emission control standards.

Advice on the preferred method of disposal should be obtained from your local authority.

## 14. TRANSPORT INFORMATION

Land transport Not restricted

Sea transport Not restricted

Air transport Not restricted

Other information:

Not classified as dangerous goods.

# 15. REGULATORY INFORMATION

Symbols: Not regulated

# 16. OTHER INFORMATION

This information relates only to the specific material designated and may not be valid for such materials used in

combination with any other materials or in any process. The information and recommendations contained herein are to

the best of our knowledge and belief accurate and reliable as of the date indicated. However, no representation, warranty

or guarantee is made with regards to accurate, reliability or completeness. Conditions of use of the material are under the

control of the user therefore, it is the users responsibility to satisfy himself as to the suitability and completeness of such

information for his own particular use.

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