MATERIAL SAFETY DATA SHEET

1. 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 MEASURES
   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 dermatic 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.
   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°C be employed to minimize any deterioration on surface characteristics.
Thermal lamination BOPP films are suitable for use up to 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 ℃
Density (20°C): 0.91 g/cm3
Flash point: 350 ℃
Vapour pressure: n.a.
Viscosity: n.a.
Solubility in water: insoluble
pH-value: n.a.
n.a. = not applicable

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 scrubbing 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.
Issue : 08. August, 2007
Revision date : 15 January 2010