

# Health and Safety Guidelines for the use of Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore Biaxially Oriented Polypropylene Films (BOPP)

## Introduction

● The information below should be studied carefully and its contents drawn to the attention of, and made available to, all relevant personnel before the product is handled.

● Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore BOPP films do not present any specific hazards to health or safety when used for their

intended purposes in accordance with reasonable industrial practice, hygiene and good housekeeping.

● The Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore range of BOPP films fall into the following categories:

- i) Uncoated films
- ii) Coated films

## Food Contact

● For specific details of Food Contact Compliance relating to Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore products please contact our Technical Services Department.

## Ingestion

● Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore films are non-toxic. However in the unlikely event of ingestion of polypropylene film, flake or dust particles it is recommended that medical advice is sought.

## Inhalation

● Polypropylene powder is considered to be a chemically inert low toxicity dust not normally dangerous to health, although high

concentrations in the air may cause a nuisance. Airborne concentrations must be kept below the normal recommended levels for inert powders.

● The UK Health and Safety Executive and the American Conference of Government Industrial Hygienists (ACGIH) quote Occupational Exposure Limits (OEL) of 10 mg/m<sup>3</sup> 8-hour Time Weighted Average (TWA) for total inhalable dust and 5 mg/m<sup>3</sup> 8-hour TWA for respirable dust.

● In the event of a process creating significant quantities of polypropylene flake or dust particles, precautions must be taken to avoid inhalation and the use of a filter mask may be advisable. In cases where inhalation of polypropylene flake or dust particles occurs, remove the patient to fresh air and seek medical advice.

## Eye Contact

● Polypropylene flake or dust particles are not dangerous, but may cause eye irritation due to their mechanical action. In the event of a process creating polypropylene flake or dust particles, eye protection is advised. In cases where polypropylene flake or dust particles contact the eyes, flush with water. If eye irritation persists, seek medical advice.

## Skin Contact

● Isolated cases of dermic symptoms have been associated with personnel handling plastic films, and have been attributed to a very rare form of allergy. The use of barrier creams and protective gloves can usually eliminate such problems, but in extreme cases the personnel concerned should be removed from the environment and seek medical advice. The occurrence should then be advised to our Technical Services Department.

## Fire Risks

● BOPP is not a flammable material but it will burn if exposed to flame, giving off fumes which should not be inhaled.

● If polypropylene 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 ignition is removed. N.B. The minimum ignition temperature of BOPP film is 380°C (720°F).

● 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 cold water until cool. In the case of the former refer the patient for immediate medical attention. Under no circumstances attempt to peel the solidified polymer off the skin.

● BOPP films generate little smoke when burning under conditions of free air supply. The major constituents of the fumes evolved are:

- i) Uncoated films – water vapour, carbon dioxide and carbon monoxide.
- ii) Coated films – water vapour, carbon dioxide, carbon monoxide and oxides of nitrogen.

Carbon monoxide and certain nitrogen oxides are toxic. Care should therefore be taken not to inhale these decomposition fumes evolved during a fire involving BOPP films.

● Fires involving BOPP films can be dealt with using any commonly available fire extinguisher.

## Explosion Risk

● Do not allow any accumulation of polypropylene powder. If a process generates polypropylene powder, extreme care must be taken not to accumulate electrostatic charge or any other source of ignition. In such cases expert advice should be sought on this matter. The explosion limit of polypropylene powder in air is 0.02 g/L.

## Film Storage

● Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore BOPP films should be stored in dry conditions below 30°C (86°F) to minimise any deterioration of the properties.

● Rayoface™, Rayofoil™ and Rayoweb™ films are supplied in protective coverings. The films should remain in these coverings until ready for use. Converted reels in both master and slit form should also be similarly protected at all times.

When stored as recommended, Rayoface™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore films are suitable for use up to 6 months from the date of delivery. Rayofoil™ metallised films are suitable for use up to 4 months from date of delivery. Stocks should be used in rotation according to date of delivery. It is also recommended that films are allowed to reach operating temperatures 24 hours before use.

# Health and Safety Guidelines for the use of Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore Biaxially Oriented Polypropylene Films (BOPP)

## Film Packaging

- Pallets of film should only be moved by trained operators using mechanical handling equipment designed for the weight and dimensions of the pallets in use. Racking should be used wherever possible.

- The stacking of film pallets on top of each other is not recommended. The stacking of cradles more than three high is not recommended.

Pallets should not be climbed on but properly approached and handled. Broken pallets should be handled with care and removed for repair or disposal.

- Never lift more than one pallet/cradle at a time.
- Pallets/cradles should never be pushed or pulled.
- 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 utilised in the packaging, overwrapping and protection of reels and pallets during transit and storage. Care should be taken in the handling and disposal of these materials, and the appropriate Health and Safety Guidelines should be observed.

## Storage Guidelines For Jumbo Vertical Packed Reels

- Reels should be stored in the packaging provided in dry conditions below 30°C (86°F). Direct contact with moisture and localised sources of heat above 45°C (113°F) should be avoided.

- Vertical jumbo reels should only be moved by trained operators using mechanical equipment designed for the weight and dimensions of the reel in use.

- Stacking of vertical jumbo reels (those with a reel diameter above 960mm) should not exceed 4.6m and those with a reel diameter below 960mm should not exceed 3.2m.

- Storage areas must be swept clean of debris before use, failure to do so could potentially lead to major reel flange damage. ● Storage areas must be swept clean of debris before use, failure to do so could potentially lead to major reel flange damage.

- Never lift more than one reel at a time.
- Only reels with the same diameter should be stacked. Stacking mixed diameter reels will lead to reel instability.
- Vertical packed reels should not be climbed on.
- Vertical packed reels should never be pushed or pulled.
- Various materials are utilised in the packaging, over wrapping and protection of the reels in transit. Care should be taken in handling and disposal of these materials, and the appropriate health and safety guidelines should be observed.

## Film Handling

- BOPP films can be slippery. Film should not be allowed to litter floors or obstruct access areas where personnel may walk or stand.

- Safety shoes should be worn at all times by personnel involved in the handling and movement of all film reels. The weights of individual reels that can be manually handled are limited by legislation.

- BOPP film reels and packs of sheets should be moved only with equipment designed for the purpose.

## Converting Machinery

- Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore BOPP films can be printed using conventional solvents, adhesives and liquid ink systems, but Health and Safety precautions recommended by the suppliers should be strictly observed.

- It is advisable that anti-static equipment is fitted to machines, particularly in low humidity environments.

## Consumer Advice

- Discarded wraps of BOPP film may, if placed over the head, cause suffocation particularly in young children.
- BOPP films are unsuitable for direct use in cooking processes (including microwave ovens).
- BOPP films are not recommended for applications involving gamma radiation sterilisation.

## Disposal

- When disposing of any BOPP films, recycling should always be the first option, followed by incineration for energy recovery, before sending to landfill.
- Polypropylene is a recyclable thermoplastic that can be processed by virtually all common thermoplastic-processing methods and is capable of being reprocessed into granules and converted into a wide variety of other plastic products.
- The recyclability of the BOPP film in its final end application will depend upon how the film is used or converted and the availability of suitable recycling infrastructure within the geographical territory that the final packaged article is used in.
- Well managed incineration regenerates the energy content of the plastic material producing effectively non-toxic effluent, water and carbon dioxide (also small quantities of hydrogen chloride and nitrogen oxides from PVdC coated grades).
- Advice on the preferred method of disposal should be obtained from your Local Authority Waste Disposal Officer.

## Customer Enquiries

- For advice or assistance with any matters relating to Health and Safety aspects of the use of Rayoface™, Rayofoil™, Rayoweb™, Rayoart™, RayoForm™, RayoWrap™, UltraFoil and Encore BOPP labelling films, please contact our Technical Services Department.

™ Trademark of Innovia Films

**Disclaimer:** Innovia Films or any of its affiliated companies (hereinafter 'Innovia Films') declines any liability with respect to the use made by any third party of the information contained herein. The information contained herein represents Innovia Films' best knowledge thereon without constituting any express or implied guarantee or warranty of any kind (including, but not limited to, the accuracy, the completeness or relevance of the data set out herein). Innovia Films is the sole owner or authorised user of the intellectual property rights relating to the information communicated. The information relating to the use of the products is given for information purposes only. No guarantee or warranty is provided that the product is adapted to the client's specific use. The client should perform their own tests to determine the suitability for a particular purpose. The final choice of use of a product remains the sole responsibility of the client.

Ref L190 - 2 of 2 - 0520