

# Technical & Safety Information



## General information AstroBubble®

- AstroBubble® - closed cell non-cross-linked polyethylene - is made out of low density polyethylene (LDPE). LDPE is an organic product build up out of the same hydrocarbon bonds as wood, coal and other natural composites.
- AstroBubble® distinguishes itself by being manufactured free from the ozone damaging fully halogenated Chlorofluorocarbons (CFC's) and partially halogenated Chlorofluorocarbons (HCFC's).
- AstroBubble® is not cross-linked while extruded and can therefore be easily recycled and taken back into the raw material cycle for re-use.
- The AstroBubble® temperature range lies between -40°C and +70°C.
- AstroBubble® conforms to the European guidelines 2002/95/EC, 2002/96/EC and 2003/11/EC and therefor contains no lead, cadmium, mercury, hexavalent chromium or polybrominated biphenyls (PBB) and polybrominated diphenylethers (PBDE) or any other product from the lists of these guidelines.  
AstroBubble® also complies to the demands of the European decree nr. 98-638 and the European guideline 94/64/EC concerning packaging and packaging waste, and this in as fas as the specific demands of the customer allow.
- When being incinerated, AstroBubble® produces a high calorific value without emitting any harmful gases Carbon dioxide and water vapour are released.
- AstroBubble® has no influence on the quality of the ground water and is biologically degradable when exposed to sunlight.



# Safety Data Sheet

according to EC-Directive 2001/58/EC

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

PRODUCT NAME	<b>AstroBubble®</b>
INTENDED USE	Packaging
SUPPLIER	Pregis n.v. Bodemstraat 11 3830 Wellen Belgium Tel: +32 (0)11 370111 Fax: +32 (0)11 370290 <a href="http://www.pregis.com">www.pregis.com</a>
EMERGENCY TELEPHONE	+32 11 370111

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

NAME	Polyethylene
CAS NUMBER	CAS 026221-73-8

## 3. HAZARDS IDENTIFICATION

With proper use of the product, no harmful effects are known.

## 4. FIRST AID MEASURES

INHALATION	not applicable
CONTACT WITH THE SKIN	not applicable
CONTACT WITH THE EYES	not applicable
INGESTION	not applicable

## 5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA	- water - carbon dioxide - powder - synthetic extinguishers
UNSUITABLE EXTINGUISHING MEDIA	not applicable
SPECIAL HAZARDS	none known
PROTECTIVE EQUIPMENT	respiratory protection

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**6. ACCIDENTAL RELEASE MEASURES**

CLEANING METHODS	Clean-up, remove.
ENVIRONMENTAL PRECAUTIONS	Keep out of reach of sewers, water drainage and surface water.
PERSONAL PRECAUTIONS	not applicable

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**7. HANDLING AND STORAGE**

HANDLING AND STORAGE	<ul style="list-style-type: none"> <li>- Direct contact with open flames or excessive heat must be avoided.</li> <li>- Heaping up of PE-particles is to be avoided.</li> <li>- Avoid statically electricity.</li> </ul>
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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

EXPOSURE CONTROLS	not applicable
PERSONAL PROTECTION	
- Respiration	none
- Hands	none
- Eyes	none
- Skin	none

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	fast
ODOUR	odourless
COLOUR	transparent
DENSITY (at 23°C)	920 kg/m <sup>3</sup>
VISCOSITY	not applicable
BOILING POINT/RANGE	not applicable
MELTING POINT/RANGE	100 - 140°C
FLASH POINT	> 360°C
FLAMMABILITY	> 400°C
AUTO-IGNITION TEMPERATURE	> 450°C
EXPLOSION LIMITS	not applicable
RELATIVE VAPOUR DENSITY (water = 1)	0,90 - 0,98
VAPOUR PRESSURE	not applicable
SOLUBILITY IN WATER	insoluble
SOLUBILITY IN ORGANICAL SOLVENTS	insoluble
pH VALUE	not applicable
OXIDIZING PROPERTIES	none
PARTITION COEFFICIENT (n-octanol / water)	not applicable

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**10. STABILITY AND REACTIVITY**

CONDITIONS TO AVOID	see 7. Handling and storage
PRODUCTS TO AVOID	none
DECOMPOSITION OF PRODUCTS	From the moment of combustion, the product produces a high calorific value without emitting any harmful gasses and releases carbon dioxide and water vapour.

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**11. TOXICOLOGICAL INFORMATION**

With proper use of the product according to the valid instructions, no innocuous effects to the human health are currently known.

ACUTE TOXICITY

- Oral	not applicable
- Dermal	not applicable
- Inhalation	not applicable

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**12. ECOLOGICAL INFORMATION**

The product has no influence on the quality of the groundwater.

The product is biodegradable when exposed to sunlight.

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**13. DISPOSAL INSTRUCTIONS**

Removal of waste materials conform to the local and national regulations.

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**14. TRANSPORT INFORMATION**

The product is not classified as a dangerous product with reference to the regulations of transport.

ADR/RID	not restricted
IMCO	not restricted
ICAO/IATA	not restricted
ADNR	not restricted

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**15. REGULATORY INFORMATION**

The product is not subject to the regulation CE67/548/CEE, nor to the regulations of the concerned countries.

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**16. OTHER INFORMATION**

The information and data given in this Safety Data Sheet are correct as far as known to us on the date of publication. This information is a guide for the manipulation, the use, the storage, the transport, the elimination and the dispersion of the product without risk. This information and data can not be used as a guarantee, nor as prove of quality, because the conditions in which the mentioned actions take place do not fall under our supervision. The given information concerns only the above mentioned product and does not need to be valid if used with other product(s) or in any other process than mentioned in this document. Pregis accepts no responsibility or liability for any loss or damage resulting from the use of this information or data.

**AstroBubble® productions and controles are carried out according to the predefined Procedures and Work Instructions of our Quality Management System.**



## AstroBubble®

TECHNICAL PROPERTIES	UNIT		TOLERANCES
THICKNESS	mm	3 10	± 10%
DENSITY FILM	g/cm³	0.92 - 0.93	-
OPPERVLAKTEGEWICHT	g/m²	dependant on quality	± 5%
LAYERS	amount	2 - 3	-
LENGHT	m	50 - 350	+/- 2%
WIDTH	mm	200 - 2500	± 10 mm
COLOUR	-	-	transparant
DIAMETRE BUBBLES	mm	10 25	-
ANTI-STATIC AstroBubble®	Ω (Ohm)	IEC 61340-2-3 23 °C +/- 1°C 50% RF	< 10 <sup>11</sup> Ω
COLOUR	-	-	pink*

\* The pink color is only used as an optical differentiator from normal AstroBubble® and has no influence on the anti-static properties.

*The information above relies on our knowledge and experience and is assumed to be correct. We do not, however, accept any form of liability or give any guarantee.*

## AstroBubble® RENEW

TECHNICAL PROPERTIES	UNIT		TOLERANCES
THICKNESS	mm	3 10	± 10%
DENSITY FILM	g/cm <sup>3</sup>	0.92 - 0.93	-
OPPERVLAKTEGEWICHT	g/m <sup>2</sup>	dependant on quality	±5%
LAYERS	amount	2 - 3	-
LENGHT	m	50 - 350	+/- 2%
WIDTH	mm	200 - 2500	± 10 mm
COLOUR	-	-	transparant GREY
DIAMETRE BUBBLES	mm	10 25	-

*The information above relies on our knowledge and experience and is assumed to be correct. We do not, however, accept any form of liability or give any guarantee.*

# CREEP

## AstroBubble® vs. AstroSupraBubble®

	<b>mono</b>	<b>coex</b>
<b>Loading force</b>	(2) 3,75 lbs. 0,2 psi	(2) 3,75 lbs. 0,2 psi
<b>Hours</b>	<b>% loss</b>	<b>% loss</b>
0	-	-
24	-4%	-3%
48	-13%	-3%
72	-21%	-4%
96	-24%	-4%
120	-26%	-5%
144	-29%	-5%
168	-32%	-7%

### Loss of thickness during test creep

