

MATERIAL SAFETY DATA SHEET

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

Product Name: CAST ACRYLIC SHEET

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2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT DESCRIPTION

Clear or tinted sheet.
A high molecular weight acrylic sheet used in a wide range of applications.
Polymethyl methacrylate : greater than 90%.

CAS No: 009011-14-7

HAZARDOUS INGREDIENT(S)	CAS No.	EC No.	EC Classification
No classifiable hazardous ingredient(s)			

3. HAZARDS IDENTIFICATION

Low toxicity under normal conditions of handling and use. Thermal decomposition will evolve toxic, irritant and flammable vapours. Care should be taken during thermoforming to ensure that the product is not exposed to temperatures exceeding 200°C.
Certain machining operations eg laser cutting, can give rise to toxic and corrosive fumes. Adequate ventilation MUST be used.

4. FIRST-AID MEASURES

Inhalation: Remove patient from exposure, keep warm and at rest. Obtain medical attention if ill effects occur.
Skin Contact: Wash skin with soap and water. If symptoms develop, obtain medical attention.
Eye Contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Ingestion: Do not induce vomiting. Obtain medical attention if ill effects occur.

Further Medical Treatment

Symptomatic treatment and supportive therapy as indicated.

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5. FIRE-FIGHTING MEASURES

Combustion will evolve toxic, irritant and flammable vapours.

Extinguishing Media: water spray, foam, dry powder or CO₂.
Fire Fighting Protective Equipment: A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Offcuts, swarf or dust should be collected and disposed of in a safe way.

7. HANDLING AND STORAGE

7.1 HANDLING

These sheets are heavy and unwieldy. They should be handled with care, particularly in windy locations or outdoors. If broken or chipped the resultant edges can be sharp and cause cuts to skin and eyes. Take precautionary measures against static discharges.

Process Hazards

All polymers degrade to some extent at their processing temperature, an effect which increases with increasing temperature.

Under normal conditions where thermoforming temperatures will not exceed 200°C thermal decomposition products will include methyl methacrylate.

Certain machining operations eg laser cutting, can give rise to toxic and corrosive fumes. Adequate ventilation MUST be used.

7.2 STORAGE

Keep away from heat. Store vertically on A-frames

Storage Temperature: below 40 °C
Storage Life: Indefinite under specified storage conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required. Local extraction close to the cutting head must be used when laser cutting. Where suitable engineering controls are not fitted or are inadequate, wear suitable protective equipment.

The following information is given as general guidance.

Respirators: NORMAL HANDLING:
 Not normally required.
 PROCESSING:
 Dust: A suitable dust mask or dust respirator with filter type P may be appropriate. (EN141/EN143).
 Vapour: If high levels above the Occupational Exposure Limit are likely - A suitable mask with filter type A may be appropriate. (EN141/EN143).
Eye Protection: Wear eye/face protection. Safety spectacles/goggles/full face shield.
Gloves: Sharp edges may cause cuts. Wear suitable gloves.

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Other: Wear suitable protective clothing. For information regarding process hazards refer to Section 7, Handling and Storage.

The following values apply to substances which may be evolved during thermal processing.

HAZARDOUS INGREDIENT(S)	LTEL 8hr TWA	LTEL 8hr TWA	STEL	STEL	Notes
	ppm	mg/m³	ppm	mg/m³	
Methyl methacrylate	50	208	100	416	OES

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	sheet
Colour:	clear or coloured
pH (Value):	Not applicable.
Boiling Point (°C):	Not applicable.
Melting Point (°C):	Not applicable.
Flash Point (°C):	11.5 (MMA). Sheet has no flash point.
Flammable Limits:	Not applicable.
Auto Ignition Temperature (°C):	421 (MMA).
Explosive Properties:	Not explosive
Oxidising Properties:	Not oxidising.
Vapour Pressure (mm Hg):	Not applicable.
Vapour Pressure (Pascals):	Not applicable.
Density:	1.19
Solubility (Water):	insoluble
Solubility (Other):	soluble in most organic solvents, acetone and chlorinated hydrocarbons
Partition Coefficient:	Not applicable.
Decomposition Temperature (°C):	Will not decompose below 200°C.
Freezing Point (°C):	Not applicable.
Softening Point (°C):	>100
Viscosity (mPa.s):	solid

10. STABILITY AND REACTIVITY

Hazardous Reactions:	None known.
Hazardous Decomposition Product(s):	Methyl methacrylate, traces of Acrolein.

11. TOXICOLOGICAL INFORMATION

Inhalation

Unlikely route of exposure.

Skin Contact

No evidence of irritant effects from normal handling and use. Sharp edges may cause cuts.

Eye Contact

Swarf or dust may cause irritation. Sharp off-cuts may cause eye damage.

Ingestion

Unlikely to be hazardous if swallowed.

Long Term Exposure

No known hazards are associated with the use of this material.

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12. ECOLOGICAL INFORMATION

This environmental hazard assessment is based on information available on similar products. Some coloured grades will contain heavy metal based pigments eg Cobalt and cadmium.

Environmental Fate and Distribution

Medium tonnage material used in partially contained systems. Solid with low volatility. The product is essentially insoluble in water. The product has low potential for bioaccumulation. The product has low mobility in soil. Heavy metal based pigments will not leach from waste material.

Persistence and Degradation

The product is non-biodegradable in soil. There is no evidence of degradation in soil and water.

Toxicity

The product is predicted to have low toxicity to aquatic organisms.

Effect on Effluent Treatment

Unlikely to have an effect on effluent treatment systems. The material is essentially insoluble in water and can therefore be separated from aqueous medium by sedimentation and filtration processes at an effluent treatment plant.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, state or national legislation. Incineration may be used to recover energy value. Bury on an authorised landfill site or incinerate under approved controlled conditions, using incinerators suitable for the disposal of noxious chemical waste.

Large quantities of waste may be recoverable. Contact supplier for specialised advice.

14. TRANSPORT INFORMATION

Not Classified as Dangerous for Transport.

15. REGULATORY INFORMATION

Not Classified as Dangerous for Supply/Use.

EC Classification: Under the Classification, Packaging and Labelling of Dangerous Substances Regs, 1984, this material is not dangerous for supply or conveyance.

16. OTHER INFORMATION

This data sheet was prepared in accordance with Directive 2001/58/EC.

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For other technical information, contact the address in Section 1.

YEN NAN does not recommend this product for use in applications involving long-term contact with body tissues.

Acrylic sheets are generally suitable for use in applications involving food contact however, regulations are known to vary from country to country.

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. YEN NAN gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. YEN NAN accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

GLOSSARY

OES: Occupational Exposure Standard (UK HSE EH40)

LTEL: Long Term Exposure Limit

STEL: Short Term Exposure Limit

TWA: Time Weighted Average