

Safety Data Sheet

GHS Format

1. Chemical Product and Company Identification

Product Name: Carbotex® K-30FR Clear
Chemical Name: Bisphenol A Polycarbonate / Poly (Bisphenol A Carbonate)
Manufacturer: Kotec Corporation
Address: 3-21-15, Chayamadai, Minami, Sakai, Osaka, 590-0115 Japan
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2. Hazards Identification

GHS Classification:

Physical hazards:	Flammable solid	Not classified
Health hazards:	Acute toxicity (Oral, Inhalation, Dermal)	Not classified
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Not classified
	Respiratory sensitization	Not classified
	Skin sensitization	Not classified
	Germ cell mutagenicity	Not classified
	Carcinogenicity	Not classified
	Reproductive toxicity	Not classified
	Specific target organ toxicity - single exposure	Not classified
	Specific target organ toxicity - repeated exposure	Not classified
	Aspiration toxicity	Not classified
Environmental hazards:	Acute aquatic toxicity	Not classified
	Chronic aquatic toxicity	Not classified

*Hazards not stated herein are "Not classified" or "Not applicable".

GHS Labeling:	Pictogram and symbol	Not applicable
	Signal word	Not applicable
	Hazard statement	Not applicable

Precautionary Statement: No GHS specific precautionary statement required. Observe all other warnings and handling instructions herein.

3. Composition / Information on Ingredients

Substance or Mixture:	<u>Mixture</u>	<u>Content</u>	<u>CAS. No</u>
	Polycarbonate resin	≥99.3%	25971-63-5
	Additives	≤0.7%	Confidential

4. First Aid Measures

Inhalation: Remove a victim from the area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention if any breathing difficulties persist.

Skin contact: Flush skin with running water. For skin contact with fume condensation, immediately wash the affected area thoroughly with soap and water. For skin contact with molten plastic, immediately cool it with water and seek medical attention.

Eye contact: Immediately irrigate affected eye(s) with clean water for at least 15 minutes. Do not rub the eye(s) to prevent irritation and damages to cornea(s). If irritation develops or persists, obtain medical attention.

Ingestion: Not a likely route of exposure. If swallowed, seek medical attention.

5. Fire-Fighting Measures

Extinguishing media: Water spray, dry chemical, chemical foam and carbon dioxide.

Extinguishing media to avoid: None

Specific hazards: This product is not explosive but a combustible thermoplastic, which will melt and drip when ignited and give off monomers and combustion products.

Fire-fighting procedures: Keep people away. Isolate area and deny unnecessary entry. Cool surroundings with water to localize fire zone. Hand held carbon dioxide or dry chemical extinguishers may be used for small fires. Soak thoroughly with water to cool and prevent re-ignition.

Protection of fire fighters: Firefighters should wear protective clothing and use self-contained breathing apparatus when fighting fire involving this material.

6. Accidental Release Measures

Personal precautions: Pellets spilled on a floor can create a slipping hazard.

Protective equipment and emergency measures: None

Environmental precautions: This product is a stable organic thermoplastic and a hazardous polymerization will not occur.

Recovery and neutralization: Sweep up or vacuum spilled pellets and place them in a proper waste container for disposal.

7. Handling and Storage

Handling: Always wear recommended personal protective equipment. Wash thoroughly after handling. Launder contaminated clothing before reuse. Long retention at high temperature can cause heat decomposition. Spilled pellets on a floor can create a slipping hazard.

Prevention of user exposure: Gases generated in moulding process may cause irritation to skin and respiratory tract. Avoid dust or pellets in contact with eyes. Do not touch molten resins to prevent a burn.

Prevention of fire and explosion: This Product will not ignite itself at normal temperature but keep fire away from it wherever and whenever possible.

Measures to prevent dust generation:

Use local exhaust ventilation. Avoid breathing thermal processing fume vapor.

Storage:

This Product will not degrade during storage. While heating and/or cooling is not required, the resin should be stored indoor to protect it from rain or excessive moisture. At extended temperatures above 90°C the pellets can become softened and may stick in clumps upon cooling. Pellets should not be stacked more than three high. Periodically check storage for vertical stability and/or container damages or fatigues. Store resin in clean, dry environment in sealed containers. Avoid storing flammable materials in the resin storage area. Keep container tightly closed.

8. Exposure Controls / Personal Protection

Engineering controls:

Thermal processing equipment should be ventilated to control gas and fume given off when the resin is heated to extrusion or injection molding temperatures. For most operations, a continuous supply of fresh air to the general workplace area along with the continuous removal of processing fume contaminated air through a local exhaust ventilation system will be adequate. However, the ventilation requirements must be determined on an individual basis for each workplace.

Personal protective equipment:

Wear appropriate protective clothing to prevent skin exposure.

Respiratory protection:

None is required in normal handling of pellets. In handling of resins that may be reinforced with fiberglass, it may be necessary to wear a NIOSH / MSHA approved dust respirator if the airborne dust concentration is near or exceeds the nuisance dust.

Hand protection:

For prolonged or repeated skin contact use suitable protective gloves. When the material is heated, wear gloves to protect against thermal burns.

Eye protection:

Wear safety glasses with side shields or chemical safety goggles as described by OSHA's eye and face protection regulations.

Skin and body protection:

None required in normal handling of pellets. When handling hot resins (extruded, air shots or parts), well-insulated gloves are to be worn to prevent a thermal burn

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material equipment remove contaminants.

9. Physical and Chemical Properties (SI unit)

Appearance:	Pellets
Physical State:	Solid
Odor:	No odor
Glass Transition Point:	Approximately 150°C (302 °F)
Flash Point:	Over 550 °C (1,022 °F)
Freezing / Melting point:	Not available
Boiling point:	Not available
Vapor Pressure:	Not available
Vapor Density:	Not available

Evaporation rate:	Not available
pH:	Not available
Auto-ignition Temperature:	Over 522 °C (972 °F)
Specific Gravity:	1.20 g/cm ³ (20 / 4°C)
Solubility:	Insoluble in water / Soluble in ethylene chloride / Soluble in tetrahydrofuran
Upper flame limit:	Not available
Lower flame limit:	Not available

10. Stability and Reactivity

Stability:	Stable under normal temperatures and pressures.
Reactivity:	Not reactive under recommended conditions of handling, storage, processing and use.
Conditions to avoid:	Incompatible materials, dust generation, strong oxidants.
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, bisphenol A, methane, and diphenyl carbonate and phenol derivatives. Irritating and toxic fumes, gas and carbon dioxide, acrid smoke and fume.

11. Toxicological Information

Acute toxicity:	No data available
Skin corrosion/irritation:	Essentially non-irritating to skin. Gas generated with drying and heating may cause irritation against skin.
Serious eye damage /irritation:	Solid or powder may cause irritation by an abrasive action of solid or power.
Respiratory sensitizer:	None known
Skin sensitizer:	None known
Germ cell mutagenicity:	None known
Carcinogenicity:	None known
Reproductive toxicity:	None known
Specific target organ toxicity—single exposure:	No. data available
Specific target organ toxicity – repeated exposure:	No data available
Aspiration hazard:	No data available

12. Ecological Information

Eco-toxicity:	This product, which is resistant to biodegradation and insoluble in water, is expected to present any ecologically significant problems and not considered degradable or toxic in terms of their physical impact. Pellets left at large (spills) in general environment may be ingested by animals. Do not dispose any of the material into marine/water area to prevent marine animals or birds from ingestion.
Persistence/degradability:	This water insoluble polymeric solid is expected to be inert in the environment surface photo-degradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

Bioaccumulation: None known

Mobility in soil: This product is insoluble in water and will sediment in water system.

Other hazardous effects: None

13. Disposal Considerations

Comply with all applicable national and local laws or regulations. Do not dispose into sewers, ground or body of water. Preferred options for disposal are recycle, incineration with energy recovery and landfill. Remove all packaging for recovery or waste disposal.

14. Transport Information

Comply with all applicable national and local laws or regulations. Avoid water and careless handling to prevent damage to the container. Watch your step not to slip in the event that pellets spill out of the torn container.

International regulations	US DOT	- Not applicable
	IMO	- Not applicable
	IATA	- Not applicable
	RID/ADR	- Not applicable
	Canadian TDG	- Not applicable

15. Regulatory Information

Notice: The information given herein is presented in good faith and believed to be accurate as of the effective date shown below. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another. It is buyer's responsibility to ensure that its activities comply with federal, state, or local laws.

16. Other Information

Disclaimer: The information set forth herein is offered as a service to our customers and is not intended to relieve a customer from its responsibility to determine the suitability of this information or of the materials described herein for purchaser's purpose; to investigate other sources of information; to comply with all laws and procedures regarding safe use of these materials; and to use these materials in a safe manner. Although this information is believed to be accurate, Kotec Corporation specifically disclaims responsibility for any liability of any kind arising from any party's use of or reliance on information or recommendations set forth herein. No warranty of any kind shall be construed to arise by implication from any information or recommendation contained herein. This document may be revised by new knowledge.

-End of Safety Data Sheet-