

SAFETY DATA SHEET(SDS)

Date : 06,01,2017

1. Product And Company Identification

Product Name	Polycarbonate APEX™ FR1830/FR2030/FR2230/FR2430
Company Name	Apex Japan Co., Ltd.
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2. Hazards Identification

GHS Classification

Physical Hazards

Explosives	Not applicable
Flammable gases	Not applicable
Flammable aerosols	Not applicable
Oxidizing gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not applicable
Flammable solids	Can not be classified
Self-reactive substances	Can not be classified
Pyrophoric liquids	Not applicable
Pyrophoric solids	Can not be classified
Self-heating substances	Can not be classified
Substance which, in contact with water, emit flammable gases	Can not be classified
Oxidizing liquids	Not applicable
Oxidizing solids	Can not be classified
Organic peroxides	Can not be classified
Corrosive to metals	Can not be classified

Human Health Hazards

Acute toxicity(Oral)	Can not be classified
Acute toxicity(Dermal)	Can not be classified
Acute toxicity(Inhalation: Gases)	Not applicable
Acute toxicity(Inhalation: Vapors)	Can not be classified
Acute toxicity(Inhalation: Dusts)	Can not be classified
Acute toxicity(Inhalation: Mists)	Can not be classified
Skin corrosion/irritation	Can not be classified
Serious eye Damage/eye irritation	Can not be classified
Respiratory sensitization	Can not be classified
Skin sensitization	Can not be classified
Germ cell mutagenicity	Can not be classified
Carcinogenicity	Can not be classified
Reproductive toxicity	Can not be classified
Specific target organ toxicity	
-Single exposure	Can not be classified
-Repeated exposure	Can not be classified
Aspiration hazard	Can not be classified

Environmental Hazards

Acute toxicity to the aquatic environment	Can not be classified
Chronic toxicity to the aquatic environment	Can not be classified
Pictogram and Symbol	Not applicable
Signal word	Not applicable
Hazard Statement	Not applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Single substance

Composition	: Poly(4,4'-isopropylidene-diphenyl carbonate)
	1. Polycarbonate more than 98 wt%
	2. Flame Retardant less than 2 wt%
Chemical Formula	: C ₁₆ H ₁₄ O ₃
Cas No.	: 25971-63-5

4. FIRST AND MEASURES

Eyes : Flush eyes with plenty of water for a few minutes (Remove a contact lens if worn.);

mechanical effects only. If effects occur, consult a physician.

Skin : No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

Ingestion : No adverse effects anticipated by this route of exposure incidental to proper industrial handling.
However, if effects occur, consult a physician.

Inhalation : Remove to fresh air if effects occur. Consult a physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: Flash point: Not applicable
Method used: Not applicable
Autoignition temperature: Not applicable
Flammability Limits: LFL: Not applicable
UFL: Not applicable

Hazardous Combustion Products

Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to carbon monoxide and carbon dioxide. Hazardous combustion products may include trace amounts of phenol.

Other Flammability Information

Dense black smoke is emitted when burned without sufficient oxygen. Mechanical handling can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.

Extinguishing Media: Water, carbon dioxide, dry chemical.

Fire fighting Instructions

Keep people away. Isolate fire 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.

Protective Equipment for Fire Fighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (including fire fighting helmet, coat, pants, boots and gloves). If protective equipment is not available or not used, fight fire from a protective location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Protect People

Pellets or beads may present a shipping hazard.

Protect the Environment

Keep out of irrigation ditches, sewers and water supplies. Spills should be collected to prevent contamination of waterways.

Cleanup: Sweep up.

7. HANDLING AND STORAGE

Handling

Good housekeeping and controlling for dusts are necessary for safe handling of product. Processing improperly dried resin can result in the production of bisphenol A.

Workers should be protected from the possibility of contact with molten resin.

Storage: Store in a dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Personal Protective Equipment

Eye/Face Protection

Use safety glasses. If there is a potential for exposure to particles which could cause mechanical to the eye, wear chemical goggles.

Skin Protection

No precautions other than clean body-covering clothing should be needed.

Respiratory Protection

For most conditions, no respiratory protection should be needed; however, if handling at elevated temperature without sufficient ventilation, use an approved air-purifying respirator. In dusty atmospheres, use an approved dust respirator.

Exposure Guideline: None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solids in the form of pellet.
Odor:	Odorless.
Vapor Pressure:	Not applicable.
Vapor Density:	Not applicable.
Boiling Point:	Not applicable.
Solubility in Water:	Not applicable.
Specific Gravity:	1.1 - 1.2

10. STABILITY AND REACTIVITY

Chemical Stability: Thermally stable at typical use temperatures.

Conditions to Avoid

Avoid temperatures above 797F, 425C. Product can decompose at elevated temperatures.

Incompatibility with Other Materials: None known.

Hazardous Decomposition Products

Processing may release fumers which may include polymer fragments and other decomposition products.

Fumes can be irritating. At temperatures exceeding melt temperatures polymer fragments can occur.

Hazardous decomposition products may include and are not limited to bisphenol A.

Hazardous Polymerrization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	Not available
Skin corrosin/irritation	Not available
Serious eye damage/irritation	Gas generated with drying and heating may cause irritation against eyes.
Respiratory sensitization	Not available
Skin sensitization	Gas generated with drying and heating may cause irritation against skin.
Germ cell mutagenicity	Not available
Carcinogenicity	Not available
Reproductive toxicity	Not available
Specific targent organ toxicity – Single exposure	Not available
Specific targent organ toxicity – Repeated exposure	Not available
Aspiration hazard	Not available

12. ECOLOGICAL INFORMATION

Environmental Fate

No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1,000). In the terrestrial environment, these solid pellets are expected to remain in the soil. In the aquatic environment, the pellets will sink and remain in the sediment.

Degradation and Persistence

This water insoluble polymeric solid expected to be inert in the environment Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

Ecootoxicity

Not expected to be acutely toxic, but pellets, may mechanically cause adverse effects, if ingested by aquatic life.

13. DISPOSAL CONSIDERATIONS

Disposal

Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State / Provincial and local laws and regulations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Apex Japan Co., Ltd. Has no control over the management practices or manufacturing processes of parties handling or using this material.

The information presented here pertains only to the product as shipped in its intended condition as described in MSDS section 3 (Composition / Information on ingredients).

For unused and uncontaminated product, the preferred options include sending to a licensed, permitted: recycler, incinerator or other or other thermal destruction device and landfill.

14. TRANSPORT INFORMATION

UN Number and Packing group: Not applicable

15. REGULATORY INFORMATION

Notice

The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial and local laws. See other sections for health and safety information.

16. OTHER INFORMATION

The data given here is basea on current knowledge experience. The purpose of this Safety Data Sheet is describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product ' s properties.