Tradeasia International PTE LTD
133 Cecil Street # 12-03 Keck Seng Tower, Singapore 069535
Tel: +65-6227 6365 Fax: +65-6225 6286
www.chemtradeasia.com

Material Safety Data Sheet
POLYCARBONATE

Section 1 - Product Identification

Synonyms : Poly(bisphenol-A-carbonate)
Chemical Formula : (-O-(C=O)-O-)
Company Identification : Tradeasia International Pte. Limited
Address : 133 Cecil Street # 12-03 Keck Seng Tower, Singapore
Tel: +65-6227 6365
Fax: +65-6225 6286
Email: contact@chemtradeasia.com

Recommended use of the chemical and restrictions on use
The product is used in industrial manufacturing, in particular in :
-Polymers and coatings.

Section 2 – Composition/Information on Ingredients

Chemical Name	EC No/CAS No	Purity, %
2,2-Bis(4-hydroxyphenyl)propane polycarbonate	24936-68-3	100

Section 3 – Hazards Identification

3.1 Classification
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

3.2 Label elements
None required
Hazard Statements Flammable liquid and vapour.
Hazards not otherwise classified (HNOC) None identified

Section 4 – Composition/ information on ingredients

4.1 Composition comments
Component 2,2-Bis(4-hydroxyphenyl)propane polycarbonate
CAS No. 24936-68-3
Weight 100%

Section 5 – First-Aid Measures

5.1. Description of first aid measures
Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.
Ingestion
Do NOT induce vomiting. Get medical attention.

5.2. Most important symptoms and effects, both acute and delayed
N.A.

5.3. Indication of any immediate medical attention and special treatment needed
N.A.

Section 6 – Fire Fighting Measures

6.1 Suitable Extinguishing Media
Water spray. Carbon dioxide (CO 2). Dry chemical. Chemical foam.

6.2 Unsuitable Extinguishing Media
No information available
Flash Point 449 °C / 840.2 °F
Method No information available
Autoignition Temperature 632 °C / 1169.6 °F

6.3 Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

6.4 Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

6.5 Hazardous Combustion Products
Carbon monoxide (CO). Carbon dioxide (CO2).

6.6 Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full
protective gear.

Section 7 – Accidental Release Measures

7.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation

7.2. Environmental precautions
Should not be released into the environment.

7.3. Methods and material for containment and cleaning up
Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Section 8 – Handling and Storage

8.1. Precautions for safe Handling

Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin and eyes. Do not breathe dust. Avoid dust formation. Wash hands before breaks and immediately after handling the product.

8.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed.

Section 9 – Exposure Controls/Personal Protection

9.1. Appropriate engineering controls

None under normal use conditions.

9.2. Individual protection measures, such as personal protective equipment (PPE)

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

No protective equipment is needed under normal use conditions.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Section 10 – Physical and Chemical Properties

10.1. Information on basic physical and chemical properties

Physical State: Solid
Appearance: Clear
Odor: No information available
Odor Threshold: No information available
pH: No information available
Melting Point/Range: No data available
Boiling Point/Range: No information available
Flash Point: 449 °C / 840.2 °F
Evaporation Rate: Not applicable
Flammability (solid,gas): No information available
Flammability or explosive limits:
Upper No data available
Lower No data available
Vapor Pressure: No information available
Vapor Density: Not applicable
Specific Gravity: 1.200
Solubility: insoluble
Partition coefficient: n-octanol/water No data available
Autoignition Temperature: 632 °C / 1169.6 °F
Decomposition Temperature: No information available
Viscosity: Not applicable

Section 11 – Stability and Reactivity

11.1. Reactivity
None known, based on information available.

11.2. Possibility of hazardous reactions
Hazardous polymerization does not occur.

11.3. Conditions to avoid:
Avoid dust formation. Incompatible products.

11.4. Incompatible materials
Strong oxidizing agents

11.5. Hazardous decomposition products
Carbon monoxide (CO), Carbon dioxide (CO2)

11.6 Hazardous Polymerization
Hazardous polymerization may occur.

11.7 Hazardous Reactions
None under normal processing.

Section 12 – Toxicological Information

12.1 Health effects associated with ingredients
Product Information No acute toxicity information is available for this product
Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Mist LC50 Based on ATE data, the classification criteria are not met. ATE > 5 mg/l**.**

12.2 Delayed and immediate effects as well as chronic effects from short and long-term exposure
Irritation May cause irritation
Sensitization No information available
Mutagenic Effects No information available
Reproductive Effects No information available.
Developmental Effects No information available.
Teratogenicity No information available.
Aspiration hazard No information available
Symptoms / effects, both acute and delayed No information available
Endocrine Disruptor Information No information available
Other Adverse Effects The toxicological properties have not been fully investigated.

Section 13 – Ecological Information

13.1. Persistence and Degradability
Insoluble in water

13.2.3. Bioaccumulative potential
No information available

13.4. Mobility in soil
Is not likely mobile in the environment due its low water solubility

Section 14 – Disposal Considerations
14.1. Disposal methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

Section 15 – Transport Information

D.O.T. 49 CFR 172.101: Not regulated
TDG: Not regulated
UN Proper Shipping Name/Number: Not regulated
IMDG: Not regulated
IATA: Not regulated

Section 16 – Regulatory Information
15.1. Safety, health and environmental regulations
SARA TITLE III Information:
Hazard categories for the Superfund Amendments and Reauthorization Act (SARA) Section 311/312/313 (40 CFR 370):
Immediate Hazard: No **Delayed Hazard**: No **Fire Hazard**: No **Pressure Hazard**: No
Reactivity Hazard: No

Section 16 : Additional Information
16.1. Notice
The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet; however, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In additional, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

16.2. List of abbreviation and acronyms used in this MSDS
SDS : Safety Data Sheets
Index N° : atomic number of the element most characteristic of the properties of the substance
CAS No : Chemical Abstracts Service number
EC No : EINECS Number : European Inventory of Existing Commercial Substances
Repr. Cat. 2 : Substance presumed human reproductive toxicant
Acute Oral Cat. 5 : Substance which is of relatively low acute oral toxicity.
GHS : Globally Harmonised System of Classification and Labelling
LD_{50} : Median Lethal Dose
LC_{50} : Lethal Concentration, 50%
N.A. : Not Applicable
OSHA : Occupational Safety & Health Administration
Cal OSHA : The State of California Division of Occupational Safety and Health (DOSH)
PEL : Permissible Exposure Limits
ACGIH : American Conference of Governmental Industrial Hygienists

TLV : Threshold Limit Value
Japanese MITI : Japanese Ministry of International Trade and Industry
EC_{50} : Half maximal effective concentration
UN : United Nations
U.S. EPA TSCA Inventory: Inventory of the chemical substances manufactured or processed in the United States according to Toxic Substances Control Act compiled and published under the autority of the Environmental Protection Agency
Canadian DSL: Canadian Domestic Substances List

16.3. List of relevant hazard statements and precautionary statements used in this MSDS

Hazard Statement

H361 d: Suspected of damaging the unborn child
H319: Causes serious eye irritation
H303: May be harmful if swallowed

Precautionary Statements

Prevention

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.
P264: Wash eyes thoroughly after handling.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P308 + P313: If exposed or concerned: get medical advice/attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.

Storage

P405: Store locked up.

Disposal

P501: Dispose of contents/container to in accordance with local regulations.

16.4. References

1. Litovitz T L, Norman S A, Veltri J C, Annual Report of the American Association of Poison Control Centers Data Collection System. Am. J. Emerg. Med. (1986), 4, 427-458
2. Denton SM (1996). Acute oral toxicity study in the rat: anhydrous boric acid. Final report. Report no.: 1341/7-1032.
3. National Toxicology Program (NTP) – Technical Report Series No. TR324, NIH Publication No. 88 2580 (1987), PB88 213475/XAB
4. Fail et al., Fund. Appl. Toxicol. (1991) 17, 225-239
5. Heindel et al., Fund. Appl. Toxicol. (1992) 18, 266-277
6. Birge W J, Black J A, EPA-560/-76-008 (April 1977) PB 267 085
7. Scialli AR, Bonde JP, Brüske-Hohlfeld I, Culver D, Li Y, Sullivan FM; ELSEVIER 2009
8. Robbins WA, Xun L, Jia J, Kennedy N, Elashoff DA, Ping L. ;ELSEVIER 2009;(Reproductive Toxicology)
9. Hansveit and Oldersma, 2000; TNO Nutrition and Food Research Institute. Report No. V99.157.
10. Gersich, FM (1984a). Environ.Toxicol.Chem., 3 #1, 89-94 (1984)
11. Soucek et al., 2010. Illinois Natural History Survey, University of Illinois.

For general information on the toxicology of borates see ECETOC Technical Report No. 63 (1995); Patty's Industrial Hygiene and Toxicology, 4th Edition Vol. II, (1994) Chap. 42, 'Boron'.

16.5. Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its accuracy, reliability or

completeness. The conditions or methods of handling, storage use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.
This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.