

GPS Safety Summary

This Product Safety Summary is intended to provide a brief overview of the information on the risk assessment results of the chemical product that we manufacture based on the chemical industry's Global Product Strategy (GPS) to the general public as a social responsibility of a company that manufacture chemical substances.

This summary is not intended to provide technical information including effects on human health and the environment and details of risk assessment. In addition, it is not intended to be prepared as a document to replace a Safety Data Sheet (SDS) or a risk assessment report like a Chemical Safety Report under the REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) (REACH CSR). Although the summary is prepared based on the laws, materials, information and data that are available at the present moment, it does not provide any assurances.

SUBSTANCE NAME

2,2-bis(4- hydroxyphenyl)propane (4-[2-(4-hydroxyphenyl)propan-2-yl]phenol, CAS No. 80-05-7)

GENERAL STATEMENT

2,2-bis(4- hydroxyphenyl)propane (Bisphenol A) is a white solid with slightly phenol odor. Bisphenol A is used to make polycarbonate plastic and epoxy resins.

Bisphenol A causes skin irritation, causes serious eye damage, may cause genetic defects and may cause respiratory irritation.

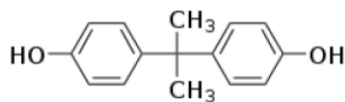
Though Bisphenol A is toxic to aquatic life, Bisphenol A is biodegradable in water and low bioaccumulative.

It is recommended to wear appropriate protective masks, gloves when sampling for manufacturing. To minimize the adverse effects of Bisphenol A on environmental organisms and control its release into the environment, the sewage equipment should be monitored regularly and the sewage treatment facility should be maintained and inspected in the factory.

CHEMICAL IDENTITY

Item	Contents
Generic name	Bisphenol A
Trade name	Bisphenol A
Chemical name	4-[2-(4-hydroxyphenyl)propan-2-yl]phenol (IUPAC name: 2,2-bis(4- hydroxyphenyl)propane)
CAS No.	80-05-7
Other numbers	Reference No. listed in the official gazettes (Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., Industrial Safety and Health Act) (4)-123 EC No. 201-245-8
Molecular formula	C ₁₅ H ₁₆ O ₂

Structural formula



Other information

None in particular

USES AND APPLICATIONS

Intended uses of our product Polycarbonate plastic and epoxy resins

PHYSICAL/CHEMICAL PROPERTIES

Appearance (physical state)	Solid
Color	White
Odor	Slightly phenol Odor
Specific gravity (relative density)	1.195
Melting point/boiling point	152.5 °C/360 °C
Combustibility/flammability	No information
Flash point	207 °C
Limit of combustion or explosion	No information
Auto ignition temperature	600 °C
Vapor pressure	No information
Molecular weight	228.29
Water solubility	120 mg/L
Octanol-water partition coefficient	LogKow : 3.32

HEALTH EFFECTS

Effect assessment	Results (GHS ^{*1} hazard classification)
Acute toxicity (oral ingestion)	Not classified ^{*2}
Acute toxicity (inhalation)	Not applicable ^{*3} (gas) Classification not possible ^{*4} (vapor) Classification not possible (dust/mist)
Acute toxicity (dermal)	Not classified
Skin corrosion/irritation	Causes skin irritation (Category 2)
Serious eye damage/eye irritation	Causes serious eye damage (Category 1)
Respiratory sensitization	Classification not possible
Skin sensitization	Not classified
Germ cell mutagenicity	May cause genetic defects (Category 2)
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (Single exposure)	May cause respiratory irritation (Respiratory tract irritation, Category 3)
Specific target organ toxicity (Repeated exposure)	Not classified
Aspiration hazard	Classification not possible
Source/remarks	^{*1} GHS: Globally Harmonized System of Classification and Labelling of Chemicals. This system enables us to classify chemicals by hazard type and degree according to globally harmonized rules.

*² Not classified: Hazardousness much lower than the lowest hazard class specified by GHS

*³ Not applicable: Because the physical properties defined by GHS are not met, the chemical is not included in the target chemicals of the classification.

*⁴ Classification not possible: The data needed for judging classification are not available at all or sufficient data are not collected for classification.

ENVIRONMENTAL EFFECTS

Effect assessment	Results (GHS hazard classification)
Hazardous to the aquatic environment (acute)	Toxic to aquatic life (Category 2)
Hazardous to the aquatic environment (chronic)	Not classified
Environmental fate/dynamics	Results
Transfer in the environment	Low volatility from water and low soil absorption
Biodegradability	Readily biodegradable
Bioaccumulation	Low bioaccumulative potential
Conclusion of PBT/vPvB	Not judged to be PBT* and vPvB**.
	*PBT: Persistent, bioaccumulative and toxic (Remaining in the environment and having high bioaccumulative and strong toxic properties)
	**vPvB: very Persistent and very Bioaccumulative (Readily remaining in the environment and having very high bioaccumulative property)

EXPOSURE

Details	No.	Potential exposure in the process of use of our products (exposure route)
Occupational Exposure	1-1	Thorough sampling and transfer of substance (inhalation, skin/eye contact). However Bisphenol A is produced in a closed process, potential for occupational exposure is extremely low.
Consumer exposure	2-1	This material is not used by consumers and therefore the potential for consumer exposure is extremely low.
Environmental exposure	3-1	Thorough sampling and transfer of substance (mainly into water). However Bisphenol A is manufactured in a closed system process, the possibility of environment release is very low. It is liquid at normal temperature and normal pressure. In the case of environmental release, though it is considered to disperse into water, it is expected to be degraded in water rapidly.
Note		If there is a potential for exposure in other uses, take appropriate measures in reference to the risk management recommends.

RISK MANAGEMENT RECOMMENDATIONS

Details	No.	Management recommendations based on our risk assessment results
Occupational Exposure	1-1	Wear appropriate protective masks, clothing and gloves made of materials that Bisphenol A does not penetrate during sampling operation. The operation manager instructs workers how to select and use the appropriate protective equipment and how to manage the work place.

Consumer exposure	2-1	None
Environmental exposure	3-1	Bisphenol A may affect environment if leaked. Take measures to prevent leakage, and take due care in daily management and handling.
Other warnings		None
Note		For the measures and actions to be taken for regular handling, emergency situations, disposal and transportation, see Section 4, 5, 6, 7, 8, 13 and 14, SDS issued by Mitsubishi Chemical Corporation.

STATE AGENCY REVIEW

Assessment document	Review condition
OECD HPV	http://webnet.oecd.org/Hpv/UI/SIDS_Details.aspx?id=OCC2A528-418F-4F99-A5F1-3FEB4198A640
National Institute of Evaluation and Technology (NITE) - Preliminary Risk Assessment of Chemical Substances	http://www.safe.nite.go.jp/risk/files/pdf_hyoukasyo/029riskdoc.pdf
Ministry of Environment - Preliminary Environment Risk Assessment of Chemical Substances	http://www.env.go.jp/chemi/report/h16-01/pdf/chap01/02_2_15.pdf
REACH	http://apps.echa.europa.eu/registered/registered-sub.aspx

REGULATORY INFORMATION / LABELLING INFORMATION

Main regulatory information

Law	Regulatory condition
UN class	None
UN No.	None

Labelling information

Pictograms or symbols



Signal Word

Hazard statement

Danger

- Causes skin irritation
- Causes serious eye damage
- May cause genetic defects
- May cause respiratory irritation
- Toxic to aquatic life

CONTACT INFORMATION WITHIN COMPANY

Company	Mitsubishi Chemical Corporation
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