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Safety Data Sheet

in accordance to Regulation (EC) No 1907/2006 (as amended by Commission Regulation (EU) No 453/2010)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier	
Substance name:	Diphenylolpropane
Synonyms:	• 4,4'-isopropylidenediphenol • Bisphenol A • Diphenylolpropane
EC Name:	4,4'-isopropylidenediphenol
Index No: (Annex VI to Regulation (EC) No 1272/2008)	604-030-00-0
EC No:	201-245-8
CAS No:	80-05-7
Registration No: (assigned under Article 20(3) of Regulation (EC) No 1907/2006)	01-2119529244-43-0000

1.2. Relevant identified uses of the substance or mixture and uses advised against	
Identified uses:	Diphenylolpropaneis used as: ☐ Anintermediate in production of other chemicals (resins (industrial use). The CSR defines the following uses of diphenylolpropane: The Use Descriptors for diphenylolpropane are listed as follows: Sectors of end use (SU): SU3; SU10; SU11; SU12. Process category (PROC): PROC1; PROC2; PROC3; PROC8b. Market sector by type of chemical product: PC19; PC32. Environmental release category (ERC): ERC6a; ERC6c; ERC6d. For details on Use Descriptors, refer Section 16 of this eSDS.

Uses advised against:	Diphenylolpropaneshall not be used in contradiction to all relevant national/regional restrictions applied to this substance, including, but not limited to, those prescribed by REACH regulation.
Exposure scenario(s):	For detailed information on exposure assessment, please, refer Annex I to this
	eSDS.

1.3. Details of the supplier of the safety data sheet	
Manufacturer:	Open Joint Stock Company "Ufaorgsyntez" Ufa, 450037 Republic of Bashkortostan Russian Federation
Only Representative:	**PROCHEMICAL GROUP s.r.o**. NabrezieSv. Cyrila 47 Prievidza 97101, Slovakia **Sales department:** tel.: +421 911 993183 web: www.prochemical.eu mail: sales@prochemical.eu

1.4. Emergency telephone number	
Manufacturer Emergency number:	Tel: +7 (347) 249-69-72, 242-12-79, 264-89-91, 235-88-22
European Country Emergency Number:	Please, refer to Annex II of this eSDS for the list of Emergency telephones of European Poisons Centers NOTE: The list of emergency telephone numbers is provided here for reference only. It may not be complete or correct. Please, consult with your local/national competent authorities for the emergency number in your country.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the criteria of Regulation (EC) No 1272/2008 (CLP Regulation) (as listed in Annex VI, table 3.1):	***for physical-chemical properties:*** • Not classified. ***for health hazards:*** • Serious damage/eye irritation: Eye Damage 1;H318: Causes serious eye damage. • Skin sensitization: Skin Sens. 1; H317: May cause an allergic skin reaction. • Reproductive Toxicity: Repr. 2; H361f: Suspected of damaging fertility. • Specific target organ toxicity - single: STOT Single Exp. 3; H335: May cause respiratory irritation. ***for environmental hazards:*** • Hazards to the aquatic environment: Aquatic Chronic 2; H411: Toxic to aquatic life with long lasting effects.
Classification according to the DSD/DPD criteria of Annex I of Directive 67/548/EEC and as reported in Regulation (EC) No 1272/2008 (Annex VI, table 3.2):	***for physical-chemical properties:*** • Notclassified. ***for health effects***: • Irritation / Corrosion: Xi; R37 Irritant; Irritating to respiratory system. • Xi; R41 Irritant; Risk of serious damage to eyes. • Sensitization: R43 May cause sensitization by skin contact. • Toxicity to reproduction- fertility: Repr. Cat. 3; R62 Possible risk of impaired fertility. ***for environmental hazards:*** • Environment: R52 Harmful to aquatic organisms.

2.2. Label elements	
Labelling according to the GHS criteria of	Signal word: Danger

Regulation (EC) No 1272/2008 (CLP Regulation):	Hazard pictograms: GHS05: corrosion  GHS08: health hazard  GHS07: exclamationmark  GHS09: environment 
	Hazard statements: H361f: Suspected of damaging fertility. H335: May cause respiratory irritation. H318: Causes serious eye damage. H317: May cause an allergic skin reaction. H411: Toxic to aquatic life with long lasting effects.
	Precautionary statements: *Prevention*: P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P261: Avoid breathing dust/fume/mist/vapours/spray. P271: Use only outdoors or in a well-ventilated area. 272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P281: Use personal protective equipment as required.

	Response: P302+P352: IF ON SKIN: Wash with plenty of soap and water. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313: IF exposed or concerned: Get medical advice/attention. P310: Immediately call a POISON CENTER or doctor/physician. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P321: Specific treatment (see information on this label). P333+P313: If skin irritation or rash occurs: Get medical advice/attention. P363: Wash contaminated clothing before reuse. P391: Collect spillage. *Storage*: P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up *Disposal*: P501: Dispose of contents/container in accordance with local/ regional/ national/ international regulation.
Labelling according to the DSD/DPD criteria of Annex I of Directive 67/548/EEC and as reported in Regulation (EC) No 1272/2008 (Annex VI, table 3.2):	Indication of danger: Xn - harmful R-phrases: R37 - irritating to respiratory system R41 - risk of serious damage to eyes R43 - may cause sensitisation by skin contact R62 - possible risk of impaired fertility R52 - harmful to aquatic organisms S-phrases: S2 - keep out of the reach of children S26 - in case of contact with eyes, rinse immediately with plenty of water and seek medical advice S36/37 - wear suitable protective clothing and gloves S39 - wear eye/face protection S46 - if swallowed, seek medical advice immediately and show this container or label S61 - avoid release to the environment. refer to special instructions/safety data sheets

2.3. Other hazards

Physical Chemical Hazards:	Fire and Explosion Hazards: ☐ Combustible. • Finely dispersed particles may form explosive mixtures in air. Chemical Hazard: • Reacts violently with acid anhydrides, acid chlorides, strong bases and strong oxidants (ICSC 0634, 2005).
Human Health Hazards:	Eye and Skin Contact: • The substance is irritating to the eyes and the skin. • Repeated or prolonged contact may cause skin sensitization. Inhalation: • The substance is irritating to the respiratory tract. Ingestion: • The substance can be absorbed into the body by ingestion.Harmful if swallowed.

SECTION 3: Composition/information on ingredients

3.1. Substances

Main constituent(s):

CAS No	Chemical name	% (mass)	EC No
80-05-7	4,4'-isopropylidenediphenol	☐99%	201-245-8

Stabilizer(s): None

Other Hazardous Components/ Impurities: None

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye and Skin Contact:	• Skin: Remove contaminated clothes. Rinse skin with plenty of water or shower. • Eyes:First rinse with plenty of water for several minutes. Remove contact lenses if easily possible. Get medical attention.
Inhalation:	☐ If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. Keep the affected person at rest. Get medical attention.

Ingestion:	• DO NOT INDUCE VOMITING. If the affected person is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the affected person to a hospital if advised by a physician. • If the affected person is convulsing or unconscious, do not give anything by mouth, ensure that the affected person's airway is open and lay the affected person on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the affected person to a hospital.

4.2. Most important symptoms and effects, both acute and delayed	
Inhalation:	• The substance is irritating to the respiratory tract. • Inhalation to high concentrations of dust may cause sore throat, cough.
Skin/Eye contact:	• The substance is irritating to the eyes and the skin. • Repeated or prolonged contact may cause skin sensitization.
Ingestion:	☐ The substance can be absorbed into the body by ingestion. Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed	
Acute exposure:	☐ For special medical treatment and/or advice immediately refer to medical professionals.

SECTION 5: Firefighting measures

5.1. Extinguishing lia me	
Extinguishing media:	☐ Use water spray, foam, dry chemical, carbon dioxide. ☐ Do not use water jet (straight streams) to extinguish.

5.2. Special hazards arising from the substance or mixture

Fire and Explosion Hazards:	• Combustible. • Flash point 217°C • Auto-ignition temperature: 510°C
Unusual fire and explosion hazards:	• Gives off toxic and irritant fumes when heated or burning. • Finely dispersed particles may form explosive mixtures in air.

5.3. Advice for firefighters	
Special fire fighting procedures:	☐ To fight fire use foam, water spray, fog, dry chemical, carbon dioxide. ☐ Do not use water jet to extinguish. ☐ Use water spray to knock down fire fumes if possible. ☐ Avoid unnecessary run-off of extinguishing media which may cause pollution.
Personal protection:	☐ Self contained breathing apparatus. Chemical protection suite if risk of contact. ☐
First aid:	☐ If substance has got into eyes, wash out with water for at least 15 minutes and seek immediate medical attention. ☐ Remove contaminated clothing immediately and drench affected skin with plenty of water. ☐ Persons who have been in contact with the substance or have inhaled fumes should get immediate medical attention. Pass on all available product information. ☐ In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing adhering to skin. Get immediate medical attention.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Emergency Response in case of Spill and Leak:	• Use personal protective equipment. • Avoid dust formation. Avoid breathing dust. • Do not touch or walk through spilled material. Do not handle broken packages without protective equipment. • Wash away any material, which may have contacted the body with copious amounts of water or soap and water. • Keep sparks, flames, and other sources of ignition away. • Collect spilled substance into sealable containers as far as possible; if appropriate, moisten first to prevent dusting. • Absorb remaining substance in appropriate absorbent and remove to safe place. • Do NOT wash away into sewer. • Keep material out of water sources and sewers. • Do not let this chemical enter the environment.
Public Safety Hazard:	☐ Minimize number of personnel in risk area.

6.2. Environmental precautions	
Accidental Spills and Releases:	• Do NOT wash away into sewer. • Keep away from drains, surface and ground water. Do not let this chemical enter the environment.
	☐ If substance has entered a water course or sewer, inform the responsible authority.

6.3. Methods and material for containment and cleaning up

Clean up methods:	• Evacuate and restrict persons not wearing protective equipment from area of spill or leak until cleanup is complete. Remove all ignition sources. • Vacuum cleaning is preferable to sweeping to keep dust levels down. Use special approved vacuum cleaners. • Ventilate area of spill or leak after cleanup is complete. • It may be necessary to contain and dispose of this chemical as a hazardous waste. • If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Contact the responsible authority in your country/region for specific recommendations. • If employees are required to clean up spills, they must be properly trained and equipped.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	
Training:	• Any person who comes into contact with the substance needs to be trained in proper handling and safety per applicable federal, state and local laws and regulations. • Employers must advise employees of all areas and operations where exposure to the substance might occur. • All workers who may be potentially exposed to this substance shall be kept informed of the hazards, relevant symptoms, effects of overexposure to, and proper precautions concerning safe use and handling of this chemical. • The hazard information shall be readily available to workers at all places of employment where this substanceis manufactured, used, transported or stored.
Handling:	• Normal measures for preventive fire protection. Keep sparks, flames, and other sources of ignition away. No smoking. Take measures to prevent the build up of electrostatic charge. • Avoid inhalation of dust or mist. • Avoid contact with skin and eyes. • Use in a well ventilated area.
	☐ Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, or smoke during work. Wash hands before eating, after handling the substance, before breaks and at the end of workday. ☐ Wash skin: The worker should immediately wash the skin when it becomes contaminated.

7.2. Conditions for safe storage, including any incompatibilities	
Storage:	☐ Store in cool place. Keep container tightly closed in a dry and well-ventilated place. ☐ Keep away from heat, sparks, and flames. . ☐ Containers which are opened must be carefully resealed and kept upright to prevent leakage. ☐ Store separated from strong oxidizers, acids, alkalis. ☐ Store separated from food and feedstuffs. ☐ Store in an area without drain or sewer access.

7.3. Specific end use(s)	
Fire/Explosion prevention:	☐ NO open flames. NO contact with hot surfaces. ☐ Standard measures for preventive fire protection when handling combustible solids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Substance: CAS No.
- **4,4'-isopropylidenediphenol (Bisphenol A)**
- **80-05-7**

Country	**Limit value - 8 hours**		**Limit value - Short term**		**Legal basis**
	ppm	**mg/m³**	**ppm**	**mg/m³**	
European Union	-	10 (inhalable aerosol)	-	-	Indicative Occupational Exposure Limits
Austria	-	5 (inhalable aerosol)	-	5 (inhalable aerosol)	Maximum Workplace Concentrations ("MaximaleArbeitsplatzkonzentrationen" – MAK)
Belgium	-	10	-	-	Occupational exposure limits (Valeurslimitesd'expositionprofessionnelle – VLEP/

					Grenswaardenvoorberoepsmatigeblootstelling –
					GWBB)
Bulgaria	No data available				
Cyprus	No data available				
Czech Republic	No data available				
Denmark	No data available				
Estonia	No data available				
Finland	No data available				
France	-	10	-	-	Occupational exposure limit values for occupational exposure to chemical agents in France
Germany	-	5 (inhalable aerosol)	-	5 (inhalable aerosol)	The German Committee on Hazardous Substances (AusschussfürGefahrstoffe – AGS); MAK values derived by the "DFG Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area"
Greece	No data available				
Hungary	No data available				
Ireland	No data available				
Italy	-	10	-	-	No data available
Latvia	-	5	-	-	No data available
Lithuania	No data available				
Luxembourg	No data available				
Malta	No data available				
Netherlands	-	10	-	-	Limit values/The Netherlands: Dutch Legal Public Limit Values
Poland	-	5	-	10	The Interdepartmental Commission for Maximum Admissible Concentrations and Intensities for Agents Harmful to Health in the Working Environment
Portugal	No data available				
Romania	No data available				
Slovakia	No data available				
Slovenia	No data available				

Spain	-	10	-	-	Spanish legislation on chemical agents (Royal Decree 374/2001 transposing Directive 98/24/EC).
Sweden	No data available				
Switzerland	-	5 (inhalable aerosol)	-	5 (inhalable aerosol)	No data available
United Kingdom	No data available				

Source: Based on GESTIS International Limit values Database available at http://www.dguv.de/ifa/en/gestis/limit_values/index.jsp

NOTE: ***All currently adopted by the national/regional competent authority levels on safe exposure to this chemical shall apply.***

Other Safety Exposure Limit Values:	The Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food in EU has established a full TDI (Tolerable Daily Intake) of 0.05 mg /kg bw for bisphenol A (4,4'-isopropylidenediphenol) (EFSA, 2006).
DNEL/DMEL from the CSR in accordance with REACH regulation:	The following critical DN(M)ELs are proposed for human exposure: ☐ General public exposure: DMEL=0.05 mg /kg bw/day. (Note: These values are not legally binding and referred here for recommendation purpose only. All currently adopted by the national/regional competent authority levels on safe exposure to this chemical shall apply).
PNECs from the CSR in accordance with REACH regulation:	PNEC (water) = 2.3 µg/L PNEC (sediment) = 64 µg /kg PNEC (soil) = 30.2 µg/kg (Note: These values are not legally binding and are referred here for recommendation purpose only. All currently adopted by the national/regional competent authority levels on safe exposure to this chemical shall apply)

8.2. Exposure controls	
Occupational Exposure Controls:	
Engineering controls and good work practices:	☐Should be sufficient to reduce exposures below the workplace standards for this chemical established by the national regulations to the lowest level achievable.

Respiratory Protection:	• Personal Protective Equipment/ Respiratory Protection: should be used in accordance with company and applicable national regulatory requirements. • Respiratory protection should be used to supplement the engineering controls and work practices. • Persons should not be assigned to tasks requiring the use of respirators unless it has been determined they are physically able to perform the work and are trained to use the equipment.
Chemical Protective Clothing:	• The level of protection selected should be based on the potential substance concentration and likelihood of contact/ exposure. • Suitable protective clothing and eye protection should be in accordance with national, or regional standards and regulations. • All protective clothing shall be well aired and inspected for physical defects before reuse. • Take off contaminated clothing and wash before re-use.
Eye and Face Protection:	☐If there is a potential that this chemical can come in contact with eye or skin, appropriate eye goggles and skin protective equipment shall be provided and used.
	• Appropriate eye and face protection may be necessary to prevent contact with this substance. • Suitable protective clothing and eye protection should be in accordance with national, or regional standards and regulations.
Hazard communication:	☐The transmittal of hazard information to workers is to be accomplished by such means as container labelling and other forms of warning, material safety data sheets, and employee training.
Housekeeping and Hygiene Facilities:	• The workplace should be kept clean, orderly, and in a sanitary condition. Adequate washing facilities shall be provided and maintained in a sanitary condition. • Comply with principles of good industrial hygiene and safety practice. Do not eat, drink, or smoke during work. Wash hands before eating, before breaks and at the end of workday.
Environmental Exposure controls:	
Emission sources:	☐Sources of diphenylolpropane emissions from its production and uses will be typical of those found at industrial production facility.

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Summary of RMM relevant to environment:	☐Waste-related: The transportation, storage, treatment, and disposal of the waste material must be conducted in compliance with local regulations for hazardous wastes. Disposal can occur only in properly permitted facilities. Check state and local regulation of any additional requirements for disposal conditions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties	
Appearance:	White crystals or flakes.
Odour:	Mild phenolic odor.
Odour threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	132°C
Initial boiling point and boiling range:	360°C (Decomposition at atmospheric pressure)
Flash point:	217°C
Flammability:	Not Flammable
Upper/lower flammability or explosive limits:	No data available.
Vapour pressure:	2.27 x 10^{-7} mm Hg; 3.03 x 10^{-5} Pa (QSAR estimated, at 25 °C, MPBPWIN v.1.43, EPI Suite v.4.00)
Relative density:	1.2 (relative density at 20°C)
Solubility(ies):	Water: 146 -173 mg/L (at 25°C)
Partition coefficient: noctanol/water:	log Kow/ log Pow = 3.32 (QSAR estimated, KOWWIN v1.67, EPI Suite v.4.00)
Auto-ignition temperature:	510°C
Explosive properties:	Not explosive.
Oxidising properties:	Not oxidizing.

9.2. Other information	
Henry's law constant (HLC):	9.16 x 10^{-12} atm-m3/mole (9.28 x 10^{-7} Pa-m3/ mole) (QSAR estimated, at 25°C, HENRYWIN v.3.20, EPI Suite v.4.00)
Conversion factors (in air at 25°C):	No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity	
Chemical dangers:	☐ Reacts violently with acid anhydrides, acid chlorides, strong bases and strong oxidants (ICSC 0634, 2005). Incompatible materials: strong oxidizers, acids, alkalis. ☐

10.2. Chemical stability	
Stability/ Shelf-life:	☐ Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions	
Special precautions:	☐ Materials to avoid: strong oxidizers, acids, alkalis.

10.4. Conditions to avoid	
Conditions contributing to instability:	☐ Heat, flames and sparks.

10.5. Incompatible materials	
Incompatibilities:	☐ Materials to avoid: strong oxidizers, acids, alkalis.

10.6. Hazardous decomposition products

Hazardous decomposition products:	☐ Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects	
Toxicokinetics (absorption, metabolism, distribution and elimination):	Toxicokinetics of 4,4'-isopropylidenediphenol was extensively studied and summarised in the peer reviewed international reports published by the NTP, the OECD HPV chemicals programme, and the EU Risk Assessment Programme (NTP, 1982, 2008; OECD, 2002; EU, 2008). In summary, 4,4'-isopropylidenediphenol is readily absorbed via oral exposure route, metabolized (mainly by glucuronide conjugation) and is eliminated via faeces or excreted in the urine. It is not likely to bioaccumulate in the body.
Acute toxicity:	Experimental data: Oral LD50 (Rats, male) = 4100 mg/kgbw (NTP, 1982). Oral LD50 (Rats, female) = 3300 mg/kgbw (NTP, 1982). Oral LD50 (Mice, male) = 5280 mg/kg bw (NTP, 1982). Oral LD50 (Mice, female) = 4100 mg/kgbw (NTP, 1982). Dermal LD50 (Rabbit) = 3600 mg/kgbw (24 hr-covered application) (HSDB). Human data: There are no data on acute toxicity of 4,4'-isopropylidenediphenol in humans. Discussion: 4,4'-isopropylidenediphenol is a non volatile solid substance with low water solubility and low vapour pressure. It can be absorbed via gastrointestinal tract and via skin contact. Available experimental data on acute toxicity of 4,4'-isopropylidenediphenol include studies by oral and dermal exposure routes performed in rodents. The data on oral and dermal exposure to 4,4'-isopropylidenediphenol are above the threshold for classification of 4,4'-isopropylidenediphenol for acute toxicity (i.e. > 2000 mg/kg bw). 4,4'-isopropylidenediphenol has harmonized at EU level classifications for both EU classification systems: in accordance with Directive 67/548/EEC and with the GHS criteria of Regulation (EC) No 1272/2008 and it is not classified as to its acute toxicity. Overall, 4,4'-isopropylidenediphenol is considered to be of low acute toxicity
Skin corrosion/irritation:	Skin contact with 4,4'-isopropylidenediphenol may result in skin redness (ICSC 0634, 2005).Based on the data summarised in the EU Risk assessment report on

	evaluation of 4,4'-isopropylidenediphenol (EU, 2008), 4,4'-isopropylidenediphenol is not a skin irritant, but it can cause serious damage to the eyes and is irritating to the respiratory tract.
Serious eye damage/irritation:	4,4'-isopropylidenediphenol is reported to cause eye redness and pain if in contact with the eye (ICSC 0634, 2005). 4,4'-isopropylidenediphenol has harmonized at EU level classifications and it is classified as Xi; R41 Risk of serious damage to eyes, in accordance with Directive 67/548/EEC and Eye Damage 1; H318: Causes serious eye damage, in accordance with the GHS criteria of Regulation (EC) No 1272/2008.
Respiratory irritation:	4,4'-isopropylidenediphenol has harmonized at EU level classifications and it is classified as Xi; R37 Irritating to respiratory system, in accordance with Directive 67/548/EEC and STOT Single Exp. 3 H335: May cause respiratory irritation., in accordance with the GHS criteria of Regulation (EC) No 1272/2008.
Respiratory or skin sensitization:	Skin sensitisation: 4,4'-isopropylidenediphenol has harmonized at EU level classifications and it is classified as R43 May cause sensitization by skin contact, in accordance with Directive 67/548/EEC and Skin Sens. 1, H317: May cause an allergic skin reaction, in accordance with the GHS criteria of Regulation (EC) No 1272/2008. Respiratory sensitisation: Nohypersensitivity reactions associated with exposure to 4,4'isopropylidenediphenol were reported in humans.
Germ cell mutagenicity:	No data on genotoxicity of 4,4'-isopropylidenediphenol in humans were located. In addition, 4,4'-isopropylidenediphenol was not reported to be mutagenic in peer reviewed international assessment reports (NTP, 1982, 2008; OECD, 2002; EU, 2008).
Carcinogenicity	Noevidence of carcinogenic activity of 4,4'-isopropylidenediphenol were observed in long-term/ carcinogenicity studies in rats and mice (NTP, 1982, 2008; OECD, 2002; EU, 2008).Overall, 4,4'-isopropylidenediphenol is not considered to be carcinogenic.

Reproductive toxicity:	4,4'-isopropylidenediphenol is considered as being weakly estrogenic substance (NTP, 2008; EU, 2008). The National Toxicology Programme review report (NTP, 2008) on 4,4'isopropylidenediphenol (Bisphenol A) identifies the clear evidence of adverse developmental effects of this chemical at high doses, including fetal mortality, decreased litter size, decreased number of live pups per litter in rats (at ≥500 mg/kg bw/day) and mice (at ≥875mg/kg bw/day); reduced growth in rats (at ≥300 mg/kg bw/day) and mice (at ≥600 mg/kg bw/day); and delayed puberty in male mice (at ≥600 mg/kg bw/day), and male and female rats (at ≥50 mg/kg bw/day). It is important to note, that these high doses were also associated with general systemic toxicity and mortality in rodents. 4,4'-isopropylidenediphenol has harmonized at EU level classifications and it is classified as Repr. Cat. 3; R62 Possible risk of impaired fertility, in accordance with Directive 67/548/EEC and Repr. 2; H361f: Suspected of damaging fertility, in
	accordance with the GHS criteria of Regulation (EC) No 1272/2008.
STOT-single & repeated exposure:	Single exposure: 4,4'-isopropylidenediphenol has harmonized at EU level classifications and it is classified as Xi; R37 Irritating to respiratory system, in accordance with Directive 67/548/EEC and STOT Single Exp. 3 H335: May cause respiratory irritation., in accordance with the GHS criteria of Regulation (EC) No 1272/2008. Repeated exposure: Overall, liver is reported as the target organ for systemic toxicity of 4,4'isopropylidenediphenol. The following systemic toxicity values were observed in studies in rodents:NOAEL (long-term dietary exposure, rats) = 1000 ppm (74 mg/kg bw/day).

SECTION 12: Ecological information

12.1. Toxicity			
Aquatic environment:	4,4'-isopropylidenediphenol is classified as R52: Harmful to aquatic organisms substancein accordance with Directive 67/548/EEC.		
Acutetoxicity: L(E)C50	2.35 -7.16 mg/L	Fish, freshwater, QSAR estimated, ECOSAR v.1.00, EPI Suite v.4.00	
	5.04 -5.24 mg/L	Invertebrates, freshwater, QSAR estimated, ECOSAR v.1.00, EPI Suite v.4.00	
	1.39 -4.26 mg/L	Greenalgae, QSAR estimated, ECOSAR v.1.00, EPI Suite v.4.00	
Chronic toxicity:NOEC	0.55 -0.65 mg/L	Fish, freshwater,QSAR estimated, ECOSAR v.1.00, EPI Suite v.4.00	

0.62 -1.77 mg/L	Invertebrates, freshwater, QSAR estimated, ECOSAR v.1.00, EPI Suite v.4.00
0.23 -2.08 mg/L	Greenalgae, QSAR estimated, ECOSAR v.1.00, EPI Suite v.4.00

PNEC water estimation:

The PNEC estimation for 4,4'-isopropylidenediphenol is based on QSAR predicted data by applying an assessment factor as recommended in the EU Technical Guidance Documents for environmental risk assessment.

4,4'-isopropylidenediphenol is a non volatile solid substace with poor water solubility and therefore, the chronic aquatic toxicity data are adopted for the PNEC calculation:

Endpoint	**Value**	**Assessment Factor (AF)**	**PNEC**
Aquatic toxicity (ChV, green algae, QSAR estimated data)	0.23 mg/L	100	2.3 µg/L

PNEC sediment estimation:

In the absence of sediment toxicity data, the PNEC sediment is calculated using the equilibrium partitioning method (EPM) as follows (in accordance with ECHA Guidance on Information Requirements, PartB):

PNECsediment=(0.783 + 0.0217 x Koc) x PNEC water.

Estimated Koc for 4,4'-isopropylidenediphenol = 1245 - 37670 L/kg (by following a precautionary approach, the lowest estimated Koc value of 1245 L/kg will be used in the calculation); PNEC water =2.3 µg/L

Therefore, PNECsediment= 64 µg /kg is calculated for 4,4'-isopropylidenediphenol.

Terrestrial environment:

4,4'-isopropylidenediphenol is a non volatile solid substance which is insoluble in water. The value for soil organic carbon-water partition coefficient calculated using KOCWIN v. 2.0 (logKoc = 3. 1 -4.58) suggests that 4,4'-isopropylidenediphenol has some potential to adsorb onto soil and sediment.

PNEC soil estimation:

In the absence of ecotoxicity data for soil organisms, the PNEC soil is calculated using the equilibrium partitioning method (EPM) as follows (in accordance with ECHA Guidance on Information Requirements, PartB):

PNECsoil=(0.174 + 0.0104 x Koc) x PNEC water.

Estimated Koc for 4,4'-isopropylidenediphenol = 1245 - 37670 L/kg (by following a precautionary approach, the lowest estimated Koc value of 1245 L/kg will be used in the calculation); PNEC water =2.3 µg/L

Therefore, PNECsoil= 30.2 µg/kg is calculated for 4,4'-isopropylidenediphenol.

12.2. Persistence and degradability

Hydrolysis:	4,4'-isopropylidenediphenol is a solid substance which is poorly soluble in water. It contains functional groups with weak potential for dissociation. Based on the dissociation constant data and assuming poor solubility of 4,4'-isopropylidenediphenol, this substance is not likely to dissociate significantly in water under normal environmental conditions.
Phototransformation/ photolysis:	Photooxidation of 4,4'-isopropylidenediphenol can be estimated using a computer model accepted by the US EPA - the Atmospheric Oxidation Program for Microsoft Windows (AOPWIN). A half life of 0.13 days is estimated for reaction of 4,4'-isopropylidenediphenol with hydroxyl radicals in the atmosphere at 25°C [AOPWIN Program, v.1.92].Overall QSARs estimated half-life for degradation of 4,4'isopropylidenediphenol in air based upon AOPWIN Model is 3.185 hours. Based on the data on photochemical degradation of 4,4'-isopropylidenediphenol in the air, it is considered to rapidly degrade in the atmosphere via photooxidation process.
Biodegradation:	The QSARs estimated half-lives for biodegradation of 4,4'-isopropylidenediphenol in water and sediment based upon BIOWIN Ultimate Biodegradation are 900 hours (37.5 days) and 8100 hours (337.5 days), respectively. Overall BIOWIN estimate for biodegradation within weeks –months.

12.3. Bioaccumulative potential

Aquatic bioaccumulation:	The Bioconcentration Factor (BCF), Bioaccumulation factor (BAF) as well as Biotransformation Rate in fish were estimated by the BCFBAF software developed by the US EPA. The modeling results are summarized below: • Log BCF =1.86; BCF =72 L/kg wet wt; • Biotransformation half-life =0.263 days (normalized to 10 g fish); ☐ Log BAF =2.24; BAF =173 L/kg wet-wt. Generally, a BCF/BAF in fish of ≥ 500 is indicative of the potential to bioconcentrate for classification purposes in accordance with CLP/GHS criteria. The BCF/BAF values estimated for 4,4'-isopropylidenediphenol are below the cutoff values for bioaccumulation indicating low potential to bioaccumulate in aquatic organisms.
Terrestrial bioaccumulation:	No data are available for terrestrial bioaccumulation of 4,4'isopropylidenediphenol

12.4. Mobility in soil

Environmental distribution:	4,4'-isopropylidenediphenol is a solid, poor water soluble substance with low vapour pressure. QSAR modeling predicts negligible volatilisation of 4,4'-isopropylidenediphenol from surface water. Once in air, 4,4'-isopropylidenediphenol will react with hydroxyl radicals with halflife of 3.2 hours. The value for soil organic carbon-water partition coefficient (logKoc = 3.1 -4.58) suggests that 4,4'-isopropylidenediphenol has some potential to adsorb onto soil and sediment and, therefore, it is not likely to contaminate groundwater. The data on environmental distribution of 4,4'-isopropylidenediphenol obtained from the level III fugacity model confirms that 4,4'-isopropylidenediphenol does not degrade fast and depending on various emission scenarios, most of 4,4'isopropylidenediphenol will be in the environmental media to which it is released.

12.5. Results of PBT and vPvB assessment	
Persistence Assessment:	Environmental persistence of 4,4'-isopropylidenediphenol: The half life of 4,4'-isopropylidenediphenol in water, sediment and soil are 37.5 days, 337.5 days and 75 days, respectively. Therefore, 4,4'-isopropylidenediphenol meets the sediment Persistence criteria for PBT and vPvB substances.
Bioaccumulation Assessment:	Bioaccumulation potential of 4,4'-isopropylidenediphenol: BCF/BAF (estimated values) = 72 -285 L/kg wet-wt. Therefore, 4,4'isopropylidenediphenol does not meet Bioaccumulation criteria for PBT /vPvB substance.
Toxicity Assessment:	Overall, 4,4'-isopropylidenediphenol meets the PBT criteria for toxicity.
Conclusions on PBT or vPvB Properties:	4,4'-isopropylidenediphenol is considered as persistent and toxic substance. However, it is not consideredbioaccumulative substance. Therefore, 4,4'isopropylidenediphenol is not a PBT or vPvB substance.

12.6. Other adverse effects	
Secondary poisoning:	Overall, it is considered that secondary poisoning through the food chain is of no concern for 4,4'-isopropylidenediphenol.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal:	This substance, when discarded or disposed of, is a hazardous waste. The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with local regulations for hazardous wastes. Disposal can occur only in properly permitted facilities. Check state and local regulation of any additional requirements for disposal conditions.
Disposal of containers:	Please, refer your local/national/regional requirements on disposal.

SECTION 14: Transport information

14.1. UN number

UN No: UN3077

14.2. UN proper shipping name

UN Proper Shipping ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol A). Name:

14.3. Transport hazard class(es)

Hazard Class or Division: 9

14.4. Packing group

UN Packing Group: III

14.5. Environmental hazards

Environmental Hazards: 4,4'-isopropylidenediphenol is classified as R52: Harmful to aquatic organisms substancein accordance with Directive 67/548/EEC.

14.6. Special precautions for user

Note: A number of restrictions may apply to materials subject to local/ national/regional classifications requirements. Please refer to the appropriate regulation for specific details regarding classification requirements and restrictions.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transportation in bulk: A number of restrictions may apply to materials subject to bulk transportation. Please, refer relevant regulation for specific information on bulk transportation requirements.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture	
Export and Import of Dangerous Chemicals (Regulation (EC) No 689/2008) Information:	This substance is not listed in the Annex I of Regulation (EC) No 689/2008.
CLP Regulation (EC) No 1272/2008:	This substance is listed in Annex VI (tables 3.1 and 3.2) to CLP regulation.
REACH Regulation (EC) No 1907/2006:	Registration requirement (Article 5, REACH regulation): This substance is registeredin accordance with provisions of REACH regulation. For registration number, please refer section 1.1 of this eSDS.

15.2. Chemical safety assessment

CSA: Chemical Safety Assessment has been carried out for this chemical in accordance with provisions of REACH regulation.

SECTION 16: Other information

Use Descriptors:	➢ SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites. ➢ SU10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys). ➢ SU11: Manufacture of rubber products. ➢ SU12: Manufacture of plastics products, including compounding and conversion. ➢ PROC1: Use in closed process, no likelihood of exposure. ➢ PROC2: Use in closed, continuous process with occasional controlled exposure. ➢ PROC3: Use in closed batch process (synthesis or formulation). ➢ PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. ➢ PC 19: Intermediate. ➢ PC 32: Polymer preparations and compounds. ➢ ERC6a: Industrial use resulting in manufacture of another substance (use
	of intermediates). ➢ ERC 6c: Industrial use of monomers for manufacture of thermoplastics. ➢ ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.

Abbreviations and acronyms:

AIHA ERPGs	The American Industrial Hygiene Association (AIHA)Emergency Response Planning Guidelines (ERPGs)
BAF	Bio Accumulation Factor

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BCF	Bio Concentration Factor
CAS No	Chemical Abstracts Service number
CLP	Classification Labelling Packaging Regulation ; Regulation (EC) No 1272/2008
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
DPD	Dangerous Preparation Directive 1999/45/EEC
DSD	Dangerous Substances Directive 67/548/EEC
EC	European Commission
EC50	Half maximal effective concentration
ECHA	European Chemicals Agency
EC-Number	EINECS and ELINCS Number (see also EINECS and ELINCS)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of notified Chemical Substances
ES	Exposure Scenario
e-SDS	Extended Safety Data Sheet (SDS with ES attached)
EU	European Union
GHS	Globally Harmonized System
IDLH	Immediatelydangerous to life and health
IUPAC	International Union for Pure Applied Chemistry
LC50	Lethal concentration, 50 %
LD50	Median Lethal Dose
OEL	Occupational Exposure Limit
OSHA PEL	Occupational Safety and Health Administration Permissible Exposure Level
PBT	Persistent, Bioaccumulative and Toxic substance
PNEC(s)	Predicted No Effect Concentration(s)
PPE	Personal Protection Equipment
QSAR	Qualitative Structure Activity Relationship
SAR	Structure Activity Relationship
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RMM	Risk Management Measure
STOT	Specific Target Organ Toxicity
(STOT) RE	Repeated Exposure
(STOT) SE	Single Exposure
TLV	Thresholdlimit value
TWA	Time-Weighted Average
UN	United Nations
vPvB	Very Persistent and Very Bioaccumulative

Key Literature References and Sources for data:

EFSA (2006) Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food on a request from the Commission related to 2,2-BIS(4-HYDROXYPHENYL)PROPANE (Bisphenol A), Question number EFSA-Q-2005-100, Adopted on 29 November 2006. The EFSA Journal (2006) 428, 75p.

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