

Material Safety Data Sheet

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Version 2.1

According to 91/155/EEC

1 - Product and Company Information

Product Name BISPHENOL A, 99+%

Product Number 239658

Company Sigma-Aldrich Company Ltd.
The Old Brickyard
New Road, Gillingham SP8 4XT
United Kingdom

Technical Phone # 44-(0)-1747-833000

Fax 44-(0)-1747-833313

Emergency Phone # 44-(0)-1747-833100

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
4,4'-ISOPROPYLLIDENEDIPHENOL	80-05-7	201-245-8	604-030-00-0

Formula C15H16O2

Molecular Weight 228.29 AMU

Synonyms Bisferol A (Czech) *
2,2-Bis-4'-hydroxyphenylpropan (Czech) *
Bis(4-hydroxyphenyl) dimethylmethane *
Bis(4-hydroxyphenyl)propane *
2,2-Bis(p-hydroxyphenyl)propane *
2,2-Bis(4-hydroxyphenyl)propane * Bisphenol *
Bisphenol A (OSHA) * 4,4'-Bisphenol A * DIAN *
p,p'-Dihydroxydiphenyldimethylmethane *
4,4'-Dihydroxydiphenyldimethylmethane *
p,p'-Dihydroxydiphenylpropane *
2,2-(4,4'-Dihydroxydiphenyl)propane *
4,4'-Dihydroxydiphenylpropane *
4,4'-Dihydroxydiphenyl-2,2-propane *
4,4'-Dihydroxy-2,2-diphenylpropane *
Dimethylmethylene-p,p'-diphenol *
beta-Di-p-hydroxyphenylpropane *
2,2-Di(4-hydroxyphenyl)propane * Dimethyl
bis(p-hydroxyphenyl)methane * Diphenylolpropane
* 2,2-Di(4-phenylol)propane *
p,p'-Isopropylidenebisphenol *
4,4'-Isopropylidenebisphenol *
p,p'-Isopropylidenediphenol * NCI-C50635 *
Phenol, 4,4'-dimethylmethylenedi- * Propane,

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Irritating to respiratory system. Risk of serious damage to eyes.
May cause sensitization by skin contact. Possible risk of impaired
fertility.
Repr. Cat.3

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXPLOSION DATA

Dust Potential: Dust and fumes may be a fire and explosion hazard when exposed to high temperatures or ignition sources. Particle size and dispersion in air determine reactivity.

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	5 mg/m3, E

Remarks: =1=

Remarks: Y

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	5 mg/m3

Remarks: E C S

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Special Protective Measures: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid Color: Very faintly beige Form: Crystalline
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Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	220 °C	4 mmHg
MP/MP Range	153 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	Log Kow: 3.32	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong bases, Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: SL6300000

ACUTE TOXICITY

LD50

Oral

Rat

5,000 mg/kg

LD50

Skin

Rabbit

3,000 mg/kg

LD50

Skin

Rabbit

6,400 mg/kg

LD50

Oral

Rat

3250 mg/kg

LD50

Oral

Mouse

2400 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold.

Autonomic Nervous System:Other (direct) parasymphomimetic.

Behavioral:Ataxia.

LD50

Intraperitoneal

Mouse

150 MG/KG

LD50

Oral

Rabbit

2230 mg/kg

LD50

Skin

Rabbit

3 ML/KG

LD50

Oral

Guinea pig

4000 mg/kg

Remarks: Autonomic Nervous System:Other (direct)

parasympathomimetic. Behavioral:Convulsions or effect on seizure threshold. Behavioral:Ataxia.

LD50
Oral
Mammal
6500 mg/kg

IRRITATION DATA

Skin
Rabbit
Remarks: Mild irritation effect

Skin
Rabbit
250 mg
Remarks: Open irritation test

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Eyes
Rabbit
0.25 mg
24H
Remarks: Severe irritation effect

SENSITIZATION

Skin: May cause allergic skin reaction.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes severe eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

Liver. Bone marrow.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - MUTAGEN

Rat
200 UMOL/L
Cell Type: liver
DNA damage

Rat
200 MG/KG

Intraperitoneal
DNA

Rat
800 MG/KG
Oral
4D
DNA

Hamster
200 UMOL/L
Cell Type: lung
Micronucleus test

Hamster
400 UMOL/L
Cell Type: ovary
DNA inhibition

Hamster
400 UMOL/L
Cell Type: ovary
Cytogenetic analysis

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 10 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 1275 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (1-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 1275 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (1-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse
Dose: 900 MG/KG
Route of Application: Subcutaneous
Exposure Time: (11-19D PREG)
Result: Specific Developmental Abnormalities: Urogenital system.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Rat
Dose: 15 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g.,

dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 2120 UG/KG
Route of Application: Oral
Exposure Time: (10D PRE-21D POST)
Result: Effects on Newborn: Behavioral.

Species: Rat
Dose: 6400 UG/KG
Route of Application: Oral
Exposure Time: (13-22D PREG/1-6D POST)
Result: Effects on Newborn: Behavioral.

Species: Rat
Dose: 1875 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (1-15D PREG)
Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Rat
Dose: 1275 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (1-15D PREG)
Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Central nervous system.

Species: Rat
Dose: 1875 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (1-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Gastrointestinal system.

Species: Mouse
Dose: 12500 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.

Species: Mouse
Dose: 7500 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Mouse
Dose: 12500 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Maternal Effects: Uterus, cervix, vagina.

12 - Ecological Information

BIOACCUMULATION POTENTIAL: Indication of bioaccumulation.

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish

Species: Pimephales promelas (Fathead minnow)

Time: 96 h

Value: 4.6 mg/l

Test Type: EC50 Daphnia

Species: Daphnia magna

Time: 48 h

Value: 3.9 mg/l

Test Type: IC50 Algae

Species: Selenastrum capricornutum resp.

Time: 96 h

Value: 2.73 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 604-030-00-0

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 37-41-43-62

Irritating to respiratory system. Risk of serious damage to eyes. May cause sensitization by skin contact. Possible risk of impaired fertility.

S-PHRASES: 26-36/37/39-45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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