



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 7.0

Revision Date 30.09.2024

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : Biphenyl sodium complex solution

Product Number : 14446

Brand : Aldrich

REACH No. : This product is a mixture. REACH Registration Number see section 3.

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

### 1.3

### 1.4 Emergency telephone

Emergency Phone # : 000 800 1007 141 (CHEMTREC)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

|                                                  |                                                        |
|--------------------------------------------------|--------------------------------------------------------|
| Skin corrosion, (Sub-category 1B)                | H314: Causes severe skin burns and eye damage.         |
| Serious eye damage, (Category 1)                 | H318: Causes serious eye damage.                       |
| Long-term (chronic) aquatic hazard, (Category 2) | H411: Toxic to aquatic life with long lasting effects. |

### 2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008**

Pictogram

|                                      |                                                                                                                                  |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Signal Word                          | Danger                                                                                                                           |
| Hazard Statements                    |                                                                                                                                  |
| H314                                 | Causes severe skin burns and eye damage.                                                                                         |
| H411                                 | Toxic to aquatic life with long lasting effects.                                                                                 |
| Precautionary Statements             |                                                                                                                                  |
| P273                                 | Avoid release to the environment.                                                                                                |
| P280                                 | Wear protective gloves/ protective clothing/ eye protection/ face protection.                                                    |
| P303 + P361 + P353                   | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.                                     |
| P304 + P340 + P310                   | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.             |
| P305 + P351 + P338                   | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P363                                 | Wash contaminated clothing before reuse.                                                                                         |
| Supplemental Hazard information (EU) |                                                                                                                                  |
| EUH014                               | Reacts violently with water.                                                                                                     |
| EUH019                               | May form explosive peroxides.                                                                                                    |

### Reduced Labeling (<= 125 ml)

Pictogram

|                                      |                                                                                                                                  |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Signal Word                          | Danger                                                                                                                           |
| Hazard Statements                    |                                                                                                                                  |
| H314                                 | Causes severe skin burns and eye damage.                                                                                         |
| Precautionary Statements             |                                                                                                                                  |
| P280                                 | Wear protective gloves/ protective clothing/ eye protection/ face protection.                                                    |
| P303 + P361 + P353                   | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.                                     |
| P304 + P340 + P310                   | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.             |
| P305 + P351 + P338                   | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P363                                 | Wash contaminated clothing before reuse.                                                                                         |
| Supplemental Hazard information (EU) |                                                                                                                                  |
| EUH014                               | Reacts violently with water.                                                                                                     |
| EUH019                               | May form explosive peroxides.                                                                                                    |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Synonyms : Sodium biphenyl complex

Molecular weight : 177,20 g/mol

| Component                              |           | Classification                                                                                         | Concentration  |
|----------------------------------------|-----------|--------------------------------------------------------------------------------------------------------|----------------|
| <b>diethylene glycol diethyl ether</b> |           |                                                                                                        |                |
| CAS-No.                                | 112-36-7  | Skin Irrit. 2; H315                                                                                    | >= 70 - < 90 % |
| EC-No.                                 | 203-963-7 |                                                                                                        |                |
|                                        | *         |                                                                                                        |                |
| <b>sodium biphenyl</b>                 |           |                                                                                                        |                |
| CAS-No.                                | 5137-46-2 | Skin Corr. 1B; Eye Dam. 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; H314, H318, H335, H400, H410 | >= 10 - < 20 % |
| EC-No.                                 | 225-894-1 |                                                                                                        |                |
|                                        | *         |                                                                                                        |                |

\*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, or the annual tonnage does not require a registration.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first-aid measures

##### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

##### If inhaled

After inhalation: fresh air. Call in physician.

##### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

##### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

##### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>) Dry powder

#### **Unsuitable extinguishing media**

Water Foam

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides

Sodium oxides

Combustible.

May not get in touch with: Water

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemisorb® ).

Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### **Advice on safe handling**

Keep workplace dry. Do not allow product to come into contact with water.

#### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## **7.2 Conditions for safe storage, including any incompatibilities**

### **Storage conditions**

Tightly closed.

Never allow product to get in contact with water during storage.

**Storage stability** Recommended storage temperature

2 - 8 °C

Store under inert gas. Moisture sensitive. Over time, pressure may increase causing containers to burst. Handle and open container with care. Test for peroxide formation periodically and before distillation.

### **Storage class**

Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

## **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

**Ingredients with workplace control parameters**

### **8.2 Exposure controls**

**Personal protective equipment**

#### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 30 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

protective clothing

### **Respiratory protection**

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |                                                 |                                         |
|-------------------------------------------------|-----------------------------------------|
| a) Physical state                               | cloudy, liquid                          |
| b) Color                                        | No data available                       |
| c) Odor                                         | No data available                       |
| d) Melting point/freezing point                 | No data available                       |
| e) Initial boiling point and boiling range      | No data available                       |
| f) Flammability (solid, gas)                    | No data available                       |
| g) Upper/lower flammability or explosive limits | No data available                       |
| h) Flash point                                  | No data available                       |
| i) Autoignition temperature                     | No data available                       |
| j) Decomposition temperature                    | No data available                       |
| k) pH                                           | No data available                       |
| l) Viscosity                                    | Viscosity, kinematic: No data available |

|                                              |                                       |
|----------------------------------------------|---------------------------------------|
|                                              | Viscosity, dynamic: No data available |
| m) Water solubility                          | No data available                     |
| n) Partition coefficient:<br>n-octanol/water | No data available                     |
| o) Vapor pressure                            | No data available                     |
| p) Density                                   | 1,100 g/cm <sup>3</sup>               |
| Relative density                             | No data available                     |
| q) Relative vapor<br>density                 | No data available                     |
| r) Particle<br>characteristics               | No data available                     |
| s) Explosive properties                      | Not classified as explosive.          |
| t) Oxidizing properties                      | none                                  |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating. Formation of peroxides possible.

### 10.2 Chemical stability

sensitive to moisture

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Strong heating.  
Moisture.

### 10.5 Incompatible materials

Strong oxidizing agents, Strong acids

### 10.6 Hazardous decomposition products

Peroxides

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

#### Acute toxicity

Oral: No data available

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: , damage of respiratory tract

Dermal: No data available

**Skin corrosion/irritation**

Remarks: No data available

Remarks: Mixture causes burns.

**Serious eye damage/eye irritation**

Remarks: No data available

Remarks: Mixture causes serious eye damage.

Risk of blindness!

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information****Endocrine disrupting properties****Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

**Components****diethylene glycol diethyl ether****Acute toxicity**

LD50 Oral - Rat - 6.500 mg/kg  
(OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

**Skin corrosion/irritation**

Skin - Human

Result: Irritating to skin.

(Regulation (EC) No. 440/2008, Annex, B.4)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

**Respiratory or skin sensitization**

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

**Germ cell mutagenicity**

Test Type: Ames test

Test system: *S. typhimurium*

Result: negative

Remarks: (ECHA)

Species: Mouse

Result: negative

Remarks: (ECHA)

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**sodium biphenyl**

**Acute toxicity**

LD50 Oral - Rat - 2.140 mg/kg

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Remarks: (in analogy to similar compounds)

Inhalation: No data available

Dermal: No data available

**Skin corrosion/irritation**

Remarks: No data available

**Serious eye damage/eye irritation**

Remarks: No data available

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

The value is given in analogy to the following substances: biphenyl

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

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**SECTION 12: Ecological information****12.1 Toxicity****Mixture**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties****Product:**

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7 Other adverse effects**

No data available

**Components****diethylene glycol diethyl ether**

No data available

**sodium biphenyl**

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

No data available

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 3267

IMDG: 3267

IATA: 3267

### 14.2 UN proper shipping name

ADR/RID: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (diethylene glycol diethyl ether, sodium biphenyl)

IMDG: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (diethylene glycol diethyl ether, sodium biphenyl)

IATA: Corrosive liquid, basic, organic, n.o.s. (diethylene glycol diethyl ether, sodium biphenyl)

### 14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

### 14.6 Special precautions for user

Tunnel restriction code : (E)

Further information : No data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E2 ENVIRONMENTAL HAZARDS  
O1 OTHER HAZARDS

#### Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: Other information

### Full text of H-Statements

|        |                                                       |
|--------|-------------------------------------------------------|
| H314   | Causes severe skin burns and eye damage.              |
| H315   | Causes skin irritation.                               |
| H318   | Causes serious eye damage.                            |
| H335   | May cause respiratory irritation.                     |
| H400   | Very toxic to aquatic life.                           |
| H410   | Very toxic to aquatic life with long lasting effects. |
| EUH014 | Reacts violently with water.                          |
| EUH019 | May form explosive peroxides.                         |

### Relevant changes since previous version

5. Fire-fighting measures

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Classification of the mixture

|                  |      |
|------------------|------|
| Skin Corr.1B     | H314 |
| Eye Dam.1        | H318 |
| Aquatic Chronic2 | H411 |

### Classification procedure:

|                    |
|--------------------|
| Calculation method |
| Calculation method |
| Calculation method |

**Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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