

# Material Safety Data Sheet

## Biphenyl

ACC# 15418

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Biphenyl

**Catalog Numbers:** AC106250000, AC106250010, AC106252500

**Synonyms:** Diphenyl.

**Company Identification:**

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
92-52-4	Biphenyl	99	202-163-5

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: faint yellow crystals.

**Warning!** Causes eye, skin, and respiratory tract irritation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Target Organs:** Respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes eye irritation.

**Skin:** Causes skin irritation. May be harmful if absorbed through the skin.

**Ingestion:** May cause irritation of the digestive tract. May be harmful if swallowed.

**Inhalation:** Causes respiratory tract irritation. May be harmful if inhaled.

**Chronic:** No information found. Prolonged exposure to vapor concentrations above 0.005 mg/L is considered

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Do not induce vomiting. Get medical aid.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.  
**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Flash Point:** 113 deg C ( 235.40 deg F)

**Autoignition Temperature:** 540 deg C ( 1,004.00 deg F)

**Explosion Limits, Lower:**0.6 vol %

**Upper:** 5.8 vol %

**NFPA Rating:** (estimated) Health: 2; Flammability: 1; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

## Section 7 - Handling and Storage

**Handling:** Use only in a well-ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

**Storage:** Store in a cool, dry place. Store in a tightly closed container.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Biphenyl	0.2 ppm TWA	0.2 ppm TWA; 1 mg/m <sup>3</sup> TWA 100 mg/m <sup>3</sup> IDLH	0.2 ppm TWA; 1 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Biphenyl: 0.2 ppm TWA; 1 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** 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:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Crystals

**Appearance:** white - faint yellow

**Odor:** pleasant odor - butter-like

**pH:** Not available.

**Vapor Pressure:** 9.46 mm Hg @ 115 deg C

**Vapor Density:** 5.31

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 255 deg C

**Freezing/Melting Point:** 68.5 - 71 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble.

**Specific Gravity/Density:** 0.991

**Molecular Formula:** C<sub>12</sub>H<sub>10</sub>

**Molecular Weight:** 154.21

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Incompatible materials, dust generation.  
**Incompatibilities with Other Materials:** Oxidizing agents.  
**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.  
**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 92-52-4: DU8050000

**LD50/LC50:**

CAS# 92-52-4:

Draize test, rabbit, eye: 100 mg Mild;  
Draize test, rabbit, skin: 500 uL/24H Severe;  
Oral, mouse: LD50 = 1900 mg/kg;  
Oral, rabbit: LD50 = 2400 mg/kg;  
Oral, rat: LD50 = 2140 mg/kg;  
Skin, rabbit: LD50 = >5010 mg/kg;

**Carcinogenicity:**

CAS# 92-52-4:

- **ACGIH:** Not listed.
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Group 2A carcinogen

**Epidemiology:** Oral, mouse: TDLo = 56 gm/kg (Tumorigenic - equivocal tumorigenic agent by RTECS criteria - Lungs, Thorax, or Respiration - tumors and Blood - tumors).; Subcutaneous, mouse: TDLo = 46 mg/kg (Tumorigenic - neoplastic by RTECS criteria - Lungs, Thorax, or Respiration - tumors and Liver - tumors).

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** Unscheduled DNA Synthesis: Oral, rat = 8400 mg/kg/4W (Continuous).; Mutation in Microorganisms: Mouse, Lymphocyte = 20 umol/L.; DNA Damage: Mouse, Lymphocyte = 50 umol/L.; DNA Damage: Oral, mouse = 2 gm/kg.; Mutation in Mammalian Somatic Cells: Mouse, Lymphocyte = 296 umol/L.; Cytogenetic Analysis: Hamster, Lung = 10 mg/L.; Sister Chromatid Exchange: Hamster, Fibroblast = 100 umol/L.

**Neurotoxicity:** No information available.

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** Fish: Fathead Minnow: LC50 = 1.2-3.3 mg/L; 96 Hr; Flow-through at 10 C Water flea Daphnia: EC50 = 0.63-3.91 mg/L; 48 Hr; (< 24 hrs old) Static at 22.2 C (pH 7.9-8.2) Bacteria: Phytobacterium phosphoreum: EC50 = 1.9-3.3 mg/L; 5,15,30 min; Microtox test at 15C Volatilization from moist soil surfaces will occur, but it is not expected to be significant from dry soil surfaces. Biphenyl readily biodegrades aerobically in both soil and water with an increased rate of biodegradation following acclimation (resistant under anaerobic conditions). Biphenyl will volatilize from water surfaces. Estimated BCF value range = 280-4500. This value range suggests that biphenyl will bioconcentrate in aquatic organisms.

**Environmental:** Biphenyl will exist in both the vapor phase and the particulate phase in the ambient atmosphere. The biphenyl present in the vapor phase will be degraded by reaction with photochemically-produced hydroxyl radicals with a half-life of 2 days. The particulate phase biphenyl will be removed from the atmosphere by dry deposition.

**Physical:** No information available.

**Other:** Harmful to aquatic life in very low concentrations.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, N.O (Biphenyl)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, N.O (Biphenyl)
<b>Hazard Class:</b>	9	9
<b>UN Number:</b>	UN3077	UN3077
<b>Packing Group:</b>	III	III

## Section 15 - Regulatory Information

## **US FEDERAL**

### **TSCA**

CAS# 92-52-4 is listed on the TSCA inventory.

### **Health & Safety Reporting List**

CAS# 92-52-4: Effective 4/29/83, Sunset 4/29/93

### **Chemical Test Rules**

CAS# 92-52-4: 40 CFR 799.5115

### **Section 12b**

CAS# 92-52-4: Section 4, 0.1 % de minimus concentration

### **TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

### **CERCLA Hazardous Substances and corresponding RQs**

CAS# 92-52-4: 100 lb final RQ; 45.4 kg final RQ

### **SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

### **SARA Codes**

CAS # 92-52-4: immediate, delayed.

### **Section 313**

This material contains Biphenyl (CAS# 92-52-4, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

### **Clean Air Act:**

CAS# 92-52-4 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

### **Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

### **OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

### **STATE**

CAS# 92-52-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

### **California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

## **European/International Regulations**

### **European Labeling in Accordance with EC Directives**

#### **Hazard Symbols:**

XI N

#### **Risk Phrases:**

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**

- S 23 Do not inhale gas/fumes/vapour/spray.
- S 60 This material and its container must be disposed of as hazardous waste.
- S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

**WGK (Water Danger/Protection)**

CAS# 92-52-4: 2

**Canada - DSL/NDSL**

CAS# 92-52-4 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 92-52-4 is listed on the Canadian Ingredient Disclosure List.

## Section 16 - Additional Information

**MSDS Creation Date:** 5/18/1999

**Revision #7 Date:** 7/26/2007

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