

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: 2-Chlorobiphenyl
CAS-No.	: 2051-60-7
Product code	: 1600-5-X4
Formula	: C12H9Cl
Synonyms	: PCB No 1; 2-PCB
Other means of identification	: MFCD00013626

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Laboratory chemicals Manufacture of substances Scientific research and development
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1.3. Supplier

SynQuest Laboratories, Inc. Inc.
 P.O. Box 309
 Alachua, FL, Alachua, 32615
 United States of America
 T (386) 462-0788 - F (386) 462-7097
info@synquestlabs.com - www.synquestlabs.com

1.4. Emergency telephone number

Emergency number	: (844) 523-4086 (3E Company - Account 10069)
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure
Hazardous to the aquatic environment – Acute Hazard Category 1	H400	Very toxic to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 1	H410	Very toxic to aquatic life with long lasting effects
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Warning

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Hazard statements (GHS US)	: H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation H373 - May cause damage to organs through prolonged or repeated exposure H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (GHS US)	: P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P264 - Wash skin thoroughly after handling P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 - If on skin: Wash with plenty of soap and water P304+P340 - If inhaled: Remove person to fresh air and keep 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. P312 - Call a POISON CENTER or doctor/physician if you feel unwell P314 - Get medical advice/attention if you feel unwell. P321 - Specific treatment (see supplemental first aid instructions on this label) P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P391 - Collect spillage. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS US classification
2-Chlorobiphenyl (Main constituent)	CAS-No.: 2051-60-7	≤ 100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

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SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
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4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Alcohol resistant foam. Carbon dioxide. Dry powder. Water spray. Use extinguishing media appropriate for surrounding fire.
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5.2. Specific hazards arising from the chemical

Fire hazard	: Thermal decomposition generates: Carbon oxides. Hydrogen chloride.
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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: In case of fire: Evacuate area.
Protection during firefighting	: Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate unnecessary personnel. Ensure adequate air ventilation. Do not breathe dust. Do not breathe gas, fumes, vapor or spray.
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6.1.1. For non-emergency personnel

Emergency procedures	: Only qualified personnel equipped with suitable protective equipment may intervene.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

For containment	: Stop leak if safe to do so. Dike for recovery or absorb with appropriate material.
Methods for cleaning up	: Minimize generation of dust. Take up large spills with pump or vacuum and finish with dry chemical absorbent. Use explosion-proof equipment. Take up small spills with dry chemical absorbent. Sweep or shovel spills into appropriate container for disposal. Ventilate area.
Other information	: For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe dust, fumes, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Comply with applicable regulations.
Storage conditions	: Keep container closed when not in use.
Incompatible materials	: Refer to Section 10 on Incompatible Materials.
Storage area	: Store in dry, cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
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8.3. Individual protection measures/Personal protective equipment

Hand protection:

protective gloves. 29 CFR 1910.138: Hand Protection

Eye protection:

Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection

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Personal protective equipment symbol(s):



Other information:

Safety shoes. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Low melting solid.
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: 32 – 34 °C
Freezing point	: No data available
Boiling point	: 270 – 274 °C
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.1499 g/ml (@ 32.5 °C)
Molecular mass	: 188.653 g/mol
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No additional information available

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10.4. Conditions to avoid

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire, see Section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects	: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber.
Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Recycle the material as far as possible.

SECTION 14: Transport information

14.1. UN number

DOT NA No	: UN3432
UN-No. (TDG)	: Not applicable
UN-No. (IMDG)	: 3432
UN-No. (IATA)	: 3432

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Polychlorinated biphenyls, solid
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IMDG)	: POLYCHLORINATED BIPHENYLS, SOLID
Proper Shipping Name (IATA)	: Polychlorinated biphenyls, solid

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	: 9
Hazard labels (DOT)	: 9



TDG

Transport hazard class(es) (TDG)	: Not applicable
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IMDG

Transport hazard class(es) (IMDG)	: 9
Hazard labels (IMDG)	: 9



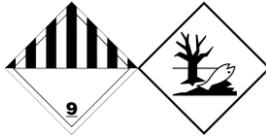
IATA

Transport hazard class(es) (IATA)	: 9
Hazard labels (IATA)	: 9

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14.4. Packing group

Packing group (DOT)	: II
Packing group (TDG)	: Not applicable
Packing group (IMDG)	: II
Packing group (IATA)	: II

14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes



Other information : No supplementary information available.

14.6. Special precautions for user

DOT	
UN-No.(DOT)	: UN3432
DOT Special Provisions (49 CFR 172.102)	: 9 - Packaging for certain PCBs for disposal and storage is prescribed by EPA in 40 CFR 761.60 and 761.65. 81 - Polychlorinated biphenyl items, as defined in 40 CFR 761.3, for which specification packaging are impractical, may be packaged in non-specification packaging meeting the general packaging requirements of subparts A and B of part 173 of this subchapter. Alternatively, the item itself may be used as a packaging if it meets the general packaging requirements of subparts A and B of part 173 of this subchapter. 140 - This material is regulated only when it meets the defining criteria for a hazardous substance or a marine pollutant. In addition, the column 5 reference is modified to read III on those occasions when this material is offered for transportation or transported by highway or rail. IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle. IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner. T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 212
DOT Packaging Bulk (49 CFR 173.xxx)	: 240

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DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 100 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

No data available

IMDG

Special provision (IMDG) : 305, 958
Limited quantities (IMDG) : 1 kg
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P906
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B2, B4
Tank instructions (IMDG) : T3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG) : A

IATA

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 956
PCA max net quantity (IATA) : 100kg
CAO packing instructions (IATA) : 956
CAO max net quantity (IATA) : 200kg
Special provision (IATA) : A11
ERG code (IATA) : 9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

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15.2. International regulations

CANADA

No additional information available

EU-Regulations

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Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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National regulations

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Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date : 7/13/2023

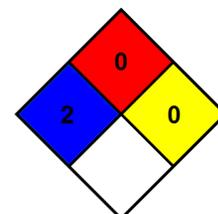
Full text of H-phrases

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur
: * - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Safety Data Sheet (SDS), USA

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 offered solely for your consideration, investigation, and verification. It does not represent any guarantee of the properties of the product nor that the hazard precautions or procedures described are the only ones which exist. SynQuest shall not be held liable or any damage resulting from handling or from contact with the above product.