1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PCB No 77
Product Number : 35496
Brand : Fluka
Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
No known OSHA hazards

GHS Classification
Acute toxicity, Oral (Category 1)
Specific target organ toxicity - repeated exposure (Category 2)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)
H300 Fatal if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P501 Dispose of contents/container to an approved waste disposal plant.

HMIS Classification
Health hazard: 4
Flammability: 1
Physical hazards: 0

NFPA Rating
Health hazard: 4
Fire: 1
Reactivity Hazard: 0

Potential Health Effects

**Inhalation**
May be harmful if inhaled. May cause respiratory tract irritation.

**Skin**
May be harmful if absorbed through skin. May cause skin irritation.

**Eyes**
May cause eye irritation.

**Ingestion**
May be fatal if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Synonyms | 3,3′,4,4′-PCB  
| 3,3′,4,4′-Tetrachlorobiphenyl |
| Formula | C_{12}H_{6}Cl_{4} |
| Molecular Weight | 291.99 g/mol |

No ingredients are hazardous according to OHSA criteria.

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### 4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**
Flush eyes with water as a precaution.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

**Conditions of flammability**
Not flammable or combustible.

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**
Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand 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.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: solid
Colour: colourless

Safety data
pH: no data available
Melting point/freezing point: no data available
Boiling point: no data available
Flash point: > 100 °C (> 212 °F)
Ignition temperature: no data available
Auto-ignition temperature: no data available
Lower explosion limit: no data available
Upper explosion limit: no data available
Vapour pressure: no data available
Density: no data available
Water solubility: no data available
Partition coefficient: n-octanol/water: log Pow: 6.63
Relative vapor density: no data available
Odour: no data available
10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
no data available

Inhalation LC50
no data available

Dermal LD50
no data available

Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
Genotoxicity in vitro - Human - lymphocyte
Cytogenetic analysis

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Reproductive toxicity - rat - Oral
Maternal Effects: Parturition.
Reproductive toxicity - rat - Oral
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). Specific Developmental Abnormalities: Other developmental abnormalities.

Reproductive toxicity - rat - Oral
Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.
Reproductive toxicity - rat - Subcutaneous
Effects on Newborn: Biochemical and metabolic. Effects on Newborn: Behavioral. Effects on Newborn: Other postnatal measures or effects.
Reproductive toxicity - mouse - Oral
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Specific Developmental Abnormalities: Urogenital system.
Reproductive toxicity - mouse - Oral
Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).
Reproductive toxicity - mouse - Oral
Effects on Newborn: Biochemical and metabolic. Effects on Newborn: Behavioral.
Reproductive toxicity - mouse - Oral
Effects on Newborn: Delayed effects.
Reproductive toxicity - Monkey - Oral
Effects on Fertility: Abortion.

no data available

Teratogenicity
Developmental Toxicity - rat - Oral
Specific Developmental Abnormalities: Musculoskeletal system.
Developmental Toxicity - mouse - Oral
Specific Developmental Abnormalities: Urogenital system.

Developmental Toxicity - rat - Oral
Effects on Embryo or Fetus: Fetal death.
Developmental Toxicity - mouse - Intraperitoneal
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion May be fatal if swallowed.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.

Synergistic effects
no data available

Additional Information
RTECS: DV8650000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish mortality LOEC - Oncorhynchus mykiss (rainbow trout) - 0.5 mg/l - 7 d
LC50 - Pimephales promelas (fathead minnow) - > 0.002 mg/l - 96 h
mortality NOEC - Oncorhynchus mykiss (rainbow trout) - 0.1 mg/l - 7 d

Toxicity to daphnia LC50 - Daphnia magna (Water flea) - > 0.002 mg/l - 48 h
and other aquatic invertebrates

**Persistence and degradability**

**Bioaccumulative potential**
- Bioaccumulation: Oryzias latipes - 20 d
  - Bioconcentration factor (BCF): 81.5

**Mobility in soil**
no data available

**PBT and vPvB assessment**
no data available

**Other adverse effects**
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

**Product**
Offer surplus and non-recyclable solutions to a licensed disposal company. 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.

**Contaminated packaging**
Dispose of as unused product.

14. TRANSPORT INFORMATION

**DOT (US)**
- UN number: 3432
- Class: 9
- Packing group: II
- Proper shipping name: Polychlorinated biphenyls, solid
- Reportable Quantity (RQ):
- Marine Pollutant: No
- Poison Inhalation Hazard: No

**IMDG**
- UN number: 3432
- Class: 9
- Packing group: II
- EMS-No: F-A, S-A
- Proper shipping name: POLYCHLORINATED BIPHENYLS, SOLID
- Marine Pollutant: Marine pollutant

**IATA**
- UN number: 3432
- Class: 9
- Packing group: II
- Proper shipping name: Polychlorinated biphenyls, solid

15. REGULATORY INFORMATION

**OSHA Hazards**
No known OSHA hazards

**SARA 302 Components**
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
No SARA Hazards

**Massachusetts Right To Know Components**
No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components

3,3',4,4'-Tetrachlorobiphenyl
CAS-No. 32598-13-3
Revision Date 1989-08-11

New Jersey Right To Know Components

3,3',4,4'-Tetrachlorobiphenyl
CAS-No. 32598-13-3
Revision Date 1989-08-11

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.
3,3',4,4'-Tetrachlorobiphenyl
CAS-No. 32598-13-3
Revision Date 2008-08-01

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
3,3',4,4'-Tetrachlorobiphenyl
CAS-No. 32598-13-3
Revision Date 2008-08-01

16. OTHER INFORMATION

Further information
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