

SAFETY DATA SHEET

Version 6.13
Revision Date 08/06/2024
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Pentachlorophenol
Product Number : P2604
Brand : Aldrich
Index-No. : 604-002-00-8
CAS-No. : 87-86-5

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

Identified uses : Laboratory chemicals, Synthesis of substances
Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES
Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 3), H311

Skin irritation (Category 2), H315
 Eye irritation (Category 2A), H319
 Carcinogenicity (Category 2), H351
 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
 Short-term (acute) aquatic hazard (Category 1), H400
 Long-term (chronic) aquatic hazard (Category 1), H410

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

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard Statements

| | |
|-------------|-------------------------------------------------------|
| H301 + H311 | Toxic if swallowed or in contact with skin. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Precautionary Statements

| | |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P260 | Do not breathe dust. |
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| 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. |
| P284 | Wear respiratory protection. |
| P301 + P310 + P330 | IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth. |
| P302 + P352 + P312 | IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell. |
| 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. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash 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 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : C₆HCl₅O
Molecular weight : 266.34 g/mol
CAS-No. : 87-86-5
EC-No. : 201-778-6
Index-No. : 604-002-00-8

| Component | Classification | Concentration |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Pentachlorophenol | Acute Tox. 3; Acute Tox. 2; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2A; Carc. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; H301, H330, H311, H315, H319, H351, H335, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1 | <= 100 % |

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

No data available

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

No data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides
Hydrogen chloride gas
Combustible.

5.3 Advice for firefighters

No data available

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8.

6.2 Environmental precautions

No data available

6.3 Methods and materials for containment and cleaning up

No data available

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

No data available

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-------------------|---------|------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------|
| Pentachlorophenol | 87-86-5 | TWA | 0.5 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Confirmed animal carcinogen with unknown relevance to humans Danger of cutaneous absorption | | |

| | | | | |
|--|--|------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------|
| | | STEL | 1 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | | Confirmed animal carcinogen with unknown relevance to humans Danger of cutaneous absorption | | |
| | | TWA | 0.5 mg/m ³ | USA. NIOSH Recommended Exposure Limits |
| | | Potential for dermal absorption | | |
| | | TWA | 0.5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | Skin designation | | |
| | | PEL | 0.5 mg/m ³ | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | Skin | | |

Biological occupational exposure limits

| Component | CAS-No. | Parameters | Value | Biological specimen | Basis |
|-------------------|---------|---------------------------------|-------|---------------------|-------------------------------------------|
| Pentachlorophenol | 87-86-5 | pentachlorophenol | | Urine | ACGIH - Biological Exposure Indices (BEI) |
| | Remarks | Prior to last shift of workweek | | | |

8.2 Exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--------------------------------------------|---------------------------------------------------|
| a) Appearance | Form: powder Color: off-white |
| b) Odor | No data available |
| c) Odor Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point/ range: 165 - 180 °C (329 - 356 °F) |
| f) Initial boiling point and boiling range | 310 °C 590 °F |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |

| | |
|-------------------------------------------------|----------------------------------------------|
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapor pressure | 0.00015 hPa at 25 °C (77 °F) |
| l) Vapor density | No data available |
| m) Density | 1.978 g/mL at 25 °C (77 °F) |
| Relative density | No data available |
| n) Water solubility | 0.02 g/l at 30 °C (86 °F) - slightly soluble |
| o) Partition coefficient: n-octanol/water | log Pow: 5.12 |
| p) Autoignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | none |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 27 mg/kg

Remarks: Vascular:BP elevation not characterized in autonomic section.

Endocrine:Hyperglycemia.

Nutritional and Gross Metabolic:Changes in:Body temperature increase.

LC50 Inhalation - 4 h - 0.051 mg/l - dust/mist

LC50 Inhalation - Rat - 355 mg/m³ - dust/mist

Remarks: Behavioral:Excitement.

Behavioral:Muscle contraction or spasticity.

Lungs, Thorax, or Respiration:Dyspnea.

LD50 Dermal - Rat - 96.0 mg/kg

Remarks: Behavioral:Excitement.

Behavioral:Muscle contraction or spasticity.

Lungs, Thorax, or Respiration:Dyspnea.

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Open irritation test - 24.00 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation - 24.00 h

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

The evidence for carcinogenicity of pentachlorophenol (PCP) is based on assays that utilized less than pure PCP. Contaminants of PCP include: tri- or tetra- chlorophenol, hexachlorobenzene, polychlorinated dibenzo-p-dioxins, or polychlorinated dibenzofurans.

Indications are that positive evidence for carcinogenicity is from the contaminant(s) and not the PCP. This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 1 - Group 1: Carcinogenic to humans (Pentachlorophenol)

NTP: RAHC - Reasonably anticipated to be a human carcinogen (Pentachlorophenol)

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

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

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Convulsions

Kidney -

SECTION 12: Ecological information

12.1 Toxicity

| | |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish | LC50 - Cyprinodon variegatus (sheepshead minnow) - 0.16 - 0.5 mg/l - 96.0 h LC50 - Carassius auratus (goldfish) - 0.16 - 0.38 mg/l - 96.0 h LC50 - Oncorhynchus mykiss (rainbow trout) - 0.075 mg/l - 96.0 h NOEC - other fish - 0.01 mg/l - 24.0 h LOEC - other fish - 0.1 mg/l - 24.0 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 0.30 - 1.30 mg/l - 48 h |
| Toxicity to algae | EC50 - Chlorella vulgaris (Fresh water algae) - 10.30 mg/l - 96 h Growth inhibition EC50 - Scenedesmus quadricauda (Green algae) - 0.08 mg/l - 96 h |
| Toxicity to fish(Chronic toxicity) | Growth inhibition NOEC - Pimephales promelas (fathead minnow) - 0.056 mg/l - 28 d Growth inhibition LOEC - Pimephales promelas (fathead minnow) - 0.056 mg/l - 28 d |
| Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity) | Growth inhibition LOEC - Daphnia magna (Water flea) - 0.56 mg/l - 21 d |

12.2 Persistence and degradability

Biodegradability Result: - Not readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 144 h - 0.0912 mg/l(Pentachlorophenol)

Bioconcentration factor (BCF): 482

12.4 Mobility in soil

No data available

Aldrich - P2604

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

DOT (US)

UN number: 3155 Class: 6.1 Packing group: II

Proper shipping name: Pentachlorophenol

Reportable Quantity (RQ): 10 lbs

Reportable Quantity (RQ): 10 lbs

Reportable Quantity (RQ): 1 lbs

Marine pollutant: yes Poison Inhalation Hazard: No

IMDG

UN number: 3155 Class: 6.1 Packing group: II EMS-No: F-A, S-A

Proper shipping name: PENTACHLOROPHENOL

Marine pollutant : yes

Marine pollutant : yes

IATA

UN number: 3155 Class: 6.1 Packing group: II

Proper shipping name: Pentachlorophenol

SECTION 15: Regulatory information

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|-------------------|---------|--------------------|-----------------------------|
| Pentachlorophenol | 87-86-5 | 10 | 10 |
| Pentachlorophenol | 87-86-5 | 10 | 10 (D037) |
| Pentachlorophenol | 87-86-5 | 1 | 1 (F027) |

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Pentachlorophe 87-86-5 >= 90 - <= 100 %
nol

US State Regulations**Massachusetts Right To Know**

Pentachlorophenol 87-86-5

Pennsylvania Right To Know

Pentachlorophenol 87-86-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including Pentachlorophenol, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

International Regulations

Rotterdam Convention (Prior Informed Consent) : Pentachlorophenol

Stockholm Convention (Persistent Organic Pollutants) : Pentachlorophenol

The ingredients of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16: Other information

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

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