

## SAFETY DATA SHEET

Version 6.2  
Revision Date 04/18/2021  
Print Date 02/05/2022

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Tetrachlorophthalic anhydride

Product Number : 131865  
Brand : Aldrich  
CAS-No. : 117-08-8

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

Identified uses : Laboratory chemicals, Synthesis of substances

**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)**

Serious eye damage (Category 1), H318  
Respiratory sensitization (Category 1), H334  
Skin sensitization (Category 1), H317  
Carcinogenicity (Category 2), H351  
Specific target organ toxicity - repeated exposure, Oral (Category 1), H372  
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 statement(s)        |                                                                                                                                                                            |
| H317                       | May cause an allergic skin reaction.                                                                                                                                       |
| H318                       | Causes serious eye damage.                                                                                                                                                 |
| H334                       | May cause allergy or asthma symptoms or breathing difficulties if inhaled.                                                                                                 |
| H351                       | Suspected of causing cancer.                                                                                                                                               |
| H372                       | Causes damage to organs through prolonged or repeated exposure if swallowed.                                                                                               |
| H410                       | Very toxic to aquatic life with long lasting effects.                                                                                                                      |
| Precautionary statement(s) |                                                                                                                                                                            |
| P201                       | Obtain special instructions before use.                                                                                                                                    |
| P202                       | Do not handle until all safety precautions have been read and understood.                                                                                                  |
| P260                       | Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.                                                                                                                       |
| P264                       | Wash skin thoroughly after handling.                                                                                                                                       |
| P270                       | Do not eat, drink or smoke when using this product.                                                                                                                        |
| P272                       | Contaminated work clothing should not be allowed out of the workplace.                                                                                                     |
| P273                       | Avoid release to the environment.                                                                                                                                          |
| P280                       | Wear eye protection/ face protection.                                                                                                                                      |
| P280                       | Wear protective gloves.                                                                                                                                                    |
| P281                       | Use personal protective equipment as required.                                                                                                                             |
| P285                       | In case of inadequate ventilation wear respiratory protection.                                                                                                             |
| P302 + P352                | IF ON SKIN: Wash with plenty of soap and water.                                                                                                                            |
| P304 + P341                | IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.                                                                      |
| P305 + P351 + P338 + P310  | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P308 + P313                | IF exposed or concerned: Get medical advice/ attention.                                                                                                                    |
| P333 + P313                | If skin irritation or rash occurs: Get medical advice/ attention.                                                                                                          |
| P363                       | Wash contaminated clothing before reuse.                                                                                                                                   |
| P391                       | Collect spillage.                                                                                                                                                          |
| 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

Photosensitizer.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Molecular weight : 285.90 g/mol  
CAS-No. : 117-08-8

| Component                            | Classification                                                            | Concentration |
|--------------------------------------|---------------------------------------------------------------------------|---------------|
| <b>tetrachlorophthalic anhydride</b> |                                                                           |               |
|                                      | Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic | <= 100 %      |

|                          |                                                                                                                              |              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------|
|                          | 1; H318, H334, H317,<br>H400, H410<br>M-Factor - Aquatic Acute:<br>10                                                        |              |
| <b>Hexachlorobenzene</b> |                                                                                                                              |              |
|                          | Carc. 1B; STOT RE 1;<br>Aquatic Acute 1; Aquatic<br>Chronic 1; H350, H372,<br>H400, H410<br>M-Factor - Aquatic Acute:<br>100 | >= 1 - < 5 % |

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

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this material 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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

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

### 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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides  
Hydrogen chloride gas

## **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

## **5.4 Further information**

No data available

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## **SECTION 6: Accidental release measures**

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### **6.2 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.

### **6.3 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.

### **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**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.**Advice on safe handling**

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

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

Provide appropriate exhaust ventilation at places where dust is formed.

#### **Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.  
For precautions see section 2.2.

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

#### **Storage conditions**

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive. Handle and store under inert gas.

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### **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

| Component         | CAS-No.  | Value                                                                                          | Control parameters      | Basis                                                                                   |
|-------------------|----------|------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------|
| Hexachlorobenzene | 118-74-1 | TWA                                                                                            | 0.002 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV)                                                 |
|                   | Remarks  | Confirmed animal carcinogen with unknown relevance to humans<br>Danger of cutaneous absorption |                         |                                                                                         |
|                   |          | PEL                                                                                            | 0.002 mg/m <sup>3</sup> | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|                   |          | Skin                                                                                           |                         |                                                                                         |

Hazardous components without workplace control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face 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 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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

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

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (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**

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.

### **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).

### **Control of environmental exposure**

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

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

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

|                                                 |                                                         |
|-------------------------------------------------|---------------------------------------------------------|
| a) Appearance                                   | Form: crystalline<br>Color: light gray                  |
| b) Odor                                         | No data available                                       |
| c) Odor Threshold                               | No data available                                       |
| d) pH                                           | No data available                                       |
| e) Melting point/freezing point                 | Melting point/range: 253 - 257 °C (487 - 495 °F) - lit. |
| f) Initial boiling point and boiling range      | 371 °C 700 °F - lit.                                    |
| g) Flash point                                  | 360 °C (680 °F) - closed cup                            |
| 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                               | 0.21 hPa at 150 °C (302 °F)                             |
| l) Vapor density                                | No data available                                       |
| m) Relative density                             | No data available                                       |
| n) Water solubility                             | No data available                                       |
| o) Partition coefficient: n-octanol/water       | No data available                                       |
| p) Autoignition temperature                     | > 250 °C (> 482 °F)                                     |
| q) Decomposition                                | No data available                                       |

temperature

- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Oxidizing agents Strong oxidizing agents, Strong acids, Strong bases

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Acute toxicity estimate Oral - > 5,000 mg/kg  
(Calculation method)

LD50 Oral - Rat - > 15,800 mg/kg

Inhalation: No data available

LD50 Dermal - Rabbit - > 5,000 mg/kg  
No data available

#### Skin corrosion/irritation

No data available

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitization

No data available

### **Germ cell mutagenicity**

Test Type: in vitro test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Result: negative

### **Carcinogenicity**

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Hexachlorobenzene)

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

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

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**

Repeated dose toxicity - Mouse - male and female - Gavage - NOAEL (No observed adverse effect level) - 1,500 mg/kg

Not available

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

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Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

No data available

### **12.2 Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d

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Result: 0 % - Not readily biodegradable.  
(OECD Test Guideline 301C)

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

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

### **12.6 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.

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## **SECTION 13: Disposal considerations**

### **13.1 Waste treatment methods**

#### **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.

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## **SECTION 14: Transport information**

### **DOT (US)**

Not dangerous goods

### **IMDG**

UN number: 3077    Class: 9    Packing group: III    EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(tetrachlorophthalic anhydride)  
Marine pollutant : yes

### **IATA**

UN number: 3077    Class: 9    Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid, n.o.s.  
(tetrachlorophthalic anhydride)

### **Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

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## SECTION 15: Regulatory information

### SARA 302 Components

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

### SARA 313 Components

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

Acute Health Hazard, Chronic Health Hazard

**Reportable Quantity** : D032 lbs

### Massachusetts Right To Know Components

|                   | CAS-No.  | Revision Date |
|-------------------|----------|---------------|
| Hexachlorobenzene | 118-74-1 | 2015-11-23    |

### Pennsylvania Right To Know Components

|                               |                     |                             |
|-------------------------------|---------------------|-----------------------------|
| tetrachlorophthalic anhydride | CAS-No.<br>117-08-8 | Revision Date<br>1994-07-31 |
| Hexachlorobenzene             | 118-74-1            | 2015-11-23                  |

### California Prop. 65 Components

|                                                                                                                                                                                                               |                     |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------|
| , which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> . | CAS-No.<br>118-74-1 | Revision Date<br>2007-09-28 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------|

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## SECTION 16: Other information

### Further information

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