

SIGMA-ALDRICH**Material Safety Data Sheet**

Version 3.2
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Phthalic anhydride

Product Number : 80020
 Brand : Fluka

Company : Sigma-Aldrich
 3050 Spruce Street
 SAINT LOUIS MO 63103
 USA

Telephone : +18003255832
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_8H_4O_3$
 Molecular Weight : 148.12 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Phthalic anhydride			
85-44-9	201-607-5	607-009-00-4	-

3. HAZARDS IDENTIFICATION**Emergency Overview****OSHA Hazards**

Target Organ Effect, Harmful by ingestion., Irritant

Target Organs

Kidney, Liver

HMIS Classification

Health hazard: 2
 Chronic Health Hazard: *
 Flammability: 1
 Physical hazards: 0

NFPA Rating

Health hazard: 2
 Fire: 1
 Reactivity Hazard: 0

Potential Health Effects

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

Skin
Eyes
Ingestion

May be harmful if absorbed through skin. Causes skin irritation.
Causes eye irritation.
Harmful if swallowed.

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. 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.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 152 °C (306 °F) - closed cup

Ignition temperature 570 °C (1,058 °F)

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage

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

Store under inert gas. Moisture sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
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Phthalic anhydride	85-44-9	TWA	1 ppm 6.1 mg/m ³	2000-03-01	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories. Sensitizer Refers to Appendix A -- Carcinogens. 2000 Adoption.				
		TWA	1 ppm 6 mg/m ³	1989-03-01	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	2 ppm 12 mg/m ³	1993-06-30	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	flakes
Colour	white

Safety data

pH	2 at 6 g/l at 20 °C (68 °F)
Melting point	129 - 133 °C (264 - 271 °F) 131 - 134 °C (268 - 273 °F) - lit.
Boiling point	284 °C (543 °F) - lit.
Flash point	152 °C (306 °F) - closed cup
Ignition temperature	570 °C (1,058 °F)
Lower explosion limit	1.7 %(V)
Upper explosion limit	10.4 %(V)
Vapour pressure	< 0.01 hPa (< 0.01 mmHg) at 20 °C (68 °F)

Density	1.530 g/cm ³ at 20 °C (68 °F)
Water solubility	ca.5 g/l

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Avoid moisture.

Materials to avoid

Strong acids, Strong bases, Strong oxidizing agents, Strong reducing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 1,530 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

LC50 Inhalation - rat - 1 h - > 210 mg/m³

LD50 Dermal - rabbit - > 10,000 mg/kg

Irritation and corrosion

Skin - rabbit - Mild skin irritation - 24 h

Eyes - rabbit - Moderate eye irritation

Sensitisation

no data available

Chronic exposure

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.

Signs and Symptoms of Exposure

prolonged or repeated exposure can cause:, Liver injury may occur., Kidney injury may occur., Exposure to and/or consumption of alcohol may increase toxic effects., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

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

Target Organs Kidney, Liver,

Additional Information

RTECS: TI3150000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish LC0 - Oncorhynchus mykiss (rainbow trout) - 5 mg/l - 48 h

Toxicity to algae EC50 - Pseudokirchneriella subcapitata (green algae) - 60 - 350 mg/l - 96 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 3077 Class: 9

Packing group: III

Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Phthalic anhydride)

Reportable Quantity (RQ): 5000 lbs

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

Target Organ Effect, Harmful by ingestion., Irritant

DSL Status

All components of this product are on the Canadian DSL list.

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

Phthalic anhydride

CAS-No.

85-44-9

Revision Date

1991-07-01

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Phthalic anhydride

CAS-No.
85-44-9Revision Date
1991-07-01**Pennsylvania Right To Know Components**

Phthalic anhydride

CAS-No.
85-44-9Revision Date
1991-07-01**New Jersey Right To Know Components**

Phthalic anhydride

CAS-No.
85-44-9Revision Date
1991-07-01**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION**Further information**

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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 applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.