

SAFETY DATA SHEET

1. Identification

Product identifier: PHTHALIC ANHYDRIDE

Other means of identification

Product No.: 0272

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Specific Target Organ Toxicity - Single Exposure	Category 3

Label Elements

Hazard Symbol:



Signal Word:

Danger

Hazard Statement:	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May form combustible dust concentrations in air.
Precautionary Statement	
Prevention:	Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear respiratory protection. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area.
Response:	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Call a POISON CENTER/doctor if you feel unwell.
Storage:	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification:	None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
PHTHALIC ANHYDRIDE		85-44-9	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion:	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin Contact:	Wash skin thoroughly with soap and water. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Causes serious eye damage. May cause irritation to skin, eyes, and respiratory tract. May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Powdered material may form explosive dust-air mixtures.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: Dust may form explosive mixture with air. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Avoid dust formation. Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Inform authorities if large amounts are involved.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	Use personal protective equipment as required. Avoid generation and spreading of dust. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Dust clouds may be explosive under certain conditions. Avoid inhalation of dust.
Conditions for safe storage, including any incompatibilities:	Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
PHthalic anhydride	TWA	1 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	1 ppm	US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (02 2013)
	REL	1 ppm 6 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	2 ppm 12 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1 ppm 6 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate Engineering Controls	No data available.
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Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
Eye/face protection:	Wear safety glasses with side shields (or goggles). Use tight fitting goggles if dust is generated.
Skin Protection	
Hand Protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.
Hygiene measures:	Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Flakes
Color:	White

Odor:	Mild odor
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	130.8 °C
Initial boiling point and boiling range:	295 °C
Flash Point:	152 °C (Closed Cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	Combustible Solid
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	10.5 %(V)
Flammability limit - lower (%):	1.7 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	53.3 kPa (256.8 °C) 0.13 kPa (96.5 °C)
Vapor density:	6.6 AIR=1
Relative density:	1.20 (135 °C) 1.53 (20 °C)
Solubility(ies)	
Solubility in water:	6.2 g/l (20 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	570 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Molecular weight:	148.11 g/mol (C ₈ H ₄ O ₃)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Conditions to Avoid:	Contact with incompatible materials. Excessive heat. Heat, sparks, flames. Avoid conditions which create dust. Moisture.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	By heating and fire, toxic vapors/gases may be formed. Oxides of Carbon.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Irritating. May cause nausea, stomach pain and vomiting. Harmful if swallowed.
Inhalation:	May cause irritation to the respiratory system.
Skin Contact:	Causes skin irritation. May be harmful in contact with skin.
Eye contact:	Causes serious eye damage.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)****Oral****Product:** LD 50 (Rat): 800 mg/kg**Dermal****Product:** LD 50 (Rabbit): > 3,160 mg/kg**Inhalation****Product:** LC 50 (Rat, 1 h): > 210 mg/l**Repeated Dose Toxicity****Product:** No data available.**Skin Corrosion/Irritation****Product:** Causes skin irritation.**Serious Eye Damage/Eye Irritation****Product:** Causes serious eye damage.**Respiratory or Skin Sensitization****Product:** May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.**Carcinogenicity****Product:** This substance has no evidence of carcinogenic properties.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity**In vitro****Product:** No mutagenic components identified**In vivo****Product:** No data available.**Reproductive Toxicity****Product:** No components toxic to reproduction**Specific Target Organ Toxicity - Single Exposure****Product:** Respiratory tract irritation.**Specific Target Organ Toxicity - Repeated Exposure****Product:** None known.**Aspiration Hazard****Product:** Not classified**Other Effects:**

No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

PHTHALIC ANHYDRIDE LC 50 (Zebra danio (Danio rerio), 7 d): 320 - 1,000 mg/l Mortality
LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss), 60 d): 40.4 - 48.3 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 2214
UN Proper Shipping Name:	Phthalic anhydride
Transport Hazard Class(es)	
Class(es):	8
Label(s):	8
Packing Group:	III
Marine Pollutant:	No

IMDG

UN Number:	UN 2214
UN Proper Shipping Name:	PTHALIC ANHYDRIDE
Transport Hazard Class(es)	
Class(es):	8
Label(s):	8
EmS No.:	F-A, S-B
Packing Group:	III
Marine Pollutant:	No

IATA

UN Number:	UN 2214
Proper Shipping Name:	Phthalic anhydride
Transport Hazard Class(es):	
Class(es):	8
Label(s):	8
Marine Pollutant:	No
Packing Group:	III

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

PTHALIC ANHYDRIDE Reportable quantity: 5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

☒ Acute (Immediate)
 ☒ Chronic (Delayed)
 ☒ Fire
 ☐ Reactive
 ☐ Pressure Generating

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	RQ
PTHALIC ANHYDRIDE	5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
PHTHALIC ANHYDRIDE	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
PHTHALIC ANHYDRIDE	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

PHTHALIC ANHYDRIDE Listed

US. Massachusetts RTK - Substance List

PHTHALIC ANHYDRIDE Listed

US. Pennsylvania RTK - Hazardous Substances

PHTHALIC ANHYDRIDE Listed

US. Rhode Island RTK

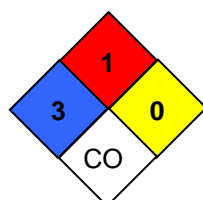
PHTHALIC ANHYDRIDE Listed

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Red	Flammability
Blue	Health
Yellow	Reactivity
White	Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

COR: Corrosive

SDS_US - SDS000001069

Issue Date: 10-16-2014

Revision Date: No data available.

Version #: 1.1

Further Information: No data available.

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